



# FINANCIAL PLAN

**Tubbataha Reefs Natural Park  
and World Heritage Site**



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## I. INTRODUCTION

The Tubbataha Reefs Natural Park (TRNP) and World Heritage Site is a 97,030-hectare no-take marine protected area (MPA) located within the political jurisdiction of the Municipality of Cagayancillo in Palawan. It is 150km southeast of Puerto Princesa City, at the heart of the Coral Triangle, the global center of marine biodiversity. It harbors a diversity of marine life equal to or greater than any such reef of its size in the world. As the major source of coral and fish larvae seeding the greater Sulu Sea, TRNP contributes to the Philippine economy by providing food and livelihoods for millions of Filipinos.

**Contribution to International and National Development and Conservation Targets.** The conservation of TRNP contributes to the achievement of the United Nation's Sustainable Development Goals, which aims to promote prosperity while protecting the planet. Specifically, these are:

### United Nation's Sustainable Development Goals



SGD 1 (No poverty) The outcome from the conservation of TRNP, enriched fishing productivity, can help alleviate poverty through the jobs that the fishery sector provides to millions of Filipinos.



SGD 2 (Zero Hunger) Larval dispersal of important marine species is one of the ecosystem services that TRNP provides. Through larval dispersal, it enriches fisheries and contributes to food security and alleviates hunger.



SGD 8 (Decent Work and Economic Growth) More than 50% of Philippine municipalities are coastal with 62% of the population living in this zone. Majority of this population depend on the sea for work and for food. By helping increase the productivity of the ocean TRNP helps create decent jobs and improve living standards.






SGD 13 (Climate Action) Our oceans are natural carbon sinks which absorbs CO<sub>2</sub> from the atmosphere. TRNP can help mitigate climate change by protecting many ecosystems like seagrass beds that sequester high amounts of carbon.



SGD 14 (Life Below Water) Saving our ocean is a global priority because marine biodiversity is critical to the health of people and our planet. Conserving TRNP and ensuring that it is effectively managed and well-resourced contributes to the achievement of this goal.

Of the 20 targets under the Philippine Biodiversity Strategy and Action Plan 2015-2028, conserving TRNP contributes to the achievement of 12, specifically:

| Philippine Biodiversity Strategy and Action Plan 2015-2028                          |   |
|---|---|
|    | Maintain or improve conservation status of threatened species |
|    | Maintain live coral cover, mangrove, and seagrasses           |
|    | Maintain population of migratory birds                        |
|    | Enhance ecosystem services                                    |
|   | Maintain fish stocks of economically important species        |
|  | Increase biodiversity conservation related jobs               |
|  | Reduce, control, and manage key threats to biodiversity       |
|  | Restore ecosystems  |
|  | Biodiversity conservation policies in place                   |
|  | Increase awareness on biodiversity                            |
|  | Increase protected areas that overlap with Key                |
|  | Increase coverage of established MPAs/sanctuaries             |

TRNP was declared a World Heritage Site in 1993 and was inscribed in the Ramsar List of Wetlands of International Importance in 1999. It received national and international awards and distinctions, and is also known as:

- ASEAN Heritage Park (October 31, 2014)
- East Asian-Australasian Flyway Partner (May 2015)
- Particularly Sensitive Sea Area (PSSA), International Maritime Organization, the only one in Southeast Asia to date (July 2017)

TRNP is lauded as one of the best examples of MPA management in the Coral Triangle and is recognized as a flagship site in the region. It has also received awards from the Department of Environment and Natural Resources (DENR) in 2013 for exemplary work in enforcement. The R.A. 10069, also known as the TRNP Act of 2009, received the Future Policy Award in 2012, an award that recognizes policies that create better living conditions for current and future generations. In 2017, it was named one of three the best managed large no-take MPAs in the world (Blue Park) by the Marine Conservation Institute. It was also recognized for its best practice in MPA management by the Palawan Council on Sustainable Development.

Republic Act 10067, also known as the Tubbataha Reefs Natural Park (TRNP) Act of 2009, created the Tubbataha Protected Area Management Board (TPAMB) as the TRNP's sole policy-making and permit-granting body. The Tubbataha Management Office (TMO), headed by the Protected Area Superintendent, was established as its executive arm pursuant to Section 14 of the Act.

Both the TPAMB and the TMO existed prior to the ratification of the TRNP Act, carrying out the responsibility of protecting the TRNP since 1996, for the TPAMB, and since 2001 in the case of TMO. WWF-Philippines, through a grant from the United Nations Development Program-Global Environmental Finance facility, defrayed the cost of TMO staff salaries and management activities until 2004.

From 2004 to the present, the cost of management, including staff salaries, is defrayed through tourism revenues from TRNP support from private foundations and organizations, and various agencies of the government.

In 2018, the Department of Justice opined that the TMO is an agency of the government under the Office of the President. Based on this opinion, the TMO applied for plantilla positions with the Department of Budget and Management (DBM). If approved, it will formalize its standing as a government agency and provide tenure to the staff.

## II. DRIVER-PRESSURE-STATE-IMPACT-RESPONSE (DPSIR)

We used the DPSIR framework of analysis to determine important trends and drivers of biodiversity change. We analyzed the cause-and-effect of biodiversity problems and the indicators between the drivers of the problem, the pressures caused by the problem, and the existing state and trends of our biodiversity concerns. If the problem persists, we analyzed what impact it can have on biodiversity, and we proposed responses to solve the problems. We identified responses that are relevant to the driver and pressure rather than to the state or impact.

Below are the problems and issues identified:

### 1. Climate change

Climate change impacts the park through coral bleaching and the erosion and loss of vegetation on the islets. Coral bleaching affected up to 20% of the hard coral cover of the park in 2020. In 2021, some sites have not recovered as evidenced by the continued decline in hard coral cover. Coral bleaching could not only reduce the reef productivity and cause habitat loss, but also impact the value of the park as a tourist site (Cheablam et al., 2013). To monitor the effects of climate change on the reefs, data loggers measuring sea surface temperature were deployed and the data obtained will be correlated to the reef benthos monitoring results.

Climate change is also causing more frequent and stronger typhoons passing through the Sulu Sea (Table 1). The most recent was Super Typhoon Odette which struck in December 2022. Typhoons like this contribute to the erosion of Bird Islet due to strong wave action, which could eventually lead to its disappearance (Figure 1) and loss of the already declining seabird population in TRNP (Figure 2).

*Table 1. Storms that hit directly and over/below TRNP. Tropical cyclone classification with corresponding maximum sustained winds near the center in kilometers per hour (km/h) used by PAGASA.*

| Year | Super Typhoon (>220 kph) | Typhoon (118-220 kph) | Severe Tropical Storm (89-117 kph) | Tropical Storm (62-88 kph) | Tropical Depression (<62 kph) |
|------|--------------------------|-----------------------|------------------------------------|----------------------------|-------------------------------|
| 2017 |                          |                       |                                    | Tino                       |                               |
| 2018 |                          |                       |                                    | Agaton, Basyang            | Samuel                        |
| 2019 |                          | Ursula                |                                    |                            |                               |
| 2020 |                          |                       |                                    | Vicky                      |                               |
| 2021 | Odette                   |                       |                                    | Crising                    |                               |

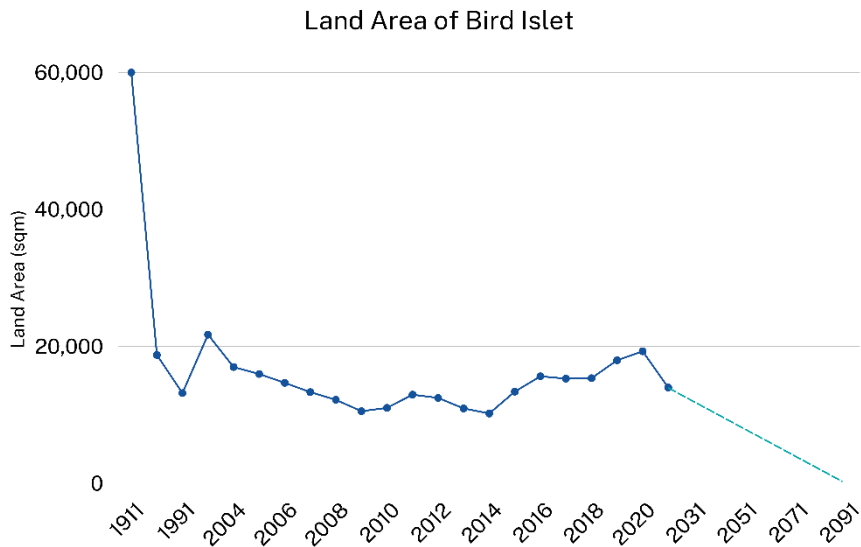


Figure 1. Projected development of land area of the Bird Islet. If the rate of erosion continues, the islet will disappear in 70 years. (Chart from Jensen et al., 2021).

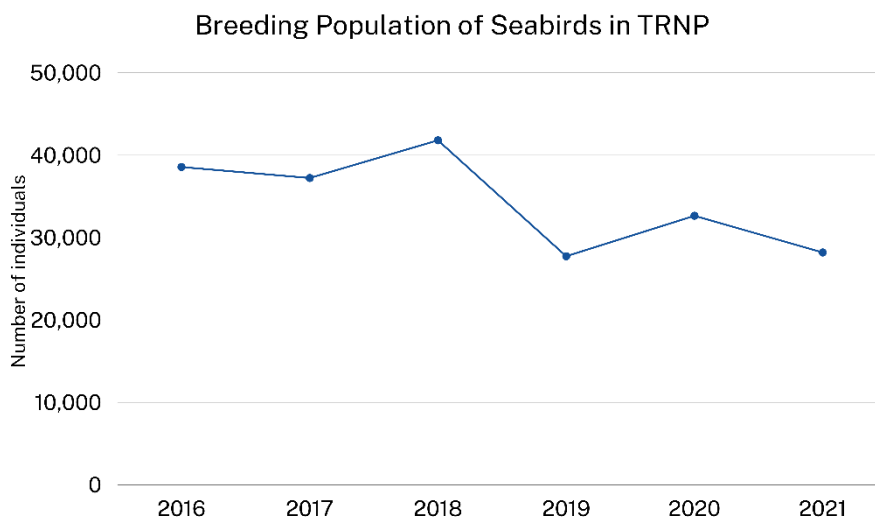


Figure 2. Breeding seabird population in TRNP (Data obtained from Jensen et al., 2021).

## 2. Erosion of Bird Islet/Loss of vulnerable species

The erosion of the islets and the loss of vegetation directly impacts the seabird population in TRNP – the largest seabird colony in the country. Beach profiling and erosion monitoring will be continued to obtain data on the changes of the islet and to inform erosion mitigation measures.

