

# The Blue Park Standard

for Effective  
Ocean Conservation



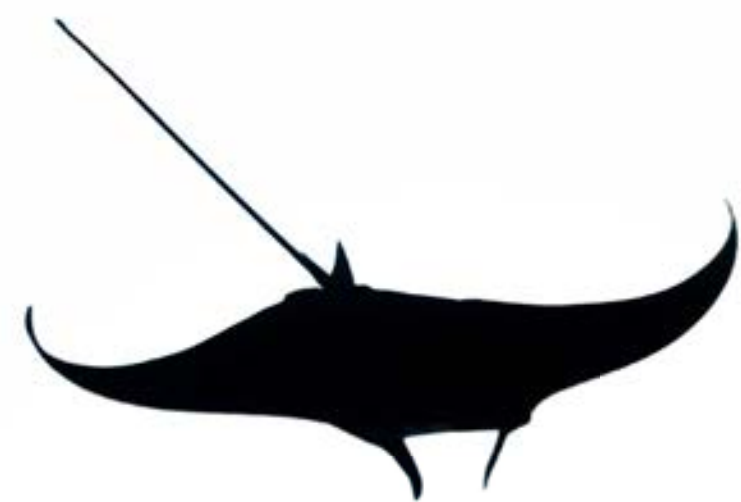


**2021** United Nations Decade  
**2030** of Ocean Science  
for Sustainable Development

Blue Parks is endorsed by the  
United Nations Ocean Decade

**Marine Conservation Institute is dedicated  
to securing permanent, strong protection for  
the oceans' most important places – for us  
and future generations.**

<https://marine-conservation.org>



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# The Blue Park Standard

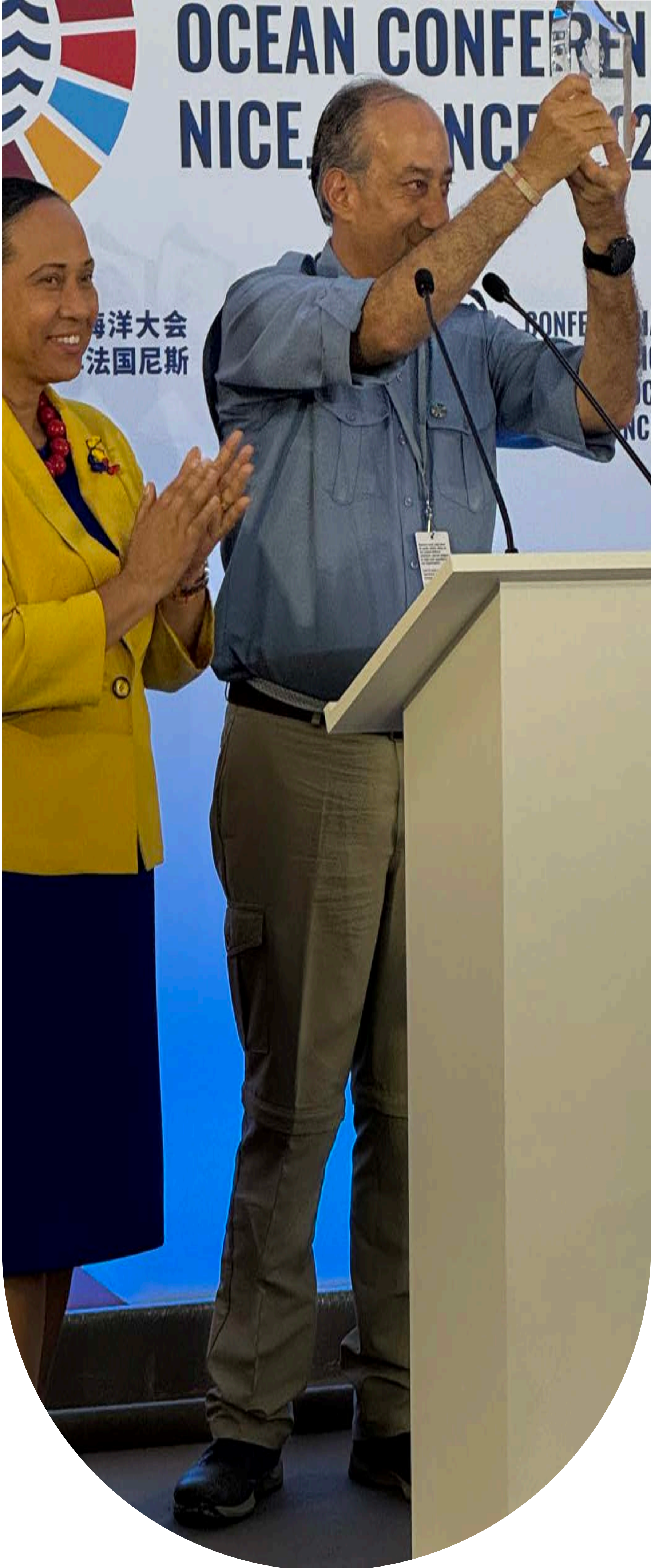


To revitalize ecosystems and conserve biodiversity, scientists recommend assembling a strategic network of effective marine protected areas (MPAs) that covers at least 30% of ocean area, includes replicate representation of all marine ecosystems in each biogeographic region, and supports population connectivity (O’Leary et al. 2016).

A successful global network of MPAs requires improvements in MPA quality alongside accelerated implementation. Despite the designation of more than 16,000 MPAs around the world, only about 3% of the ocean is fully or highly protected as of 2025 (MPAtlas.org), and even less has all the other ingredients required for effective conservation (Pike et al. 2024). Global efforts are not keeping pace with growing threats to marine life (Georgian et al. 2022), and despite widespread interest in effective MPAs, MPA implementation does not typically reflect the valuable insights gained from science (Watson et al. 2016).

The Blue Park Standard for conservation effectiveness bridges the gap between MPA attributes associated with positive conservation outcomes and on-the-water MPA decision-making. It synthesizes the large interdisciplinary body of MPA effectiveness science and operationalizes it for real-world conservation efforts through a rigorous set of criteria. It was developed and refined in collaboration with more than 150 marine conservation scientists from around the world through five workshops and ongoing review by the Blue Parks Science Council.

The result is a globally relevant benchmark for marine protection. This international standard makes science meaningful to MPA implementers, providing them with actionable, science-backed guidance to design and manage MPAs that will be successful in conserving biodiversity. Meeting the Standard ensures that MPAs are designed and managed to accomplish the conservation outcomes for which they are intended.



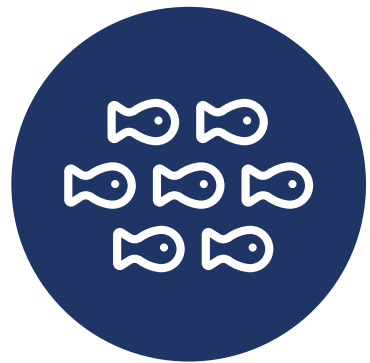
# Blue Park Awards

In addition to guiding effective MPA efforts, the Blue Park Standard provides a framework for evaluating the quality of existing MPAs. Marine Conservation Institute recognizes outstanding MPAs that have achieved the Standard with Blue Park Awards. Governments, communities, managers, and NGOs welcome Blue Park Awards because they provide prestigious international recognition, foster national and community pride, and attract investors and eco-tourists. Blue Park Awards celebrate MPA efforts around the world, complementing the hard work and long-standing commitment of communities, leaders, conservation groups, and governments that implement effective MPAs.

To appropriately address the wide variety among MPAs, some of the criteria in the Blue Park Standard require modification for specific circumstances; these are noted as “Additional Considerations.” Also, some of the criteria in the Standard require a qualitative assessment of an MPA’s attributes because the thresholds for producing conservation benefits will depend on context. It is the role of the Blue Parks Science Council – comprised of experts from across relevant disciplines and regions – to judge the degree to which Blue Park nominees meet the Standard.