Loss of seabird habitat will be addressed through continuous planting of beach forest trees. Artificial nesting structures will be installed in the islets to provide breeding habitats for the protected Black Noddy. CEPA activities will be conducted in Cagayancillo to support established seabird sanctuaries.

Vulnerability and risk assessment will be carried out in collaboration with research institutions. CEPA activities will be continued to increase compliance of tourists and fishers.

## 3. Inadequate infrastructure

The TRNP ranger station, constructed in 2000, has deteriorated due to seawater seepage into the concrete, causing support beams to rust, expand and weaken. The structure of the station is compromised and repairing it is no longer economically viable. This poses threats to the safety and welfare of marine park rangers guarding the park. In 2020, the Provincial Government of Palawan completed Phase 1 (foundation) of the new ranger station with funding from TIEZA and materials from DENR. To date, the funds to complete the station is yet to be secured.

## 4. Marine debris

The increasing use of plastics worldwide contributes to the park's declining biodiversity. Marine debris in surface water and on the reefs kills marine species, such as seabirds and sharks, and degrades the aesthetic value of TRNP as a dive site. Over 800 kgs/year of debris were collected during the pre-Covid years of 2017 to 2019. During Covid, the figure dropped to 86 kgs/year (TMO files). About 90% of debris collected were plastic, with very few items made of metal and glass.

In response to this issue, CEPA on the impacts of marine debris will be strengthened in local communities, and the policy banning the use of single-use plastic in TRNP will be strictly enforced. Clean-up of islets and surface water will be carried out regularly.

## 5. Adverse effects of tourism

Tourism is one of the only two activities allowed in the park. A gradual increase in the number of tourists was observed from 2014 until 2019. Although tourism brings a considerable amount of revenue for the park, it can have detrimental effects on marine life. Tourists can touch or break off sections of corals while diving causing damage.



Studies conducted during the pandemic showed that water quality improved significantly in the absence of dive boats, indicating that the presence of tourist boats in the park, despite strict regulations, affects the ecosystem.

Enforcing PCG Memorandum Circular 10-14 (Prevention of Pollution from Sewage) will mitigate the effects of tourism in the park. Meanwhile, water quality monitoring will be continued.

## 6. Illegal fishing

Illegal fishing is not as prevalent in TRNP as it was in 2006 to 2010, when over 400 illegal fishers involved in 20 arrests were prosecuted. In the last ten years, illegal fishing cases dropped to only four (4) incidents. Still, illegal fishing is an ever-present threat. Overexploitation of marine resources and the increasing demand for marine products for food and livelihood to sustain a growing population are some of the driving factors of illegal fishing.

To respond to this threat, communicating and educating the public on marine conservation will be intensified. TMO will continue to collaborate with experts in improving compliance management. Park authorities will explore new and state-of-the-art technology (e.g., drone, Aids to Navigation) to strengthen surveillance and enforcement.

## 7. Escalating shipping activities

The main transport mode for global trade is ocean shipping: around 90% of traded goods are carried over the waves (OECD). Sulu Sea is part of the archipelagic sea lanes, thereby increasing the likelihood of ship groundings, chemical and oil spills, introduction of alien invasive species and increase in marine debris in park.

In 2017, the International Maritime Organization declared TRNP, including its buffer zone, as a Particularly Sensitive Sea Area and an Area to be Avoided. Marine park rangers continue to monitor shipping activities through an automated identification system (AIS) and radar and caution ships about to enter the buffer zone of the park. To date, no formal complaint has been filed with the IMO against erring shipping companies.

## 8. Energy exploration

Industrial development and modernization require additional supply and sources of energy. A seismic survey conducted in the Sulu Sea contiguous to park in September 2014 excluded the TRNP buffer zone from the survey area. However, there is no official document that articulates this prohibition. Because of the effects of seismic activities to marine life, e.g., dolphins, whales, fish and corals, and the possible oil and chemical spills, park authorities need to look out that TRNP is not included in future seismic surveys in the Sulu Sea.

### III. BIODIVERSITY EXPENDITURE REVIEW

The Biodiversity Expenditure Review (BER) conceptual model is based on the key question: How much is spent on biodiversity? The aim of the review is to obtain and use detailed data on public, private, and civil society budgets, allocations, and expenditures to inform and promote improved biodiversity policies, financing, and outcomes.



Figure 3. Tourism revenues from 2010 to 2021.

The majority of TRNP management expenses over the last five years (2017-2021) were funded through tourism revenues therefore the BER data in this section derived from internal records of TMO. In-kind contributions of partners such as WWF Philippines, the Philippine Navy, the Philippine Coast Guard, among others, were monetized and included in this computation.

TMO has relied on external support since its creation in 2001. Even as tourism revenues increased (Figure 3), partner support remained consistent (**Error! Reference source not found.**), allowing the TPAMB to accumulate reserves for contingencies. Private organizations contributed 42% of TRNP expenditures over the last five years, government agencies contributed 23% (primarily from DENR), and tourism revenues, also known as the PA retained income account (RIA), contributed 35% (Figure 4).

Table 2 outlines the total management costs for the last five years. TMO is opportunistic in terms of securing project grants, hence, the amount of funds coming in varies, as shown in the table. TMO maximizes funding opportunities that are relevant to achieving its conservation goal. Based on experience, donors typically prefer to contribute to biodiversity and habitat conservation, research, monitoring, and restoration programs.

Table 2. Total management costs in the last five years.

| BUDGET ITEMS   | 2017       | 2018       | 2019       | 2020       | 2021       | Total       |
|--|------------|------------|------------|------------|------------|-------------|
| Personnel Cost   | 3,829,077  | 5,778,266  | 5,838,094  | 7,415,680  | 7,423,998  | 30,285,116  |
| Programs   |            |            |            |            |            |             |
| Biodiversity & Habitat Protection, Research, Monitoring, & Restoration Program | 10,056,451 | 10,944,689 | 11,296,938 | 9,513,752  | 12,892,346 | 54,704,177  |
| Community Development and Resource Management Program                          | 2,619,700  | 5,357,910  | 4,773,575  | 1,674,050  | 1,117,125  | 15,542,360  |
| Communication, Education and Public Awareness Program                          | 9,672,315  | 10,142,064 | 10,423,821 | 94,719     | 924,116    | 31,257,035  |
| Institutional Strengthening, Partnership and Capacity-Building Program         | 324,524    | 530,325    | 1,830,827  | 633,377    | 434,900    | 3,753,954   |
| Management and Operational Expenses  | 1,514,974  | 1,289,984  | 1,203,192  | 1,050,207  | 1,020,229  | 6,078,586   |
| TOTAL  | 28,017,042 | 34,043,239 | 35,366,447 | 20,381,785 | 23,812,714 | 141,621,228 |

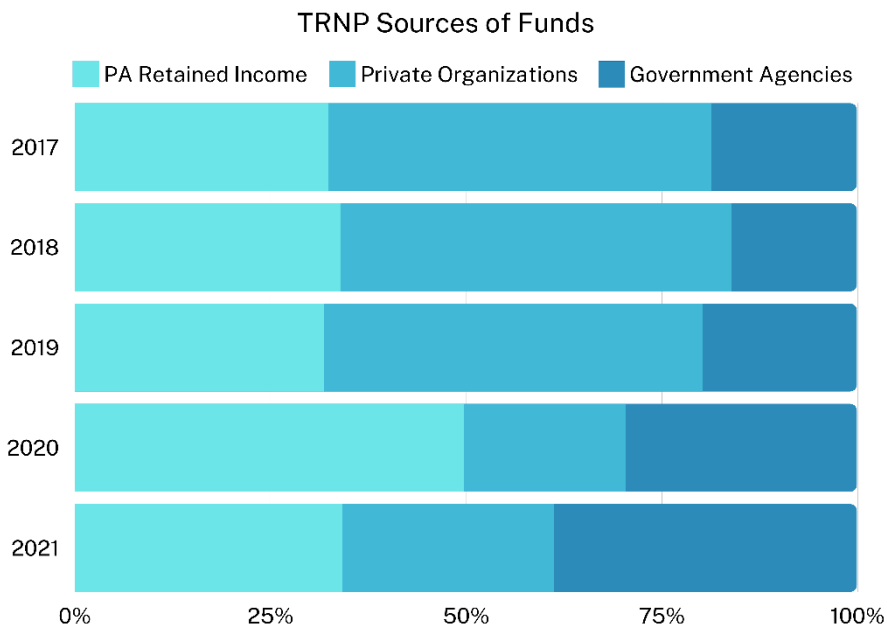


Figure 4. Sources of funds from 2017 to 2021

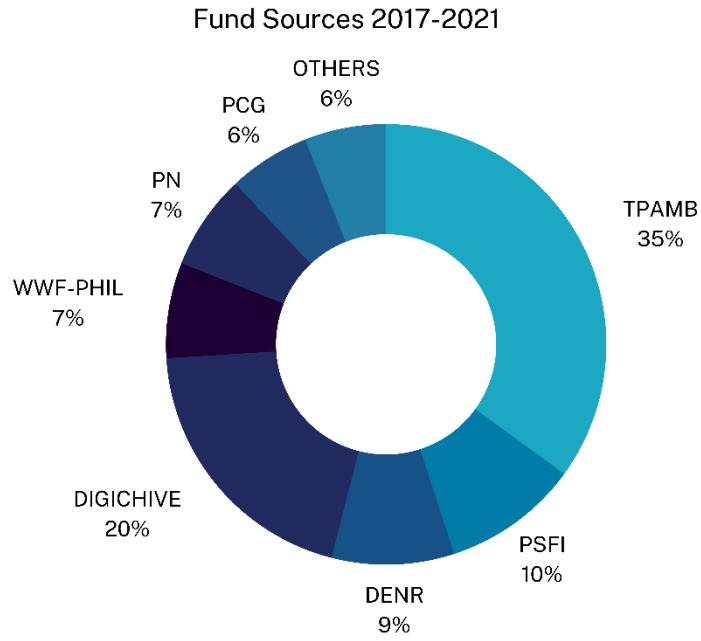


Figure 5. Sources of funds by agency

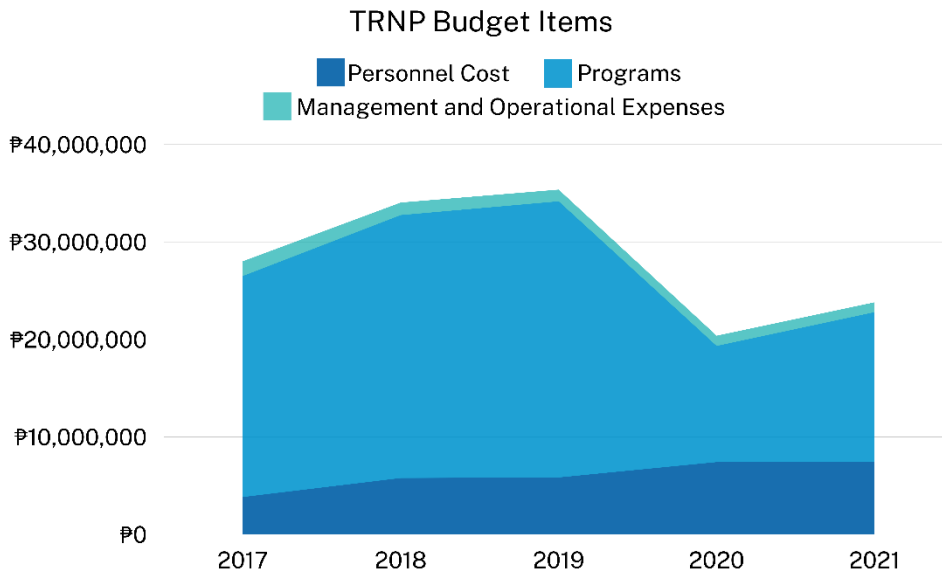


Figure 6. Budget items from 2017 to 2021

Personnel and management costs were funded through the RIA. Seventy-five percent (75%) of the RIA was used for programs and the rest for personnel and management costs.