# The Criteria

A science-based framework identifying the components of effective marine protection



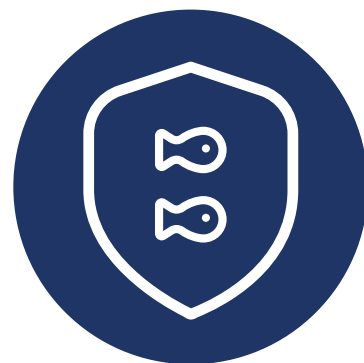
Designed for biodiversity conservation



Actively managed with an evidence-based approach



Equitably and durably governed



Respected and maintained with a compliance strategy



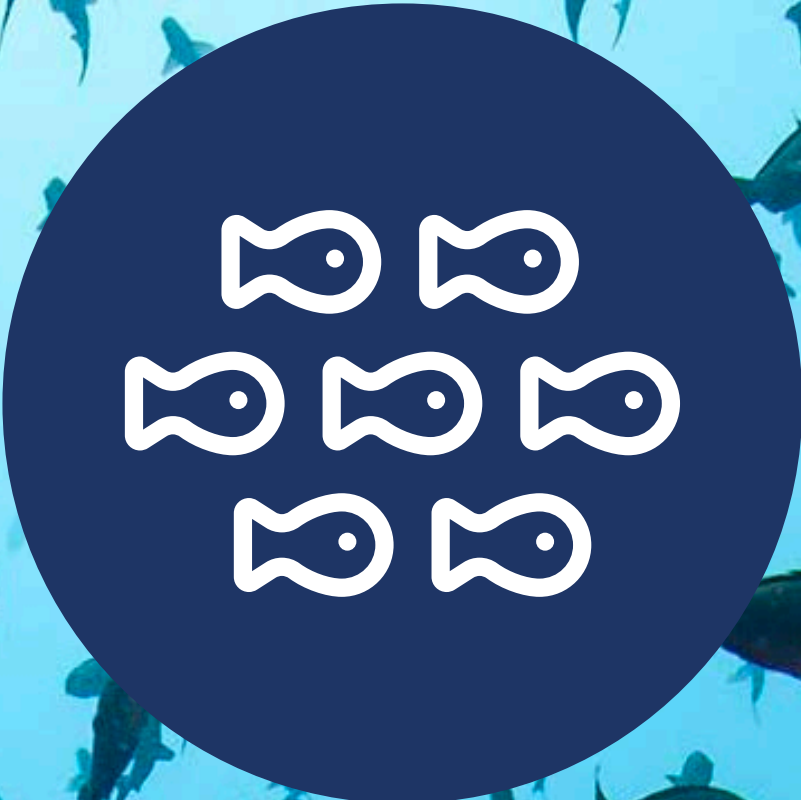
Protected from harmful activities



Implemented with adequate capacity

Shawn Heinrichs





# Location and Design for Biodiversity Conservation

Designed to effectively  
protect places in the  
ocean that sustain  
biodiversity

# 1. Location and Design for Biodiversity Conservation

## 1.1 The MPA is located in an area that is valuable for biodiversity conservation

The location must satisfy at least one of the following biodiversity values:

- 1.1.1 Includes rare, unique, or representative ecosystems
- 1.1.2 Includes high species richness or endemism within the context of the biogeographic region
- 1.1.3 Includes demonstrated historic or predicted ecological refugia (e.g., climate refugia) or populations with known or predicted tolerance or adaptive potential
- 1.1.4 Includes areas important for threatened or endangered species (including those identified by the IUCN Red List or national legislation), keystone species, or foundational species as migration pathways or breeding, nursery, feeding, or assembly areas

Other qualifying designations: An MPA that has earned one of the following designations will have already demonstrated at least one of these biodiversity values and satisfies Criterion 1.1 of the Blue Park Standard: Convention on Wetlands of International Importance (Ramsar),<sup>1</sup> Key Biodiversity Area (KBA, includes Important Bird Area, IBA),<sup>2</sup> Important Shark and Ray Area (ISRA),<sup>3</sup> Important Marine Mammal Area (IMMA),<sup>4</sup> Important Marine Turtle Area (IMTA),<sup>5</sup> Specially Protected Area and Wildlife in the Wider Caribbean Region (SPAW),<sup>6</sup> Vulnerable Marine Ecosystem (VME),<sup>7</sup> and Natural World Heritage Site.<sup>8</sup>

<sup>1</sup> <http://www.ramsar.org/>

<sup>2</sup> <https://www.keybiodiversityareas.org/>

<sup>3</sup> <https://sharkrayareas.org/>

<sup>4</sup> <https://www.marinemammalhabitat.org/>

<sup>5</sup> <https://www.iucn-mtsg.org/mtas>

<sup>6</sup> <http://www.cep.unep.org/content/about-cep/spaw>

<sup>7</sup> <https://www.fao.org/in-action/vulnerable-marine-ecosystems/criteria/en/>