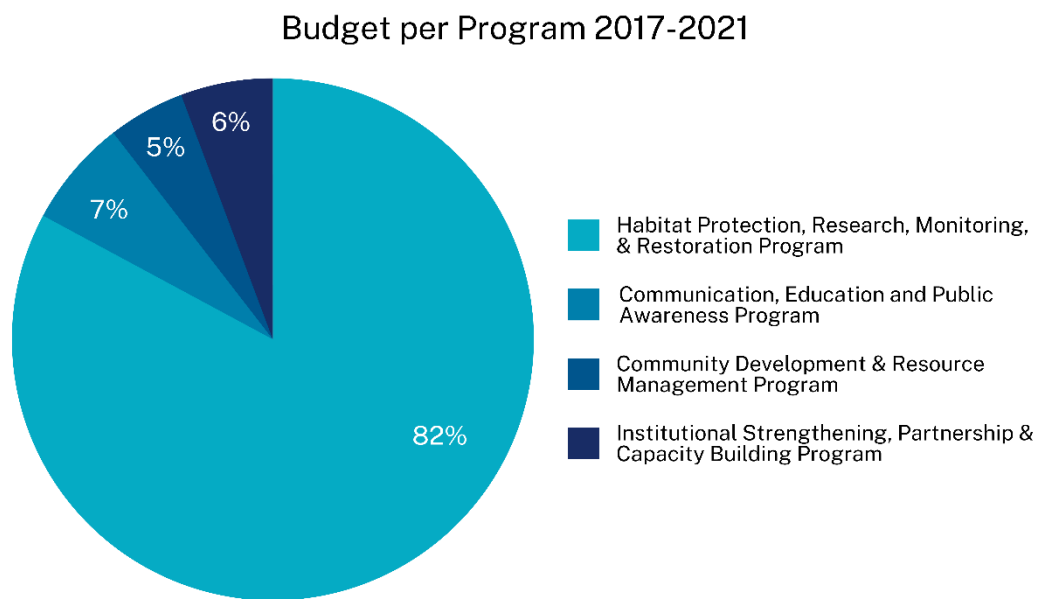


Figure 7. Budget per management program from 2017 to 2021

When tourism revenues peaked in 2019, the TPAMB authorized a compensation adjustment for TMO staff resulting in a sharp increase in personnel expenditures in 2020 (**Error! Reference source not found.**). In 2021, when tourism operations were still stalled by the pandemic, the DENR subsidized a portion of personnel salaries. At least three (3) staff position also became vacant and were not filled, resulting in a minor decline in expenditures.

Management costs are recurring expenses associated with the daily administration, such as office supplies, utilities, and office rental. These are funded entirely through tourism revenues. Honoraria for TPAMB members attending meetings falls under this category as well. The office rental is the highest-value item in this expense category, followed by TPAMB's honoraria.

75% of the budget for the past five years was allocated to program expenses, with the Biodiversity & Habitat Protection, Research, Monitoring, & Restoration Program getting the most funding (82%) of the four programs (**Error! Reference source not found.**).

## Biodiversity Relevant Programs/Activities

In the 2018 BIOFIN Workbook, biodiversity expenditure is defined as "any expenditure whose purpose is to have a positive impact or to reduce or eliminate pressures on biodiversity." It further categorized these expenditures as: "direct" expenditures that have biodiversity as their principal purpose, or 'causa finalis', as well as "indirect" expenditures that have biodiversity as their secondary or joint purpose.

Expenditure tagging followed the aforementioned classifications and was guided by the following attributions:

| <u>Weighing BD relevance</u>                   |   |
|--|---|
| Application of <u>Rio Marker</u> to MFOs, PPAs |   |
| <b>100 %<br/>marker</b>                        | Activities that have the conservation, restoration and sustainable management of biodiversity (ecosystems, species, and genetic diversity) and the maintenance of related ecosystem services as <b>their primary objective and are expected to lead to direct effects / benefits with regard to biodiversity.</b><br>The activity would not have been carried out in the absence of such objectives / intended effects for the conservation and restoration of biodiversity |
| <b>40 %<br/>marker</b>                         | Activities where the conservation, restoration and sustainable management of biodiversity (ecosystems, species, and genetic diversity) and the maintenance of related ecosystem services are <b>one of the principal reasons for undertaking the activity;</b> expected effects on / benefits for conservation and restoration of biodiversity and related ecosystem services are <b>significant but not the primary intended effect;</b>                                   |
| <b>0 %<br/>marker</b>                          | Activities which <b>neither directly nor indirectly seek to contribute significantly</b> to the conservation, restoration or sustainable management of biodiversity (ecosystems, species, and genetic diversity) and the maintenance of related ecosystem services.   |

| <u>Weighing BD relevance</u>  |
|---|
| Application of <u>BRF</u> to STO & GASS   |
| <ul style="list-style-type: none"> <li>• <b>General Administration and Support Services (GASS)</b> - General Management and Supervision; Human Resource Development</li> <li>• <b>Support to Operations (STO)</b> - Data Management; Production &amp; Dissemination of Technical and Popular Materials; Legal Services including Operations against unlawful titling; Conduct of special studies, design, and development; Formulation and Monitoring of ENR Policies, Plans, and Projects; Ecosystem Research Development and Extension Program; Mineral Economics Information and Com Plan</li> </ul> |

### BIODIVERSITY RELEVANCE FACTOR (BRF)

| Bureaus / Offices of the DENR | Standardized BRF |
|-------------------------------|------------------|
| BMB                           | <u>79.0</u>      |
| ERDB                          | 36.26            |
| EMB                           | 7.13             |
| FMB                           | 33.89            |
| LMB                           | 5.15             |
| MGB                           | 5.17             |

Because the BER data gathered are specific programs and activities, a program description was employed in the attribution of expenditures. Focusing on the detailed expenditures of programs resulting to 72% biodiversity-relevant expenditures (**Error! Reference source not found.**). BD-related expenses that were women-focused or concerning gender equality were not addressed in the programs/activities implementation.

*Table 3. Biodiversity relevance matrix.*

| Programs/projects/activities (BD relevance) | 2017       | 2018       | 2019       | 2020       | 2021       | Total       |
|---|------------|------------|------------|------------|------------|-------------|
| Budget/expenditure                          | 28,017,042 | 34,043,239 | 35,366,447 | 20,381,785 | 23,812,714 | 141,621,228 |
| BD-relevant                                 | 22,109,800 | 27,785,899 | 18,159,187 | 16,530,504 | 17,554,262 | 102,139,652 |

Annex 3 summarizes expenditures over the previous five years.

#### IV. FINANCE NEEDS ANALYSIS

The TPAMB and the TMO has long aspired to find ways to fund the long-term protection of TRNP. Many approaches have been suggested but lacked follow through because TMO focused on park conservation and protection rather than on fundraising. With this financial plan as a guide, management can now pursue additional funding opportunities with the assistance of TRNP's long-standing supporters and partners.

TRNP, unlike other protected areas in the country, does not receive regular funding from the General Appropriations Act (GAA) but has relied mainly on tourism. Financial and in-kind grants from private and government donors are also pursued to support continued operations. The current funding arrangement of TMO is expected to remain unchanged until the DBM legitimizes the establishment of TMO and provides funds for, at least, staff salaries and wages.

To fully implement the General Management Plan in the next 10 years, TRNP will require Four Hundred Seventy-Four Million Pesos (PhP474M). This amount includes a substantial capital outlay of PhP132M in the first two years for the construction of the ranger station. Minus the said outlay, the average annual funding requirement is estimated to be PhP34M. The estimated costing of each budget line item is shown in Annex 4.

#### Expenditures Categories

##### Personnel Cost

Since the establishment of TMO in 2001, the Protected Area Superintendent and staff are hired on a contractual basis with compensation below that of government employees with comparable positions and responsibilities. This employment condition is expected to

improve when the DBM decides to fully legitimize TMO's existence as a government agency with plantilla positions.

Given the anticipated absence of consistent government appropriations in years to come, a conservative budget for 18 job positions over the next ten years was projected. Staff salaries account for 19% of TRNP's estimated investment requirement over the next ten years. Nonetheless, the cost is expected to increase dramatically when DBM approves the proposed 35 staff positions for TMO.

#### Program No. 1: Biodiversity and Habitat Protection, Research, Monitoring, and Restoration

The capital outlay of PhP132M for the completion of the ranger station is included in the Biodiversity and Habitat Protection budget distributed over the first two (2) years. The average financing requirement for habitat protection or enforcement and field operations is PhP12 million per year.

TRNP's ecosystem research and monitoring initiatives are divided into two categories: regular monitoring and targeted research. The study of seabirds, fish, benthos, and water quality are done annually and fall under regular monitoring. Targeted research, e.g., *Terpios* sponge, coral diseases, oceanographic studies, vulnerability assessment, are conducted at intervals or when funds are available. Research is costly because of the remoteness of TRNP. Boat transfers and fuel/oil make up most of the cost of research. Given that most consultants waive their fees, only a small amount of funding is set aside for consultancy.

TMO researchers are trained to perform regular monitoring with the assistance of marine park rangers. Their abilities were put to the test in 2020 when travel restrictions prevented Manila-based consultants/experts from joining the trips. TMO has been conducting regular monitoring with local volunteers, for the past two years, with limited assistance from consultants. Savings from consulting or expert fees resulted in a minimal allocation of 16% of the total budget for the next ten years for research studies, or an annual average fund requirement of PhP7.4M.

#### Program No. 2: Community Development and Resource Management

The TPAMB has been supporting the local government unit of Cagayancillo, Palawan by sharing 10% of its annual tourism collections for livelihood programs. Activities under this program, including livelihood training and implementation, MPA management, participatory research, etc., have been implemented by the NGO members of the TPAMB, WWF-Philippines and Conservation International-Philippines in the past.

#### Program No. 3: Communication Education and Public Awareness (CEPA)

This program focuses on fostering support for conservation through public outreach and distribution of information materials. During the pre-pandemic years, school visits and presentations in coastal communities were the main conservation approach of TMO. During the pandemic, however, social media became the norm, and this expanded the reach of the



campaigns. Information is now widely disseminated through digital channels that are accessible at any time and at a lesser cost than face-to-face campaigns. However, coastal communities, mostly without internet access, could not be reached through this approach.

The most significant projected expenditures under this program are for the coming year is mostly for audio-visual equipment and digital campaign materials. However, investment in this program will increase by 2023 and the succeeding years, when Covid 19 is expected to be more under control.

#### Program No. 4: Institutional Strengthening, Partnership, and Capacity-Building

To effectively respond to emerging challenges, there is a need to strengthen the resource management capabilities of the TPAMB, the TMO, and its partners. These stewards must be kept up to date and equipped with the knowledge and skills needed to navigate the ever-changing landscape of MPA management.

Partnerships have proven to be effective in the implementation of management programs, strategies, and activities. The relationship between park management and its stakeholders needs to be strengthened because the park's success is heavily reliant on this synergy. Hence, investments in networking and collaboration will be prioritized.

One of the main objectives of the TPAMB is to develop a sustainable financing mechanism to secure long-term funding for TRNP. A budget for a consultant who will prepare a comprehensive plan and eventually initiate the implementation of financial solutions is being secured. Updating the TRNP General Management Plan and other plans also falls under this program.

#### Management Cost

This budget line item, like the personnel cost, is entirely funded through tourism revenues. Office overhead costs account for approximately 3% of total park operating costs over the next ten years, with office lease being one of the main expenditures under this line item.

Annex 5 described in detail the budgetary line items per program.

#### ESTIMATED FORECAST OF EXPENDITURE/ APPROPRIATIONS

Forecast of expenditures for the next ten years is being done using the historical data. The annual rate value was computed with additional inflation adjustments of 5% compounded annually. Annex 6 outlines the estimated investment from 2022 to 2031.

The significant spike in the first two years (**Error! Reference source not found.**) represents capital outlay for the construction of the Ranger Station. The first year's funding, PhP58M, will come from the compensation paid by the United States for the grounding of the USS Guardian ship in 2013. The fund is being kept by the Bureau of National Treasury, pending

clearance for release. While the second year's construction cost is unfunded, a proposal to raise fund through crowd sourcing is being developed.

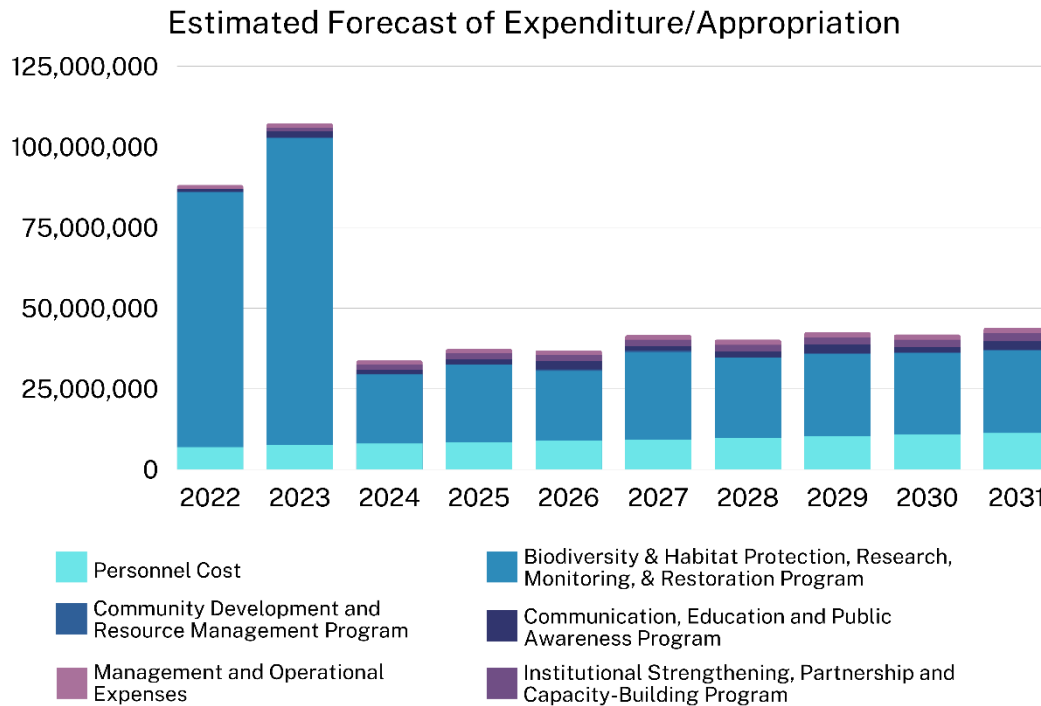


Figure 8. Timeline of Costs for Implementing the TRNP General Management Plan, 2022-2031

## V. FINANCE SOLUTIONS

### 1. Tourism fees

Visitors and dive masters are charged PhP5,000 and PhP250 per person, per entry, respectively. Dive operators pay vessel entry fees based on the tonnage of their boats. The website [www.tubbatareefs.org](http://www.tubbatareefs.org) contains information about tourism fees.

TRNP's tourism operations are limited to the summer months of March to part of June, with some operators arriving towards the end of February. A growing number of visitors was recorded in years preceding the pandemic due to the park's popularity among local and international scuba divers. Tourism earnings increased considerably from 2017 to 2019, more than doubling the average annual revenues since 2010 (Figure 3). When the pandemic hit, collections dropped to nearly zero for two consecutive years. This situation demonstrates how volatile the tourism industry is. Unless tourism returns to normal, TRNP will lose its main source of income, as it has in 2020 to 2021.

## 2. Corporate and corporate foundation donations

It is said that "fund raising is friend-raising". Networking and coalition-building will be pursued to increase the number of corporate supporters of the park. It is likely that this financing option will be the main source of funds for management for the next few years while TMO awaits its transformation into a bona fide government agent.

## 3. Government support

Section 16 of RA 10067 stipulates the role of the DENR and PCSD of providing technical and financial assistance to TRNP. DENR's annual support to TRNP enabled TMO to conduct the regular ecosystem monitoring and enforcement. The PCSD is actively involved in providing technical assistance and linking TMO to project funding possibilities.

Beside DENR and PCSD, the Palawan Provincial Government helps TRNP by funding information materials for CEPA activities every year.

Apart from the aforementioned government agencies, government project grants have been received in a few instances, such as when the Department of Agriculture contributed to the maintenance of the Ranger Station and the conduct of special research on Napoleon Wrasse, and when the Department of Tourism donated an outboard engine.

## 4. Crowdfunding (individual giving)

Crowdfunding is the process of raising money from a large number of people to fund a project, a company, or a cause ([www.spectroomz.com](http://www.spectroomz.com)). Social media and special crowdfunding sites are the main vehicles for this funding approach and no specific amount of contribution is required to participate. TMO has accumulated a visitor database over the years, which may be used as one of the key resources for expanding its base of support outside its usual patrons. This, along with corporate donations will be prioritized in the coming years. However, there may be legal limitations to this undertaking therefore, implementing this approach needs to be studied in detail.

## 5. Collaterals (sale of merchandise)

Since 2004, TMO has been selling merchandise as revenue-generating activity. T-shirts, rash guards, and sun hats, etc., are sold at the ranger station during the diving season. The revenue generated from this activity help cover a portion of the park's operational expenditures. Running a retail business is not a core strength within TMO. Training in this field will help improve entrepreneurial skills and get more out of this venture.

## 6. Diaspora funding

This form of funding involves inter-personal financial transfers between migrants and their countries of origin. The Ayala Foundation conducted a study called "Diaspora Philanthropy: The Philippine Experience," which investigated Filipino diaspora philanthropy as a potential source of funding. The study accounted for the presence of approximately 8.1 million

Filipinos in 193 countries, with a significant number residing in first-world countries. Furthermore, according to the study, first-generation immigrants, particularly those who have done well abroad and/or are nearing retirement, are looking for ways to share their wealth or talent with their home country. TMO can do further research into this possibility and consider launching a donation campaign of its own based on this information.

## 7. Endowment fund

An endowment is a donation of money or property to an organization, which uses the resulting investment income for a specific purpose. The fund managers invest the capital of the endowment forever so that the capital can keep generating new income each year in perpetuity. Only the annual income from investing the endowment is spent to finance conservation activities, but no part of the endowment capital is spent. This is a potential financing source but entails comprehensive study.

## 8. Operationalization of research station

The new TRNP Ranger Station structure includes a research building where scientists can stay for extended periods of time to conduct scientific research in the park. The TPAMB May charge a researcher fee to subsidize a portion of field operating costs. This is a new concept that necessitates extensive study in terms of management and implementation.

## 9. Digital marketing

This refers to using digital channels to market products and services to consumers. This marketing strategy is widely executed on websites, mobile devices, and social media platforms. The following are the most viable digital marketing channels:

- Video Marketing
  - Earn money from ads by joining in the YouTube Partner's Program
  - Establish audience support through "fan funding", e.g., create a tipping jar for the viewers to donate whenever and however they feel like contributing (one-off donations)
  - Create a membership platform for fans to subscribe monthly and receive exclusive rewards (recurring donations)

- Content Marketing

This is a marketing approach that involves creating and distributing valuable, relevant, and consistent content to attract and acquire a specific audience and generate lucrative consumer action. A piece of content such as viral video with global popularity, can be legally licensed and sold to a third party for distribution.