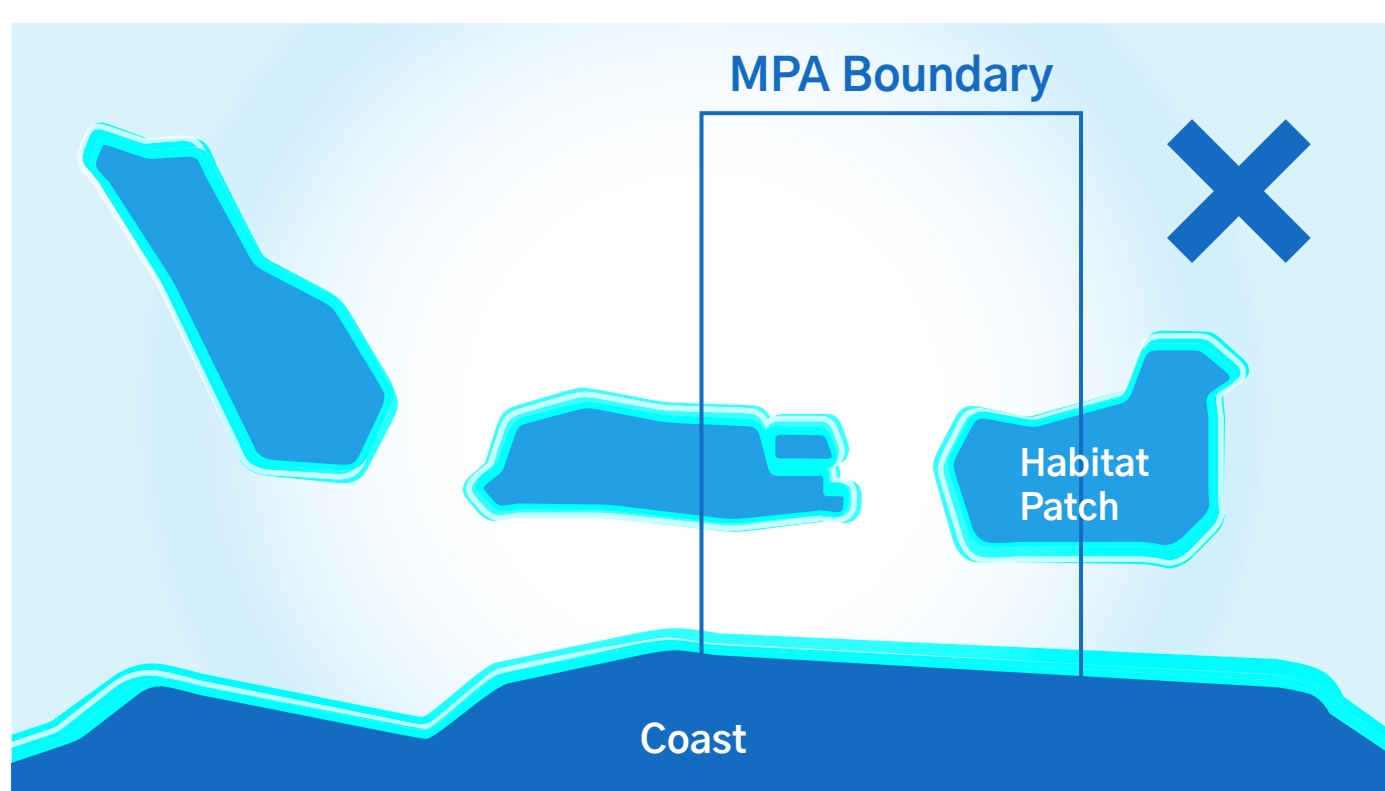
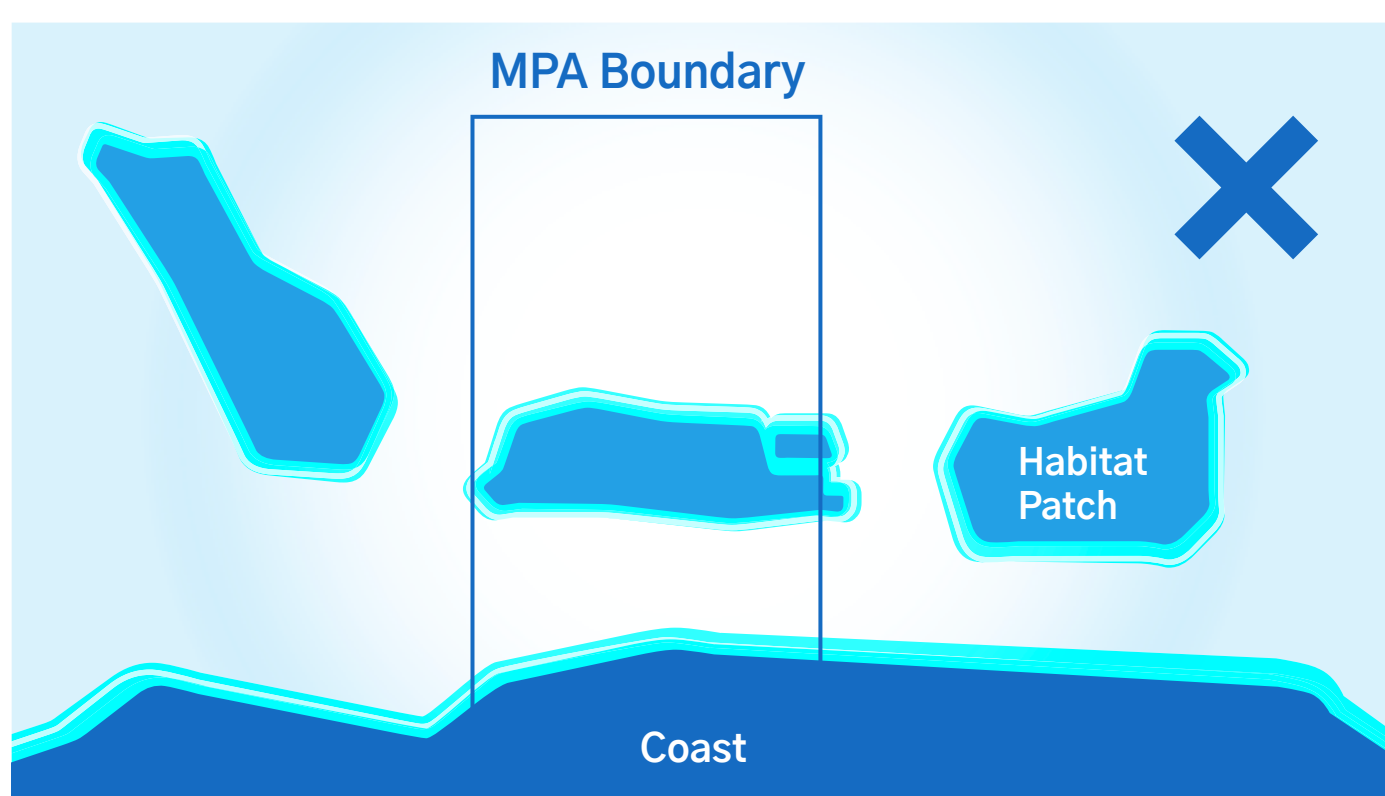
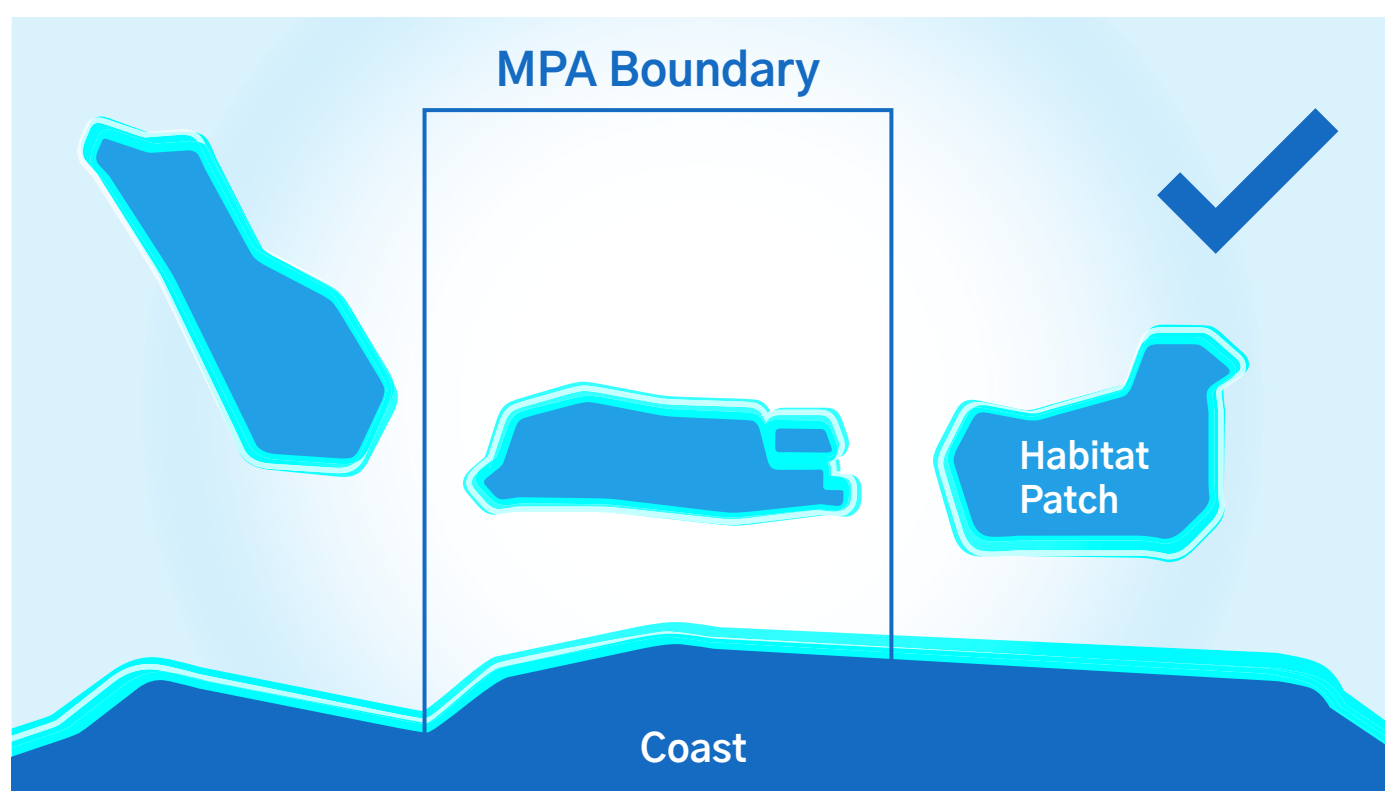
<sup>8</sup> <https://whc.unesco.org/en/natural-world-heritage/>



## 1.2 The MPA is designed to effectively conserve biodiversity

Platinum	MPA is $\geq 100 \text{ km}^2$ or explicitly designed as part of a network of MPAs to support population connectivity.
Gold	MPA is $< 100 \text{ km}^2$ and is well-designed to protect most of its target habitats ( $> 50\%$ ) with ecological buffers (e.g., MPA includes soft sediment or deep water surrounding coral reefs) or other protected area buffers (e.g., adjacent protected areas with at least a moderate level of protection) surrounding the target habitats.
Silver	MPA is $< 100 \text{ km}^2$ and is designed to protect at least 25% of its target habitats with ecological buffers (e.g., MPA boundaries include soft sediment or deep water surrounding coral reefs) or other protected area buffers (e.g., adjacent protected areas with at least a moderate level of protection) surrounding the target habitats.

### MPA designed to protect target habitat with ecological buffers



### 1.3 The MPA contributes to ecosystem representation within the Blue Parks Network

Available evidence suggests that the MPA protects an ecosystem(s) that is under-represented in the Blue Parks Network within its Marine Ecoregion (<30% by area is in a Blue Park) or unique within its Marine Ecoregion and Province (as defined by Spalding et al. 2007). For high seas areas not categorized in the Marine Ecoregions of the World, the MPA protects an ecosystem(s) that is under-protected or unique within its ocean basin.

### 1.4 The MPA contributes to population connectivity within the Blue Parks Network

Available evidence suggests that the MPA improves population connectivity among existing Blue Parks in its biogeographical Province (as defined by Spalding et al. 2007), or for high seas MPAs, ocean basin. Though not required to qualify for a Blue Park Award, scientific research related to population connectivity in the region, dispersal and migration distance estimates for key taxa, and distances among the Blue Parks with related ecosystems in the region will be considered in describing the connectivity contribution of a nominated MPA to the Blue Parks Network.





# Equitable and Durable Governance

Built on fair, lasting  
governance that centers  
conservation and honors  
Indigenous and  
community rights.

# 2. Equitable and Durable Governance

## 2.1 The area is designated primarily for conservation

The MPA is designated with the primary objective of biodiversity conservation.

## 2.2 The area has a durable designation

The MPA's designation is permanent or is effective for at least 25 years (e.g., designation includes no sunset clause at less than 25 years).

### Additional consideration: Community-based MPAs

If a community-based MPA is long-standing with an apparent community commitment to maintain its conservation value, the Science Council may consider it eligible for a Blue Park Award without government designation.

## 2.3 Indigenous people's rights are recognized

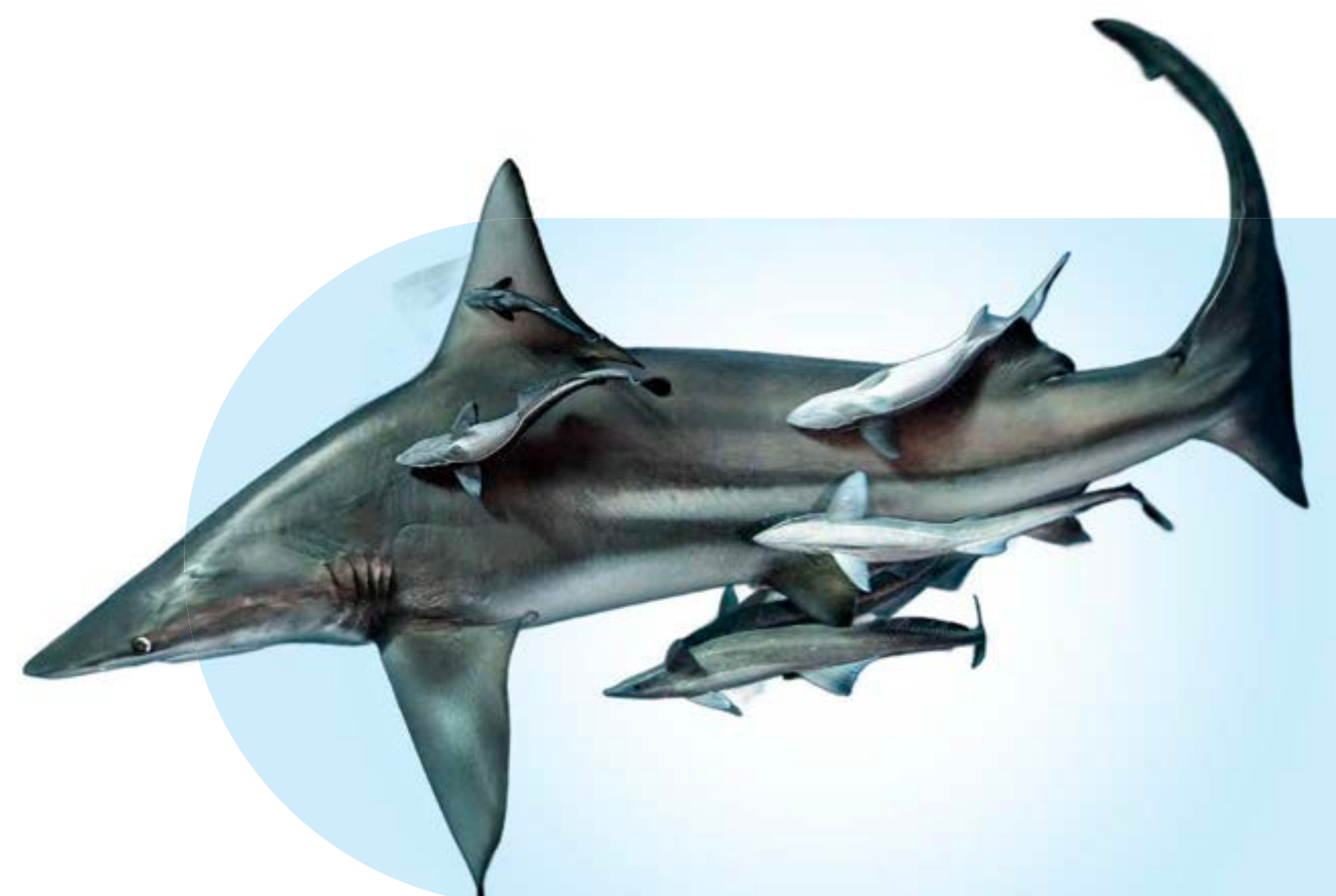
The rights of Indigenous peoples historically and currently related to the marine area are recognized in the governance of the MPA, where relevant.

## 2.4 Indigenous peoples and local communities participate in the MPA's management

Indigenous peoples and local communities related to the marine area meaningfully contribute to the ongoing management of the MPA, where relevant.

### Other qualifying designations:

An MPA currently on the IUCN Green List of Protected Areas<sup>9</sup> will have demonstrated meeting all required Governance Criteria for a Blue Park Award.