Annexes

Annex A. Drivers, Pressures, State, Impact, Responses (DPSIR) Framework

| Problem/Issue               | 1) Climate change  |  |   |   |
|-----------------------------|--|--|---|---|
|                             | DRIVERS  | PRESSURES  | STATE   | IMPACTS   |
|                             | Increase in global temperature due to emissions and greenhouse gases | From 2017 to 2020, there were more prolonged peaks in SST observed. Even during outside of the summer months. Before 2017, peaks in SST were generally observed during summer month (NOAA). Coral bleaching often coincides with prolonged peaks in SST. | In 2020, up to 20% bleaching was recorded, resulting in decrease in hard coral cover. In 2021, some sites have not recovered as evidenced by the continued decline in hard coral cover.   | Reduced tourism value (Cheablam et al., 2013), reduced productivity, loss of habitats   |
|                             | RESPONSES TO DRIVERS   | RESPONSES TO PRESSURES   | RESPONSES TO STATE  | RESPONSES TO IMPACTS  |
| What Needs to be Stopped:   | -  | -  | -   | -   |
| What Needs to be Continued: | -  | Monitor sea surface temperature (SST) using data loggers, results will be used to quantify effects of increased SST on the reefs. Continue coral monitoring for bleaching  | CEPA - decrease in coral cover, tourist briefings. Monitoring - submit bleaching status to Coral Bleaching Watch, citizen science reports on coral bleaching. Research - conduct coral bleaching assessment, measure impacts, use new methods (Coral Reef Targeted Research) and approaches to quantify changes or impacts to coral cover | CEPA - encourage tourists to comply with regulations to minimize impacts on corals. Research - measure impacts of coral bleaching. Compliance management - strict enforcement of rules that applies to tourists and fishers. Mobilize grants from external sources. |
| What Needs to be Started:   | -  | Carry-out vulnerability and risk assessment in collaboration with research institutions to design and implement measures for resiliency of the coral reef to climate change.   |   |   |

Problem/Issue

2) Erosion of Bird Islet / Loss of vulnerable species

|                            | DRIVERS                                       | PRESSURES  | STATE  | IMPACTS   |
|----------------------------|---|--|--|---|
|                            | Climate Change                                | From 2017 to 2021, more frequent and stronger typhoons travers the Sulu Sea. Frequent and prolonged drought also exacerbated the erosion and loss of vegetation.             | Bird Islet continues to erode due to strong waves and unstable soil/ground. This also results in loss of vegetation. | It is projected that Bird Islet will disappear in 70 years, if the rate of erosion continues. This will result to loss of TRNP's seabirds - the largest breeding colony in the Philippines. The loss of trees resulted to the decrease in the population of tree nesting species. |
|                            | RESPONSES TO DRIVERS                          | RESPONSES TO PRESSURES   | RESPONSES TO STATE   | RESPONSES TO IMPACTS  |
| What Needs to be Stopped   |   | -  | -  | -   |
| What Needs to be Continued |   | Beach profiling and continuous erosion monitoring  | Undertake ecological measures to reduce erosion (regeneration of beach forest)                                       | Install artificial nesting structures, provide nesting materials, networking with seabird experts   |
| What Needs to be Started   | Monitor impacts of climate change in the area | -  | Protect remaining vegetation in the islets and conduct ecological erosion mitigation measures                        | Satellite tracking of black noddies, brown booby, masked booby, and sooty tern, collaboration with other groups in seabird conservation   |
|                            | -   | Carry-out vulnerability and risk assessment in collaboration with research institutions to design and implement measures for resiliency of the coral reef to climate change. |  |   |

**Problem/Issue**      **3) Inadequate infrastructure**

|                            | DRIVERS              | PRESSURES   | STATE  | IMPACTS                                   |
|----------------------------|----------------------|---|--|---|
|                            | Climate change       | Natural degradation of the ranger station and increased intensity and frequency of typhoons | The structure of the station is already compromised and repairing it is no longer economically viable. Inadequate funds to complete the new ranger station | Compromised safety of marine park rangers |
|                            | RESPONSES TO DRIVERS | RESPONSES TO PRESSURES  | RESPONSES TO STATE   | RESPONSES TO IMPACTS                      |
| What Needs to be Stopped   | -                    | -   |  |   |
| What Needs to be Continued |                      |   | Continue maintenance and reinforcement of the old ranger station   |   |
| What Needs to be Started   |                      |   | Raise funds for the Phase 2 of the ranger station  | Complete the new ranger station           |

**Problem/Issue**      **4) Marine debris**

|                          | DRIVERS                    | PRESSURES   | STATE   | IMPACTS   |
|--------------------------|----------------------------|---|---|---|
|                          | Increasing use of plastics | High volume of marine debris collected until 2018. A decrease was observed one year after implementation as an area to be avoided (Figure 2 - marine debris and shipping activity AIS and radar). | Increasing marine debris. Increase shipping activities coincides with increase in volume of marine debris collected (Figure 2). | Negative impacts on wildlife - entanglement and death e.g., seabirds, sharks. Reduced aesthetic value - surface water covered with trash and fishing nets entangle on corals; Effects on navigation - entanglement of debris in propeller |
|                          | RESPONSES TO DRIVERS       | RESPONSES TO PRESSURES  | RESPONSES TO STATE  | RESPONSES TO IMPACTS  |
| What Needs to be Stopped | -                          | Reliance on single use plastic products   | -   | -   |

|                            |   |   |   |  |
|----------------------------|---|---|---|--|
| What Needs to be Continued | CEPA on minimizing the use of single-use plastics | Ban on single-use plastic in TRNP (Admin Order 2 series of 2019), CEPA, Ban on single-use plastic in Cagayancillo | Surface and underwater clean-ups, characterization of marine debris | Opportunistic rescue of entangled wildlife, surface and underwater clean-ups |
| What Needs to be Started   | Support efforts to reduce use of plastics         | Coordinate with DENR, NGOs, LGUs, and businesses (CSR)  | CEPA on minimizing the use of single-use plastics                   | -  |

**Problem/Issue**      **5) Adverse effects of tourism**

|                            | DRIVERS              | PRESSURES   | STATE  | IMPACTS   |
|----------------------------|----------------------|---|--|---|
|                            | Tourism activities   | Graywater discharge from dive boats                     | High levels of oil and grease, and fecal and total coliform during dive season.<br>Diving activities entails possible coral damages and diseases | Possible effects to nutrient enrichment in the water, coral diseases, and coral damages |
|                            | RESPONSES TO DRIVERS | RESPONSES TO PRESSURES                                  | RESPONSES TO STATE   | RESPONSES TO IMPACTS  |
| What Needs to be Stopped   | -                    | Discharge of graywater inside the core and buffer zones | -  | -   |
| What Needs to be Continued | -                    | -   | Water quality monitoring<br>Conduct pre-departure briefings, highlighting park rules and regulations and best dive practices                     |   |
| What Needs to be Started   |                      | Enforce PCG Memorandum Circular 10-14                   | Monitoring and analysis of effluents from dive boats<br>Carrying capacity/Diver impact study   | Train MPR and researchers to conduct coral disease monitoring                           |



**Problem/Issue**

**6) Illegal fishing**

|                            | DRIVERS              | PRESSURES  | STATE   | IMPACTS  |
|----------------------------|----------------------|--|---|--|
|                            | Over-population      | Over exploitation of marine resources                        | Threat of illegal harvesting of marine resources in TRNP                                  | Possible depletion of marine resources, makes species vulnerable to extinction and change in ecological state, continuous expenditure in compliance management |
|                            | RESPONSES TO DRIVERS | RESPONSES TO PRESSURES                                       | RESPONSES TO STATE  | RESPONSES TO IMPACTS   |
| What Needs to be Stopped   | -                    | -  | -   | -  |
| What Needs to be Continued | -                    | CEPA on sustainable fishing practices, compliance management | CEPA on sustainable fishing practices, compliance management                              | CEPA on sustainable fishing practices, compliance management, collaboration with ICCM  |
| What Needs to be Started   | -                    | -  | Use of state-of-the-art technology (use of drones, AToN) for surveillance and enforcement | Use of state-of-the-art technology (use of drones, AToN) for surveillance and enforcement  |

**Problem/Issue**

**7) Escalating shipping activities**

|                            | DRIVERS  | PRESSURES  | STATE   | IMPACTS   |
|----------------------------|--|--|---|---|
|                            | Increase in global trade and economic activities | Sulu Sea is included in the archipelagic sea lanes | Shipping activities continue adjacent to the buffer zone of the park. Some ships entered park's buffer zone                   | Ship grounding, oil and chemical spills, introduction of alien invasive species and increased marine debris                           |
|                            | RESPONSES TO DRIVERS                             | RESPONSES TO PRESSURES                             | RESPONSES TO STATE  | RESPONSES TO IMPACTS  |
| What Needs to be Stopped   | -  | -  |   |   |
| What Needs to be Continued | -  | -  | Monitor shipping activities through AIS, warn ships about to enter PSSA/ATBA, file formal complaints to DFA against violators | Coordination with relevant agencies, e.g., PCG in the implementation of the Contingency Plan<br>Conduct coastal and surface clean-ups |
| What Needs to be Started   | -  | -  |   |   |

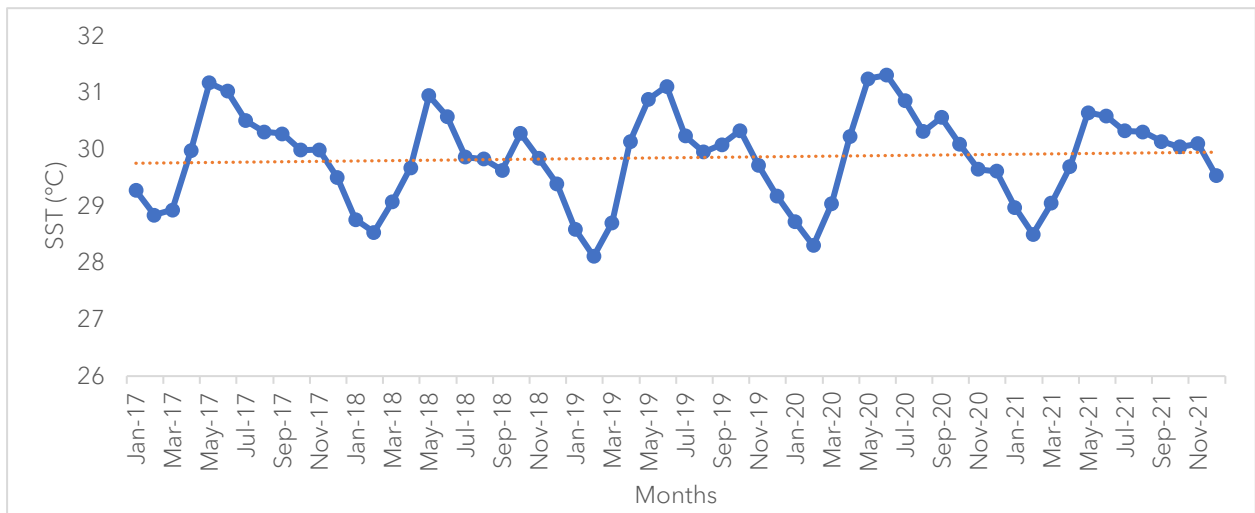
Problem/Issue

8) Energy exploration

|                            | DRIVERS                                  | PRESSURES  | STATE  | IMPACTS  |
|----------------------------|--|--|--|--|
|                            | Industrial development and modernization | Need for additional supply and sources of energy | No current energy exploration activities and service contracts | Seismic activities impact marine life, e.g., dolphins, whales, fish and corals<br>Possible oil and chemical spills |
|                            | RESPONSES TO DRIVERS                     | RESPONSES TO PRESSURES                           | RESPONSES TO STATE   | RESPONSES TO IMPACTS   |
| What Needs to be Stopped   |  |  |  |  |
| What Needs to be Continued |  |  | Ensure that TRNP is not included in the area to be surveyed    |  |
| What Needs to be Started   |  |  |  |  |

## Annex B. Sea surface temperature data in TRNP in 2017 to 2021

The average maximum sea surface temperature (SST) from 2017 to 2021 was 29.9°C. The maximum monthly SST were highest during the summer months, from April to June, and a slight increase were recorded in September and October, in most years. No major coral bleaching incident was observed until May 2020, which coincided with the mass bleaching event reported throughout the Philippines (Coral Bleaching Watch of the Philippines 2020).



*Monthly Average Maximum Sea Surface Temperature in West Philippine Sea and Sulu Sea. Source: NOAA Coral Reef Watch, accessed on 29 December 2021*

In 2020, the SST peaked in June at 31.3°C. Prior to that, the TMO research team observed a few bleached corals in May. During the subsequent research trips to TRNP in June, TMO staff and the rangers observed that the beaching has worsened. In July, the team revisited the permanent reef benthos monitoring sites to assess the severity of coral bleaching in the park. It was believed that during this time, bleaching occurrence was at its peak. In September of the same year, another increase in SST was observed (30.6°C) and the marine park rangers observed that corals in the shallow areas near the Ranger Station were bleaching.

The bleached hard coral cover (HCC) per station ranged from 3.58% to 18.96% in the shallow areas. The most common hard corals that bleached in the monitoring sites include *Pocillopora*, *Acropora*, *Isopora*, *Seriatopora*, which are known to be sensitive to bleaching. In the deep monitoring stations, the bleached HCC ranged from 2.47% to 16.95%. The most common hard corals that bleached in these sites include *Acropora*, *Pocillopora*, *Isopora*, *Seriatopora*, *Millepora*, and *Porites*.

## Annex C. Budget Expenditure Review (BER)

| <b>Programs/projects/activities (BD relevance)</b>   | <b>2017</b>       | <b>2018</b>       | <b>2019</b>       | <b>2020</b>       | <b>2021</b>       | <b>Total</b>       |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| Budget/expenditure   | 28,017,042        | 34,043,239        | 35,366,447        | 20,381,785        | 23,812,714        | <b>141,621,228</b> |
| BD-relevant  | 22,109,800        | 27,785,899        | 18,159,187        | 16,530,504        | 17,554,262        | <b>102,139,652</b> |
| <b>Relative distribution of biodiversity-relevant gender budgets</b>   |                   |                   |                   |                   |                   |                    |
| BD-relevant  | 22,109,800        | 27,785,899        | 18,159,187        | 16,530,504        | 17,554,262        | 102,139,652        |
| BD-related expenditures that were women-focused or about gender equality   |                   |                   |                   |                   |                   |                    |
| <b>BUDGET ITEMS</b>  |                   |                   |                   |                   |                   |                    |
| <b>Personnel Cost</b>  | <b>3,829,077</b>  | <b>5,778,266</b>  | <b>5,838,094</b>  | <b>7,415,680</b>  | <b>7,423,998</b>  | <b>30,285,116</b>  |
| <b>Programs</b>  |                   |                   |                   |                   |                   | -                  |
| Biodiversity & Habitat Protection, Research, Monitoring, & Community Development and Resource Management Program | 10,056,451        | 10,944,689        | 11,296,938        | 9,513,752         | 12,892,346        | <b>54,704,177</b>  |
| Conservation and Awareness Program   | 2,619,700         | 5,357,910         | 4,773,575         | 1,674,050         | 1,117,125         | <b>15,542,360</b>  |
| Institutional Strengthening, Partnership and Capacity-Building   | 9,672,315         | 10,142,064        | 10,423,821        | 94,719            | 924,116           | <b>31,257,035</b>  |
| <b>Management and Operational Expenses</b>   | <b>324,524</b>    | <b>530,325</b>    | <b>1,830,827</b>  | <b>633,377</b>    | <b>434,900</b>    | <b>3,753,954</b>   |
| <b>TOTAL</b>   | <b>28,017,042</b> | <b>34,043,239</b> | <b>35,366,447</b> | <b>20,381,785</b> | <b>23,812,714</b> | <b>141,621,228</b> |
| <b>Appropriations by Fund Source</b>   |                   |                   |                   |                   |                   |                    |
| <b>GAA</b>   | -                 | -                 | -                 | -                 | -                 | -                  |
| <b>IPAF</b>  | -                 | -                 | -                 | -                 | -                 | -                  |
| <b>Income from Operations:</b>   |                   |                   |                   |                   |                   |                    |
| PA Retained Income Account (RIA)   | 9,089,472         | 11,542,382        | 11,257,392        | 10,143,903        | 8,143,816         | <b>50,176,965</b>  |
| IPAF -SAGF   |                   |                   |                   |                   |                   |                    |
| <b>Other Sources of Funds:</b>   |                   |                   |                   |                   |                   |                    |
| Pilipinas Shell Foundation, Inc (PSFI)   | 2,516,041         | 3,000,000         | 3,001,758         | 2,198,185         | 2,866,066         | <b>13,582,050</b>  |
| ASEAN Centre for Biodiversity (ACB)  | -                 | -                 | 636,202           | -                 | 800,000           | <b>1,436,202</b>   |
| Stellios Foundation  | -                 | -                 | -                 | 172,622           | 127,143           | <b>299,765</b>     |
| East Asian-Australasian Flyway Partnership (EAAFP)   | -                 | -                 | -                 | -                 | 238,432           | <b>238,432</b>     |
| Don Antonio O. Floirendo, Sr. Foundation, Inc. (AOFF)  | 226,137           | 836,820           | 1,115,582         | -                 | -                 | <b>2,178,539</b>   |
| SAGUDA Palawan, Inc  | -                 | -                 | 183,542           | 252,482           | 310,231           | <b>746,255</b>     |
| UNESCO-Jakarta   | -                 | -                 | -                 | -                 | 500,000           | <b>500,000</b>     |
| Jimenez Group of Companies   | -                 | -                 | -                 | -                 | 500,000           | <b>500,000</b>     |
| Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)  | 464,000           | -                 | -                 | -                 | -                 | <b>464,000</b>     |
| National Fisheries Research and Development Institute (NFRDI)  | -                 | 430,845           | -                 | -                 | -                 | <b>430,845</b>     |
| Department of Environment and Natural Resources (DENR)   | 1,484,000         | 1,234,000         | 3,091,000         | 2,299,000         | 4,941,000         | <b>13,049,000</b>  |
| Provincial Government of Palawan   | 238,200           | 250,000           | 250,000           | -                 | 500,000           | <b>1,238,200</b>   |
| <b>Total projects implemented by TMO</b>   | <b>14,017,850</b> | <b>17,294,047</b> | <b>19,535,475</b> | <b>15,066,192</b> | <b>18,926,688</b> | <b>84,840,252</b>  |
| <b>Projects implemented by Partners</b>  |                   |                   |                   |                   |                   |                    |
| WWF-Philippines  | 1,200,000         | 3,900,000         | 2,900,000         | 1,600,000         | 1,100,000         | <b>10,700,000</b>  |
| Digichive Philippines Corporation  | 9,300,000         | 9,300,000         | 9,300,000         |                   |                   | <b>27,900,000</b>  |
| Philippine Navy (PN)   | 1,785,928         | 1,835,928         | 1,897,644         | 1,962,057         | 2,010,026         | <b>9,491,583</b>   |
| Philippine Coast Guard (PCG)   | 1,713,264         | 1,713,264         | 1,733,328         | 1,753,536         | 1,776,000         | <b>8,689,392</b>   |
| <b>Total projects implemented by Partners</b>  | <b>13,999,192</b> | <b>16,749,192</b> | <b>15,830,972</b> | <b>5,315,593</b>  | <b>4,886,026</b>  | <b>56,780,975</b>  |
| <b>Total appropriations by Fund Source</b>   | <b>28,017,042</b> | <b>34,043,239</b> | <b>35,366,447</b> | <b>20,381,785</b> | <b>23,812,714</b> | <b>141,621,227</b> |

Note: BD - Biodiversity

## Annex E. Estimated Forecast of Expenditure

### ESTIMATED FORECAST OF EXPENDITURE/ APPROPRIATIONS

| BUDGET ITEMS  | 2022              | 2023               | 2024              | 2025              | 2026              | 2027              | 2028              | 2029              | 2030              | 2031              | TOTAL              |
|---|-------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| Personnel Cost  | 6,896,032         | 7,625,980          | 8,007,279         | 8,407,643         | 8,828,025         | 9,269,427         | 9,732,898         | 10,219,543        | 10,730,520        | 11,267,046        | 90,984,395         |
| Programs  | 79,011,346        | 95,037,683         | 21,348,913        | 24,045,549        | 21,630,373        | 26,873,109        | 24,817,493        | 25,386,461        | 25,218,992        | 25,526,461        | 368,896,381        |
| <i>Biodiversity &amp; Habitat Protection, Research, Monitoring, &amp; Restoration Program</i> | 77,911,346        | 91,748,308         | 18,225,820        | 20,534,775        | 16,607,004        | 22,874,853        | 20,820,339        | 20,063,769        | 21,033,748        | 20,201,157        | 330,021,120        |
| <i>Community Development and Resource Management Program</i>                                  | 250,000           | 210,000            | 220,500           | -                 | 486,203           | 574,327           | -                 | 281,420           | 295,491           | 310,266           | 2,628,206          |
| <i>Conservation and Awareness Program</i>   | 750,000           | 1,837,500          | 1,212,750         | 1,678,556         | 2,674,114         | 1,403,910         | 1,943,139         | 2,814,201         | 1,625,201         | 2,559,692         | 18,499,062         |
| <i>Institutional Strengthening, Partnership and Capacity-Building Program</i>                 | 100,000           | 1,241,875          | 1,689,844         | 1,832,217         | 1,863,053         | 2,020,019         | 2,054,016         | 2,227,071         | 2,264,552         | 2,455,346         | 17,747,994         |
| Management and Operational Expenses   | 1,111,989         | 1,272,588          | 1,225,967         | 1,287,266         | 1,351,629         | 1,419,211         | 1,624,181         | 1,564,680         | 1,642,914         | 1,725,059         | 14,225,483         |
| <b>TOTAL FORECAST</b>   | <b>87,019,367</b> | <b>103,936,252</b> | <b>30,582,160</b> | <b>33,740,458</b> | <b>31,810,028</b> | <b>37,561,746</b> | <b>36,174,572</b> | <b>37,170,684</b> | <b>37,592,426</b> | <b>38,518,566</b> | <b>474,106,259</b> |