<sup>9</sup> <http://www.iucn.org/theme/protected-areas/our-work/green-list>



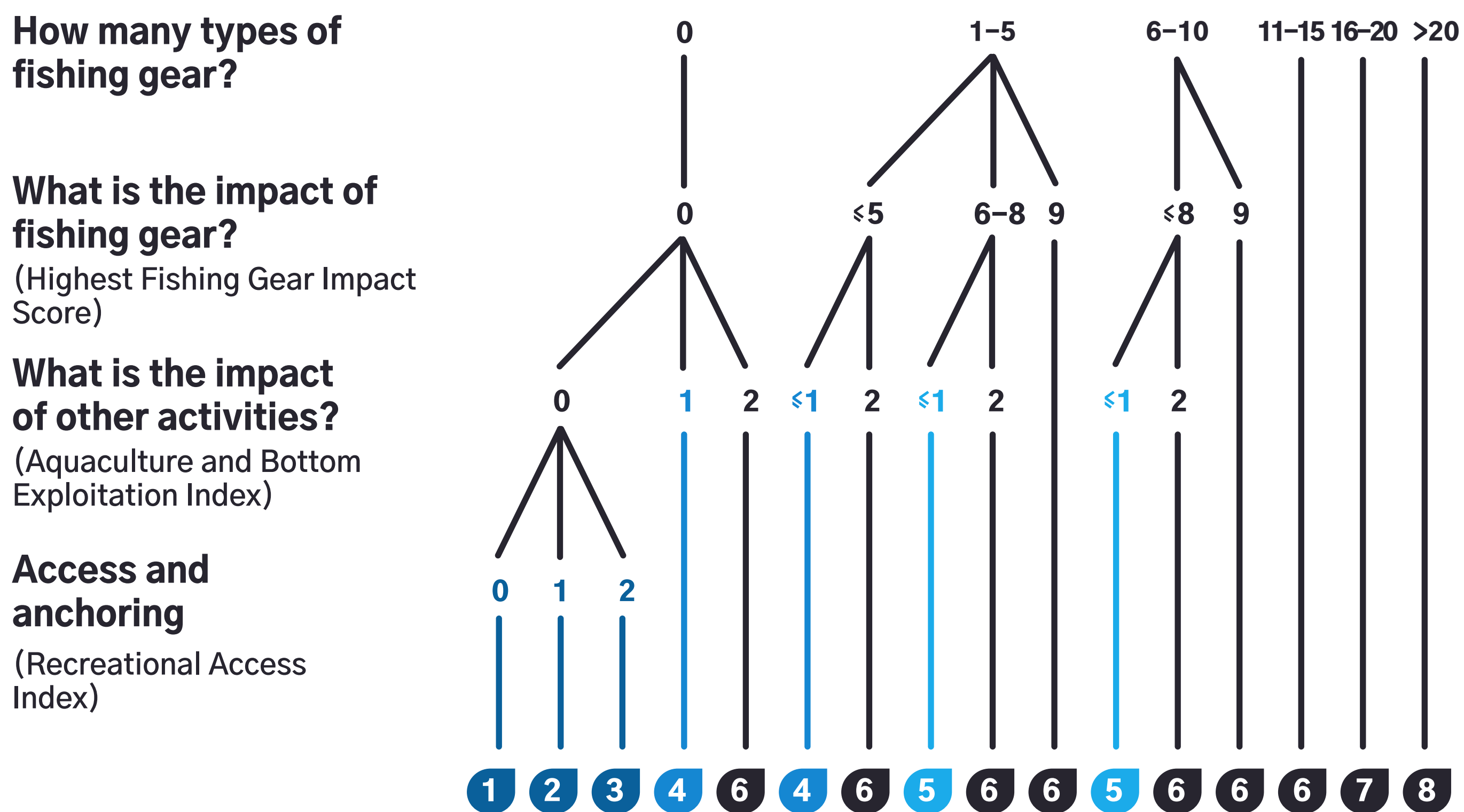
# Protection from Harmful Activities

Destructive activities  
are excluded, ensuring  
marine life and habitats  
can thrive undisturbed

# 3. Protection from Harmful Activities

To assess the strength of MPA protections, we evaluate each regulatory zone of an MPA using the Regulation-Based Classification System for Marine Protected Areas, v.2 (Costa et al. 2016), which relies on the number and impact of fishing gear types allowed, the types and amount of bottom exploitation and aquaculture allowed, and the types and amount of anchoring and boating allowed. Zone scores are weighted according to their area and summed to generate an overall MPA protection score. Lower scores represent stronger levels of protection.

## Regulation-Based Classification System Decision Tree



Note: A fishing gear that is used both commercially and recreationally should be counted twice to determine the number of fishing gears.

Fishing Gear Impact Scores			
Beach seines	8	Loglines, bottom	5
Cast nets	3	Longlines, pelagic	4
Dredges (bivalves)	7	Purse seining, bottom	9
Drift nets	5	Purse seining, pelagic	5
Fish traps	6	Spearfishing/diving	3
Fixed fish traps "madrague"	6	Surrounding nets near shore	8
Gillnets	6	Trammel nets	8
Hand dredges (bivalves)	5	Traps (lobster, octopus, crab)	4
Intertidal hand captures	3	Trawl, bottom	9
Lines (jigs, hooks, pole & line, rod, troll)	5	Trawl, pelagic	5

Aquaculture and Bottom Exploitation Index		Recreational Access Index	
Aquaculture and bottom exploitation not allowed	0	No access	0
Aquaculture OR bottom exploitation allowed, but not mining/oil platforms/sand extraction/detonations	1	Fully regulated access including regulated boating and/or anchoring: restricted to particular areas or mooring buoys	1
Both aquaculture AND bottom exploitation allowed with no restrictions (or aquaculture is not allowed, but mining/oil platforms/sand extraction/detonations are)	2	Boating and/or anchoring allowed but partially regulated or unregulated	2

## 3.1 The MPA is fully or highly protected from harmful activities

The MPA protection level, based on its Regulation-Based Classification System MPA score, indicates that all the zones of the MPA are fully or highly protected:

<b>Platinum</b>	MPA is fully protected (MPA protection score $\leq 3$ )
<b>Gold</b>	MPA is very highly protected (MPA protection score $\leq 4$ )
<b>Silver</b>	MPA is highly protected (MPA protection score $\leq 5$ )

### Additional Consideration: Other Harmful Activities

The MPA protection score serves as a guideline for the Science Council members in determining the award status of a site. The Regulation-Based Classification System for Marine Protected Areas is an estimate that sometimes conflates activities with very different impacts (e.g., salmon farming and oyster farming, SCUBA spearfishing and snorkel spearfishing) and excludes some damaging non-extractive recreational activities (e.g., intensive snorkeling that results in high-impact coral reef trampling). Therefore, the Science Council may decide a nominee's award status differently than the nominee's MPA score indicates.

### Additional Consideration: Buffers

Buffer zones – zones of reduced human impact surrounding core no-take protected areas – enhance the conservation value of core no-take areas. An MPA that includes a large ( $>100 \text{ km}^2$ ) no-take zone (Zone regulation score 1–3) surrounded by a buffer zone with a score  $\geq 5$  may be considered for a Platinum Blue Park Award.





# Evidence-based Management Planning

Updated management  
plans are strategically  
aligned with biodiversity  
conservation

# 4. Evidence-based Management Planning

## 4.1 The MPA is operating under a current management plan

The MPA engages in management planning regularly, every 5 years at minimum. If the official management plan covers a longer time frame than 5 years, the management team also develops plans over a shorter time scale that establish management priorities (these are sometimes called operational plans).

## 4.2 Management plans include an evidence-based approach that measures conservation targets so that appropriate adjustments may be made to improve outcomes

Platinum	<p>Key components of evidence-based management are connected in management plans; managers use the data collected through ecological monitoring to assess MPA effectiveness and update plans on a regular schedule. The MPA's management plans identify:</p> <ul style="list-style-type: none"><li>4.2.1. Measurable conservation targets</li><li>4.2.2. Threats to conservation targets, including those related to climate change</li><li>4.2.3. Management activities to mitigate threats and achieve conservation targets</li><li>4.2.4. Ecological monitoring protocols to measure progress towards conservation targets on a regular basis</li></ul>
Gold	<p>All four key components of evidence-based management are connected in the management plans, and managers use the data collected through ecological monitoring to assess MPA effectiveness and update plans. Conservation targets may lack clear measures of success or identified threats may be incomplete.</p>
Silver	<p>All four key components of evidence-based management are included in management plans but may not be clearly connected to one other and may be lacking specifics. Managers may not be consistently using the data collected through ecological monitoring to assess MPA effectiveness and update plans.</p>



# Comprehensive Compliance Strategy

Combines clear rules,  
community  
stewardship, and  
consistent enforcement  
to uphold protection

# 5. Comprehensive Compliance Strategy

## 5.1 The MPA's compliance strategy is comprehensive and appropriate for the context

<p><b>Platinum</b></p>	<p>The MPA's compliance strategy is appropriate to the context and is implemented by the management team, government partners, non-government partners, or a combination of these entities. It satisfies all four of the following components of a comprehensive strategy:</p> <ul style="list-style-type: none"> <li>5.1.1 Clear descriptions of MPA regulations and regulatory zones are effectively communicated with all users.</li> <li>5.1.2 Social influence is leveraged to increase compliance. MPA users and community members are engaged with the MPA through educational outreach, management activities, or compliance activities, building a sense of community stewardship. The MPA may employ additional social strategies to incentivize compliance.</li> <li>5.1.3 Enforcement surveillance in the form of patrols or remote sensing to deter non-compliance and investigate non-compliance is appropriate to the MPA's size, location, and threats. Enforcement surveillance schedules and spatial distributions are updated periodically based on lessons learned from previous enforcement experience.</li> <li>5.1.4 Comprehensive records of non-compliance are kept that include location, non-compliant activity, enforcement action taken, and outcome. Non-compliance records and other available evidence from the past 3 years reflect high compliance rates and successful enforcement strategies – anomalies are accounted for by managers and addressed in updated compliance plans.</li> </ul>
<p><b>Gold</b></p>	<p>The MPA's compliance strategy is appropriate to the context and is implemented by the management team, government partners, or non-government partners, or a combination of these entities. It satisfies three of the four components of a comprehensive strategy.</p>
<p><b>Silver</b></p>	<p>The MPA's compliance strategy is appropriate to the context and is implemented by the management team, government partners, or non-government partners, or a combination of these entities. It satisfies two of the four components of a comprehensive strategy.</p>



# Capacity for Implementation

Backed by the people,  
partnerships, and  
resources needed  
to deliver real  
conservation results

# 6. Capacity for Implementation

## 6.1 The MPA has adequate capacity – through official budgets, staffing, and training, as well as through partnerships and collaborations – to implement management and compliance plans

Platinum	The MPA has a budget and staff capacity sufficient to implement MPA management and compliance strategies. In addition to a staff and budget, managers may leverage partnerships to increase capacity. Partnerships may involve other levels of government, other government agencies, academic institutions, non-governmental organizations, community organizations, and other stakeholder associations. These combined resources and capacity enable full implementation of the MPA's plans and are consistent and durable.
Gold	The combined resources and capacity from the MPA's budget, staff, and partnerships enable implementation of most aspects of the MPA's management and compliance plans, maintaining a priority on those aspects that are most essential for biodiversity conservation within the context. The MPA's resources and capacity are consistent and durable.
Silver	The combined resources and capacity from the MPA's budget, staff, and partnerships enable implementation of most aspects of the MPA's management and compliance plans. These resources and capacity, though currently enabling most management and compliance activities, may not be consistent or may not be durable.



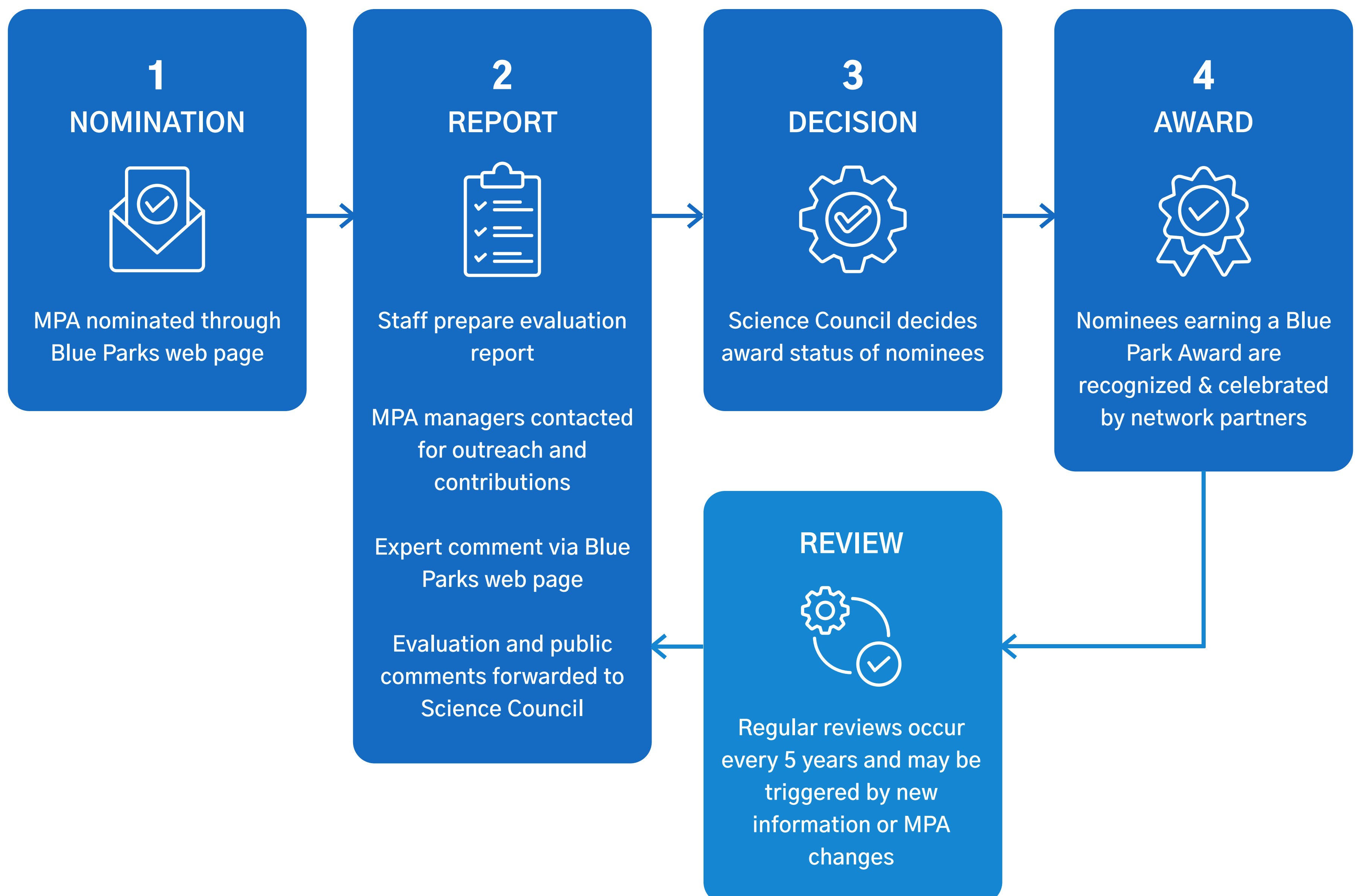
# Blue Park Award Evaluations

MPAs are nominated for the Blue Park Award through the submission of a nomination form that asks for key information related to the Blue Park Standard as well as relevant documentation (find the form and instructions at <https://blueparks.org/nominate/>). The Blue Parks team at Marine Conservation Institute drafts a Blue Park Evaluation Report that synthesizes information about the MPA relevant to the Standard, citing MPA documentation, interviews with managers and partners, published scientific literature, and external reports. Managers and external experts are invited to review the completed report and provide feedback.

To qualify for a Blue Park Award, a nominee must meet all criteria of the Blue Park Standard. A nominee earns a Platinum, Gold, or Silver level Blue Park Award according to the level it achieves on scaled criteria:

1. To earn a **Platinum level award**, a nominee must earn the Platinum level standard on every scaled criterion.
2. To earn a **Gold level award**, a nominee must earn the Gold level standard or higher on every scaled criterion.
3. To earn a **Silver level award**, a nominee must earn the Silver level standard or higher on every scaled criterion.