| EXPENDITURES CATEGORIES  |  |  |
|--|--|--|
| COST ITEM  | DESCRIPTION  | CLASSIFICATION   |
| Personnel  | This cost is for 18 positions under contract of service with an all-inclusive monthly rate (salaries and premium) that is not in conformity with the Salary Standardization Law of the government.   | Office of the PASu (2)<br>Biophysical Research team (3)<br>Marine Park Rangers (4)<br>CEPA team (3)<br>Admin and finance (6)   |
| Law Enforcement  | These are the expenditures associated with the implementation of RA 10067, also known as the TRNP Act of 2009, which has the primary mandate of protecting and conserving TRNP.  | Patrol boat upgrading (engine and hull)<br>Field equipment (communication, surveillance, etc)<br>Fuel, oil and lubricants<br>Repair and maintenance: Ranger station<br>Repair and maintenance: patrol boat<br>Repair and maintenance: field equipment<br>Relieving trip<br>Legal and apprehension fund<br>Legal retainer<br>Subsistence allowance for Rangers<br>Communication expenses (satphone and internet)<br>Field supplies<br>Disaster risk reduction related expenditures<br>Contingency expenses<br>Other field expenses<br>Construction of Ranger Station<br>Philippine Navy support (personnel + relieving)<br>Philippine Coast guard support (personnel) |
| Ecosystem Research and Monitoring                                      | These are the costs necessary in the achievement of the program's goals: to determine ecosystem health; generate sound scientific information; serve as basis for formulating proactive strategies; and measure biophysical indicators of management effectiveness.  | Regular monitoring: seabirds, fish, benthos, and water quality<br>Targeted research<br>Satellite tracking device for seabirds<br>Upgrading of reseach equipment  |
| Tourism Management   | These costs were identified to attain the TRNP's tourism goal of effectively manage tourism to support conservation of the park's resources through proper management set-up, good partnerships with the tourism stakeholders, use of scientific information for improved management, and committed support of various stakeholders. | Mooring/Anchor buoys (materials for maintenance)<br>Attendance to tourism exhibits/conferences<br>Pre-departure briefings and other supplies<br>Repair and maintenance: equipment<br>Equipment   |
| Community Development and Resource Management Program                  | These expenditures were recognized to better engage the relevant stakeholders to achieve sustainable outcomes for Tubbataha's effective governance.  | Public consultations<br>Support to LGU Cagayancillo Livelihood Programs<br>Resource mobilization Plan<br>Updating of General Management Plan<br>Updating of Ecotourism Plan  |
| Conservation and Awareness Program                                     | The expenditures identified here are intended to achieve the program's goals, which are to promote awareness, generate support, foster stewardship, and promote voluntary compliance with regulations.   | Production of brochures and leaflets<br>Production of AVP<br>Procurement of equipment-AVP<br>CEPA campaign and advocacies (digital)<br>CEPA campaign and advocacies (face to face)<br>Tubbataha Youth Ambassador (TYA) program<br>CEPA in Cagayancillo for establishment of bird sanctuaries, beach forest regeneration of native trees on the islet<br>IEC materials on MPAs<br>IEC on wildlife conservation and protection   |
| Institutional Strengthening, Partnership and Capacity-Building Program | Expenditures under this program are identified to enhance policy development, expand partnerships with agencies and institutions, and enhance management capability to enable effective response to emerging challenges.   | Networking and collaboration<br>Familiarization of TPAMB and Partners<br>Management Effectiveness Evaluation (MEE)<br>Dive Operators Meeting<br>Coral reef insurance<br>Capacity building of research staff<br>Capacity building for sustainable tourism (e.g. for dive guides; ecotourism etc)<br>Capacity building of Marine Park Rangers<br>Capacity development for TMO-Admin staff and TPAMB  |
| Management and Operational Expenses                                    | These are the recurring administrative expenditures  | PAMB Meetings and Operation<br>Office Equipment/furnitures<br>Repair and Maintenance of Office equipment/furnitures<br>Office rental<br>Utilities<br>Office supplies<br>Transportation and Delivery Expenses<br>General services<br>Other admin expenses   |