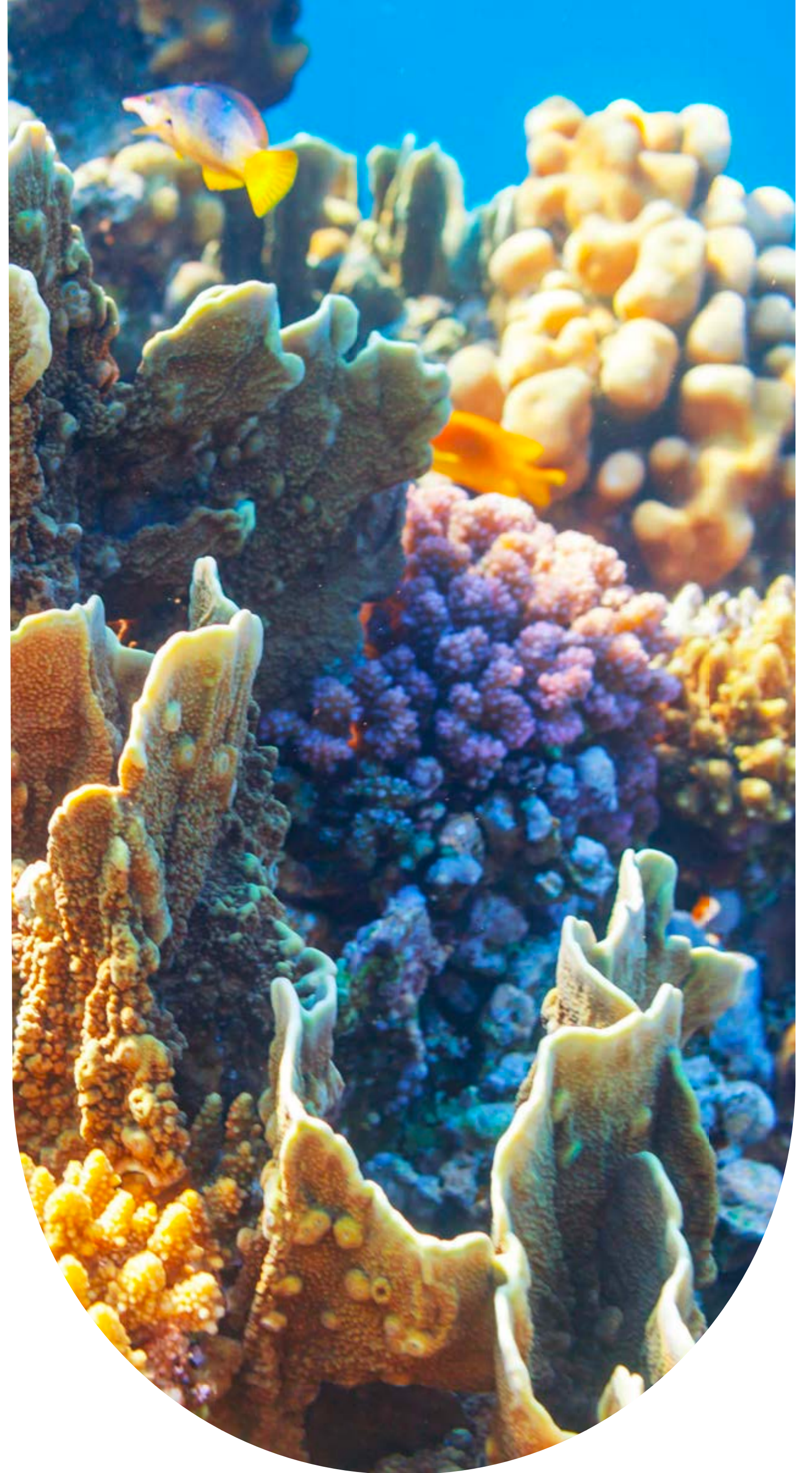
## The Blue Park Evaluation Process




The Blue Parks Science Council considers a nominee's Blue Park Evaluation Report as well as the reviews of external experts to make an award status decision.

The managers and nominators of all Blue Park nominees receive feedback regarding the extent to which the nominated MPA meets each criterion of the Blue Park Standard. Nominees also receive specific guidance regarding the types of changes that would allow the MPA to meet criteria that are not currently being met. Nominated MPAs that advance through a full Science Council review receive a Blue Parks Decision Summary that details the decision and guidance of the Science Council.

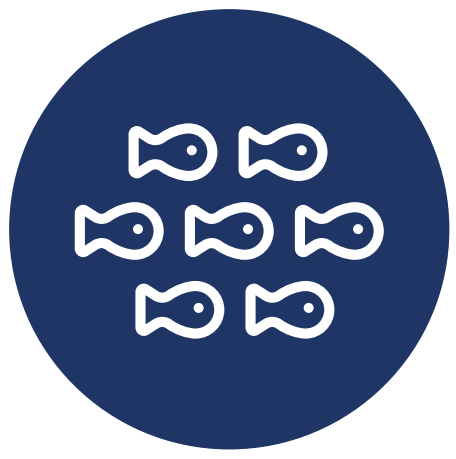
Nominees that do not yet meet the Blue Park Standard may choose to work with the Blue Parks team and our partners in pursuit of the Standard. We call these collaborations Blue Sparks, and we support their efforts to become tomorrow's Blue Parks.





# The Scientific Basis for the Blue Park Standard

The Blue Park Standard guides MPAs to success. Developed in collaboration with marine scientists from around the world, it reflects the best available science.



# 1. Location & Design for Biodiversity Conservation

## 1.1 The MPA is located in an area that is valuable for biodiversity conservation

To make a substantial contribution to protecting marine biodiversity, MPAs must protect biologically valuable places (Devillers et al. 2015). Many MPAs are currently located in places with sub-optimal biodiversity value because their protection involves fewer political hurdles, while highly biodiverse places or areas that support threatened or endangered species remain unprotected (Agardy et al. 2011, Devillers et al. 2015). In addition to ecological refugia that may provide substantial biodiversity conservation value in the context of current and future climate change, protecting populations with greater adaptive potential will promote long-term persistence and increase resilience to climate change (Walsworth et al. 2019, Selmoni et al. 2020).

The criteria for biodiversity value closely align with many other established criteria for MPA biodiversity value (Asaad et al. 2017), and therefore, an MPA that has earned one of the qualifying designations (see Criterion 1.1 for list of qualifying designations) has already demonstrated it meets one or more of the Biodiversity Value criteria. For areas where there is a lack of information on the biodiversity value as it relates to regional or global patterns, additional research may be necessary.

## 1.2 The MPA is designed to effectively conserve biodiversity

Small no-take MPAs can have positive conservation effects (e.g., Giakoumi et al. 2017), however larger MPAs are more effective because they support larger population sizes (Gaines et al. 2010), they are more likely to protect self-persistent populations sustained by the local retention of larvae (Botsford et al. 2003), they are more likely to exceed the routine movements and migrations of fished species (Pittman et al. 2014, Di Franco et al. 2018) and they are more likely to contain fully functional ecosystems (McLeod et al. 2009). Larger MPAs have stronger positive impacts on biological communities (Claudet et al. 2008, Friedlander et al. 2017), particularly when those MPAs

exhibit two or more other attributes of effective MPAs: effective management, longevity, isolation, and no-take restrictions (Edgar et al. 2014). Using individual-based models to evaluate effectiveness of different sizes of no-take MPAs in coastal coral reef ecosystems, Krueck et al. (2017) determined that an MPA needed to be at least 2–10 km wide to achieve partial protection of fished species and 100 km wide to achieve full protection of nearly all the species they modeled. Claudet et al. (2008) and Edgar et al. (2014) defined large MPAs as  $> 100 \text{ km}^2$  in their analyses of MPA effectiveness. We will consider nominees  $> 100 \text{ km}^2$  for consideration of higher status Blue Park Awards than those  $< 100 \text{ km}^2$  until a more nuanced assessment of the relationship between size and conservation effectiveness across a variety of ecosystems is published.

An effective alternative to large MPAs is networks of smaller MPAs spaced closely enough to support population connectivity for species with longer dispersal distances (Gaines et al. 2010, McCook et al. 2010, Grorud-Colvert et al. 2014, Carr et al. 2017, Baetscher et al. 2019) and sized large enough to support the local retention of species with shorter dispersal distances (Carr et al. 2017).

Ecosystems entirely enclosed within protected area boundaries and isolated by deep water, sand or other ecological barriers provide more conservation benefits (Edgar et al. 2014). Adjacent protected areas (including terrestrial protected areas adjacent to marine protected areas) may include ecological barriers that are not within the boundaries of the nominated MPA.