# Annex 5. Estimated Detailed Costing

## ESTIMATED COSTING OF NATIONAL PROTECTED AREAS INVESTMENT PROGRAM

| ITEM DESCRIPTION  | Unit Cost (PPP) | Unit                 | Frequency | Estimated    | Budgetary Notes & Assumptions                           | 2022      | 2023      | 2024      | 2025      | 2026      | 2027      | 2028      | 2029       | 2030       | 2031       | TOTAL      |
|---|-----------------|----------------------|-----------|--------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|
|   |                 |                      |           |              |   | 6,896,032 | 7,625,980 | 8,007,279 | 8,407,643 | 8,828,025 | 9,269,427 | 9,732,898 | 10,219,543 | 10,730,520 | 11,267,046 | 50,584,355 |
| <b>1 Personnel Cost</b>   |                 |                      |           |              |   |           |           |           |           |           |           |           |            |            |            |            |
| PASU  | 84,688          | per person per month | 12        | 1,016,370.38 | Estimated unit cost: inclusive 20% premium              | 1,016,370 | 1,067,189 | 1,120,548 | 1,176,576 | 1,235,405 | 1,297,175 | 1,362,034 | 1,430,135  | 1,501,642  | 1,576,724  | 12,788,797 |
| Executive Asst  | 30,110          | per person per month | 12        | 341,215      | Estimated unit cost: inclusive 20% premium              | 341,215   | 353,381   | 366,050   | 379,322   | 393,200   | 407,686   | 422,781   | 438,495    | 454,828    | 471,780    | 3,808,234  |
| Senior MPP/Researcher   | 50,487          | per person per month | 12        | 605,849      | Estimated unit cost: inclusive 20% premium              | 605,849   | 628,141   | 651,494   | 675,918   | 702,414   | 728,982   | 756,623   | 785,337    | 815,125    | 846,088    | 6,300,899  |
| Senior MPP  | 41,733          | per person per month | 12        | 501,033      | Estimated unit cost: inclusive 20% premium              | 501,033   | 523,084   | 546,195   | 570,367   | 595,600   | 621,895   | 649,251   | 677,668    | 706,147    | 735,687    | 5,345,899  |
| Junior MPP/Researcher   | 29,283          | per person per month | 12        | 354,998      | Estimated unit cost: inclusive 20% premium              | 354,998   | 370,748   | 387,389   | 404,922   | 423,348   | 442,667   | 462,880   | 483,987    | 505,989    | 528,887    | 4,465,127  |
| Junior MPP  | 27,824          | per person per month | 12        | 333,884      | Estimated unit cost: inclusive 20% premium              | 333,884   | 350,578   | 368,107   | 386,512   | 405,795   | 425,957   | 446,990   | 468,803    | 491,395    | 514,766    | 4,189,957  |
| Research Officer  | 36,156          | per person per month | 12        | 433,869      | Estimated unit cost: inclusive 20% premium              | 433,869   | 452,562   | 472,241   | 492,906   | 514,557   | 537,194   | 560,817   | 585,426    | 611,021    | 637,603    | 5,457,158  |
| Researcher  | 31,347          | per person per month | 12        | 376,159      | Estimated unit cost: inclusive 20% premium              | 376,159   | 394,977   | 414,726   | 435,412   | 457,045   | 479,626   | 503,154   | 527,728    | 553,347    | 579,999    | 4,731,413  |
| Researcher  | 28,686          | per person per month | 12        | 344,236      | Estimated unit cost: inclusive 20% premium              | 344,236   | 363,048   | 382,790   | 403,463   | 425,066   | 447,600   | 471,064   | 495,558    | 521,081    | 547,633    | 4,489,689  |
| IEC/CEPA Officer  | 30,567          | per person per month | 12        | 366,806      | Estimated unit cost: inclusive 20% premium              | 366,806   | 385,146   | 404,404   | 424,581   | 445,685   | 467,716   | 490,673   | 514,556    | 539,365    | 565,096    | 4,246,840  |
| Tourism Officer   | 31,247          | per person per month | 12        | 374,969      | Estimated unit cost: inclusive 20% premium              | 374,969   | 394,977   | 414,726   | 435,412   | 457,045   | 479,626   | 503,154   | 527,728    | 553,347    | 579,999    | 4,731,413  |
| IEC/CEPA Assistant  | 20,110          | per person per month | 12        | 241,215      | Estimated unit cost: inclusive 20% premium              | 241,215   | 253,381   | 266,050   | 279,322   | 293,200   | 307,686   | 322,781   | 338,495    | 354,828    | 371,780    | 2,808,234  |
| Admin Officer   | 54,262          | per person per month | 12        | 651,147      | Estimated unit cost: inclusive 20% premium              | 651,147   | 683,704   | 717,880   | 753,784   | 792,473   | 833,047   | 875,599   | 919,229    | 964,941    | 1,012,734  | 8,189,057  |
| Cabaret   | 27,382          | per person per month | 12        | 328,584      | Estimated unit cost: inclusive 20% premium              | 328,584   | 345,143   | 362,401   | 380,217   | 399,547   | 419,424   | 440,500   | 462,525    | 485,611    | 509,734    | 4,134,454  |
| Accountant  | 26,438          | per person per month | 12        | 317,251      | Estimated unit cost: inclusive 20% premium              | 317,251   | 333,114   | 349,769   | 367,238   | 385,611   | 404,800   | 424,747   | 445,484    | 466,924    | 489,160    | 3,990,349  |
| Backend/HR Officer  | 26,438          | per person per month | 12        | 317,251      | Estimated unit cost: inclusive 20% premium              | 317,251   | 333,114   | 349,769   | 367,238   | 385,611   | 404,800   | 424,747   | 445,484    | 466,924    | 489,160    | 3,990,349  |
| Admin Asst-Property Custodian   | 23,727          | per person per month | 12        | 284,589      | Estimated unit cost: inclusive 20% premium              | 284,589   | 299,343   | 314,311   | 330,206   | 346,527   | 363,854   | 382,047   | 401,149    | 421,206    | 442,267    | 3,588,819  |
| Messenger   | 13,242          | per person per month | 12        | 159,719      | Estimated unit cost: inclusive 20% premium              | 159,719   | 167,348   | 175,715   | 184,501   | 193,726   | 203,412   | 213,563   | 224,202    | 235,475    | 247,249    | 2,004,622  |
| <b>2 Programs</b>   |                 |                      |           |              |   |           |           |           |           |           |           |           |            |            |            |            |
| <b>Biodiversity and Habitat Protection, Research, Monitoring, and Restoration Program</b> |                 |                      |           |              |   |           |           |           |           |           |           |           |            |            |            |            |
| <b>LAW ENFORCEMENT</b>  |                 |                      |           |              |   |           |           |           |           |           |           |           |            |            |            |            |
| Patrol boat upgrade (engine and hull)   | 1,300,000       | PHP lump sum         | 1         | 1,300,000    | one-time cost: once in 15 years (2024 last acquisition) | 1,300,000 | -         | -         | -         | -         | -         | -         | -          | -          | -          | 1,300,000  |
| Hull for single engine  | 1,300,000       | PHP lump sum         | 1         | 1,300,000    | one-time cost: once in 15 years (2024 last acquisition) | 1,300,000 | -         | -         | -         | -         | -         | -         | -          | -          | -          | 1,300,000  |
| Hull for double engine  | 1,300,000       | PHP lump sum         | 1         | 1,300,000    | one-time cost: once in 15 years (2024 last acquisition) | 1,300,000 | -         | -         | -         | -         | -         | -         | -          | -          | -          | 1,300,000  |
| Engine replacement-RMP (2 units w/ accessories & installation)                            | 1,000,000       | PHP lump sum         | 1         | 1,000,000    | one-time cost: once in 15 years (2024 last acquisition) | 1,000,000 | -         | -         | -         | -         | -         | -         | -          | -          | -          | 1,000,000  |
| Engine replacement-25HP (w/ accessories & installation)                                   | 1,000,000       | PHP lump sum         | 1         | 1,000,000    | one-time cost: once in 15 years (2024 last acquisition) | 1,000,000 | -         | -         | -         | -         | -         | -         | -          | -          | -          | 1,000,000  |
| Engine replacement-25HP   | 1,000,000       | PHP lump sum         | 1         | 1,000,000    | one-time cost: once in 15 years (2024 last acquisition) | 1,000,000 | -         | -         | -         | -         | -         | -         | -          | -          | -          | 1,000,000  |
| Field equipment (communication, surveillance, etc)  | 150,000         | PHP lump sum         | 1         | 150,000      | one-time cost: once in 4 years                          | 150,000   | -         | -         | -         | -         | -         | -         | -          | -          | -          | 150,000    |
| Radar   | 150,000         | PHP lump sum         | 1         | 150,000      | one-time cost: once in 4 years (2024 last acquisition)  | 150,000   | -         | -         | -         | -         | -         | -         | -          | -          | -          | 150,000    |
| Other equipment (SSR radar, satellite phone, satellite broadband, etc)                    | 2,500,000       | PHP lump sum         | 1         | 2,500,000    | one-time cost: once in 3 years                          | 2,500,000 | -         | -         | -         | -         | -         | -         | -          | -          | -          | 2,500,000  |
| GPS (vehicle and BOP)   | 2,000,000       | PHP lump sum         | 1         | 2,000,000    | one-time cost: once in 3 years                          | 2,000,000 | -         | -         | -         | -         | -         | -         | -          | -          | -          | 2,000,000  |
| Fuel oil and lubricants   | 800,000         | Monthly              | 6         | 4,800,000    | Recurring cost  | 800,000   | 504,000   | 529,200   | 555,600   | 583,440   | 612,615   | 643,140   | 675,048    | 708,375    | 742,632    | 6,288,816  |
| Repair and maintenance- Ranger station  | 100,000         | PHP lump sum         | 1         | 100,000      | recurring cost  | 100,000   | 105,000   | 110,250   | 115,763   | 121,541   | 127,608   | 134,000   | 140,740    | 147,746    | 155,133    | 1,257,789  |
| Repair and maintenance- patrol boat   | 100,000         | PHP lump sum         | 1         | 100,000      | recurring cost  | 100,000   | 105,000   | 110,250   | 115,763   | 121,541   | 127,608   | 134,000   | 140,740    | 147,746    | 155,133    | 1,257,789  |
| Repair and maintenance- Field equipment   | 50,000          | PHP lump sum         | 1         | 50,000       | recurring cost  | 50,000    | 52,500    | 55,125    | 57,881    | 60,775    | 63,814    | 67,009    | 70,355     | 73,873     | 77,566     | 628,895    |
| TMO   | 411,200         | per trip             | 4         | 1,644,800    | recurring cost  | 411,200   | 1,726,620 | 1,812,951 | 1,901,999 | 1,998,778 | 2,098,711 | 2,203,613 | 2,313,836  | 2,429,528  | 2,551,204  | 20,683,086 |
| PH  | 500,000         | per trip             | 2         | 1,000,000    | recurring cost  | 500,000   | 1,050,000 | 1,102,500 | 1,157,625 | 1,215,360 | 1,275,804 | 1,339,068 | 1,403,160  | 1,470,192  | 1,540,272  | 12,577,808 |
| Legal and apprehension fund   | 500,000         | Annual               | 1         | 500,000      | Recurring cost: revolving fund must be maintained       | 500,000   | 500,000   | 500,000   | 500,000   | 500,000   | 500,000   | 500,000   | 500,000    | 500,000    | 500,000    | 5,000,000  |
| Legal retainer  | 15,000          | Monthly              | 12        | 180,000      | Recurring cost  | 15,000    | 180,000   | 180,000   | 180,000   | 180,000   | 180,000   | 180,000   | 180,000    | 180,000    | 180,000    | 2,160,000  |
| Subsistence allowance for Rangers   | 729,300         | Monthly              | 360       | 264,360      | Recurring cost  | 729,300   | 765,765   | 804,063   | 844,256   | 886,649   | 930,792   | 977,332   | 1,026,198  | 1,077,508  | 1,131,384  | 9,173,075  |
| TMO & PH (2024-2031)  | 400             | Daily                | 360       | 144,000      | Recurring cost  | 400       | 144,000   | 144,000   | 144,000   | 144,000   | 144,000   | 144,000   | 144,000    | 144,000    | 144,000    | 1,440,000  |
| PH (2024-2031)  | 125             | Daily                | 124       | 15,500       | Recurring cost  | 125       | 15,500    | 15,500    | 15,500    | 15,500    | 15,500    | 15,500    | 15,500     | 15,500     | 15,500     | 1,860,000  |
| Communication expenses (satellite and internet)   | 121,200         | Monthly              | 12        | 1,454,400    | Recurring cost  | 121,200   | 127,260   | 133,623   | 140,304   | 147,319   | 154,685   | 162,420   | 170,541    | 179,068    | 188,021    | 1,524,441  |
| Satellite broadband   | 3,800           | Monthly              | 12        | 45,600       | Recurring cost  | 3,800     | 45,600    | 45,600    | 45,600    | 45,600    | 45,600    | 45,600    | 45,600     | 45,600     | 45,600     | 547,200    |
| Satellite broadband   | 6,000           | Monthly              | 12        | 72,000       | Recurring cost  | 6,000     | 72,000    | 72,000    | 72,000    | 72,000    | 72,000    | 72,000    | 72,000     | 72,000     | 72,000     | 864,000    |
| Field supplies  | 30,000          | Every 2 months       | 6         | 180,000      | Recurring cost  | 30,000    | 180,000   | 180,000   | 180,000   | 180,000   | 180,000   | 180,000   | 180,000    | 180,000    | 180,000    | 2,160,000  |
| Quarantine risk reduction related expenses  | 500,000         | PHP lump sum         | 1         | 500,000      | one-time cost: once in 15 years (2024 last acquisition) | 500,000   | -         | -         | -         | -         | -         | -         | -          | -          | -          | 500,000    |
| Contingency expenses  | 200,000         | Annual               | 1         | 200,000      | Unforeseen field expenses                               | 200,000   | 210,000   | 220,500   | 231,525   | 243,101   | 255,236   | 267,940   | 281,220    | 295,491    | 310,266    | 2,515,730  |
| Other field expenses  | 5,000           | Every 2 months       | 6         | 30,000       | Recurring cost  | 5,000     | 31,500    | 33,075    | 34,729    | 36,465    | 38,288    | 40,203    | 42,213     | 44,324     | 46,540     | 377,337    |
| PHYSICIAN NEW SUPPORT (personnel + relaying)  | 794,520         | Annual               | 1         | 794,520      | Recurring cost  | 794,520   | 834,146   | 875,926   | 919,756   | 965,744   | 1,014,013 | 1,064,738 | 1,117,969  | 1,173,688  | 1,232,951  | 10,494,075 |
| Physician cost (travel support) (personnel)   | 1,776,000       | Annual               | 1         | 1,776,000    | Recurring cost  | 1,776,000 | 1,884,800 | 1,998,240 | 2,118,720 | 2,245,680 | 2,380,016 | 2,499,000 | 2,623,824  | 2,755,168  | 2,892,817  | 23,455,254 |
| <b>ECOSYSTEM RESEARCH AND MONITORING</b>  |                 |                      |           |              |   |           |           |           |           |           |           |           |            |            |            |            |
| Regular monitoring  | 909,500         | PHP lump sum         | 1         | 909,500      | 7-day trip: once a year, core program                   | 909,500   | 954,975   | 1,002,724 | 1,052,860 | 1,105,303 | 1,160,778 | 1,218,817 | 1,279,778  | 1,343,746  | 1,410,913  | 11,439,593 |
| Seabird monitoring  | 909,500         | PHP lump sum         | 1         | 909,500      | 7-day trip: once a year, core program                   | 909,500   | 954,975   | 1,002,724 | 1,052,860 | 1,105,303 | 1,160,778 | 1,218,817 | 1,279,778  | 1,343,746  | 1,410,913  | 11,439,593 |
| Fish and fisheries survey   | 613,500         | PHP lump sum         | 1         | 613,500      | 8-day trip: once a year, core program                   | 613,500   | 644,175   | 676,384   | 710,203   | 745,713   | 782,999   | 821,149   | 861,265    | 902,419    | 944,716    | 7,716,537  |
| Water quality monitoring  | 613,500         | PHP lump sum         | 1         | 613,500      | 8-day trip: once a year, core program                   | 613,500   | 644,175   | 676,384   | 710,203   | 745,713   | 782,999   | 821,149   | 861,265    | 902,419    | 944,716    | 7,716,537  |
| Targeted research   |                 |                      |           |              |   |           |           |           |           |           |           |           |            |            |            |            |
| Beech forest restoration  | 537,500         | PHP lump sum         | 1         | 537,500      | 4-day trip: every year                                  | 537,500   | 564,375   | 592,594   | 622,223   | 653,355   | 686,201   | 720,861   | 756,316    | 793,133    | 833,839    | 6,700,617  |
| Seagrass, gastropods, trochus survey  | 712,700         | PHP lump sum         | 1         | 712,700      | 7-day trip: every 3 years; with consultancy 30k         | 712,700   | 745,125   | 778,206   | 812,051   | 846,761   | 883,338   | 920,791   | 959,129    | 1,000,362  |            |            |