## 1.3 The MPA contributes to ecosystem representation within the Blue Parks Network

The conservation value of an MPA depends, in part, on its spatial relationship to other MPAs (McCook et al. 2009, McLeod et al. 2009, Gaines et al. 2010, Batista and Cabral 2016). The Blue Park Standard incorporates a geographic framework with an assessment of ecosystem representation and connectivity to enhance biodiversity persistence (Magris et al. 2018), with a goal of protecting at least 30% of each habitat type within each biogeographic region.

A biogeographic region is a large area defined by biotic distributions. Marine Conservation Institute is strategically building a network of well-protected Blue Parks distributed across all the coastal biogeographic regions – the Marine Ecoregions of the World – defined by Spalding et al. (2007). Criteria 1.3 on ecosystem representation within the Blue Parks Network and 1.4 on ecological connectivity within the Blue Parks Network are assessed within the context of the Marine Ecoregions of the World in coastal areas (Spalding et al. 2007) and ocean basins in high seas areas.

The Blue Parks Network aims to include examples of all the marine ecosystems in every biogeographic region of the ocean and every ocean basin to protect the vast diversity of marine life (Spalding et al. 2008, McCook et al. 2009, McLeod et al. 2009). The Blue Parks Network will include replicate examples of each ecosystem type within a biogeographic region to protect against unforeseen ecological disasters and guard against biodiversity loss (Gaines et al. 2010). The goal is to include enough representation to achieve the conservation target of at least 30% of each ecosystem within each biogeographic region, and up to 100% of particularly rare and threatened ecosystems in Blue Park quality MPAs (O’Leary et al. 2016). As the Blue Parks Network grows, staff will perform gap analyses to identify priority ecosystems within each biogeographic region to target in new MPA efforts.

## 1.4 The MPA contributes to population connectivity within the Blue Parks Network

The conservation value of an MPA depends, in part, on its spatial relationship to other MPAs (McCook et al. 2009, McLeod et al. 2009, Gaines et al. 2010, Batista and Cabral 2016). Marine Conservation Institute aims to assemble a network of effective Blue Parks that support marine population connectivity and migration. Avoiding extinction requires either a population’s continuous presence in a habitat or the ability to recolonize after local extinction. Population persistence in the ocean often depends on network persistence among demographically connected populations (Botsford et al. 2001, Hastings and Botsford 2006, McCook et al. 2009, McCook et al. 2010). Networks of MPAs add resilience for populations that are demographically connected (Moffitt et al. 2011) and for ecosystems that are demographically connected (Moffitt et al. 2011) and for ecosystems that are ecologically connected (Carr et al. 2017). MPA networks can also provide opportunities for adaptive migration in response to climate stressors (Hole et al. 2011, Fredston-Hermann et al. 2018), and conserving

sources of recolonizers is important when pulse stressors (e.g., acute coral bleaching events, storms or upwelled low-oxygen waters) cause local extinctions (Gaines et al. 2003) or mass mortality of density-sensitive species (Aalto et al. 2019). Therefore, protecting enough cumulative area and enough dispersed replicates of ecosystems that could be connected via larval, sub-adult or adult movement is an effective means of building portfolio resilience into the network of Blue Parks (McCook et al. 2009, Grorud-Colvert et al. 2014, Carr et al. 2017, Baetscher et al. 2019).





## 2. Equitable and Durable Governance

### 2.1 The area is designated for conservation

Aligned with the International Union for the Conservation of Nature's definition of a marine protected area (IUCN 2018), the Blue Park Standard requires that biodiversity conservation is a core objective of the area.

### 2.2 The area has a durable designation

Blue Park Awards incentivize conservation efforts intended to be permanent and to result in long-term biodiversity conservation benefits. Many marine populations and habitats require a substantial amount of time to recover from human impacts. While the timeline for recovery in MPAs varies depending on ecosystem type, level of protection, and external pressures, scientific studies generally suggest that biological populations, such as fish, can show significant improvements in biomass, abundance, and reproductive capacity within 3–10 years of protection (Edgar et al. 2014, Halpern et al. 2010, Lester et al. 2009). However, full recovery of ecosystems typically requires decades or longer due to the slow recovery rates of habitat-forming species, such as corals and seagrasses, slow growing and late-maturing fish species, and the persistence of external stressors like climate change and pollution (McClanahan and Graham 2015, McLeod et al. 2019, Mumby et al. 2006).

#### **Additional Consideration: Community-based MPAs**

Community-based MPAs can be effective at conserving marine biodiversity (Chirico et al. 2017) and may be sustained through long-term community commitments rather than government designation. Therefore, the Science Council may consider a durable community-based MPA eligible for a Blue Park Award without government designation.

### 2.3 Indigenous people's rights are recognized

Equity in MPA governance, in addition to fulfilling legal and ethical imperatives to respect human rights, leads to greater

and more enduring conservation impacts (Smallhorn–West et al. 2023, Dawson et al. 2024). To be eligible for a Blue Park Award, an MPA located in a place where Indigenous peoples are present and/or have historical, cultural, or economic ties to the marine ecosystems, species, or geographies must comply with the IUCN Standard on Indigenous People (2006) and the United Nations Declaration on the Rights of Indigenous Peoples (2007). These standards uphold Indigenous peoples' rights to self-determination, to practice and revitalize their cultural traditions and customs, and to be consulted in management decisions. These standards expressly prohibit the forced relocation of Indigenous peoples for any reason, including for the purposes of conservation. Indigenous peoples have the right to control and protect their cultural heritage and traditional knowledge. MPA management should recognize Indigenous peoples' cultural practices that involve the area and its ecosystems, including fishing practices, and work with these Indigenous communities to determine appropriate accommodations for these practices in the MPA (Bennett and Dearden 2014, Bennett et al. 2018, Ban et al. 2019).

### 2.4 Indigenous people and local communities participate in the MPA's management

Ecological outcomes in MPAs have been directly linked to inclusive governance characteristics, including participation in decision-making related to MPA establishment, design, and management (Batista and Cabral 2016, Ban et al. 2017, Fiddler et al. 2022, Dawson et al. 2024). Indigenous and community participation in the design, implementation, and ongoing management of a protected area fosters trust and perceived legitimacy of the protected area, which can result in higher levels of acceptance, support, and compliance (Pollnac et al. 2010, Agardi et al. 2011, Dehans and Fanning 2018, Eriksson et al. 2019, Di Franco et al. 2020, Parsons et al. 2021, Breen et al. 2021). For some Indigenous peoples, MPAs may offer a unique opportunity to honor and support their rights, cultural heritage, and livelihoods (Ban and Frid 2018, von der Porten et al. 2019). Further, Indigenous or traditional methods of marine spatial planning management are compatible with marine biodiversity conservation (Ban and Frid 2018, Fidler et al. 2022).

The most appropriate form for Indigenous and local community participation in MPA management depends on the local context (Huber et al. 2023), but evidence suggests that more equitable governance frameworks in biodiversity conservation, such as co-management or Indigenous and local leadership, are associated with more positive ecological outcomes (Fidler et al. 2022, Dawson et al. 2024). There are many examples of successfully co-managed or Indigenous-led MPAs, including the Gitdisdzu Lugyek Marine Protected Area—a Blue Park stewarded by the Kitasoo Xai'xais First Nation—the Gwaii Haanas National Marine Conservation Area Reserve in Canada, and Marae Moana in Rarotonga, Cook Islands (Ban and Frid 2018, Gwaii Haanas Gina 'Waadluxan KilGuhlGa Land-Sea-People Management Plan 2018, Ban et al. 2019).





### 3. Protection from Harmful Activities

To effectively safeguard marine biodiversity, an MPA must regulate activities that negatively impact the biodiversity values of the site. The Blue Park evaluation prioritizes fully protected MPAs that exclude extractive activities (Lubchenco & Grorud-Colvert 2015), as these MPAs result in the best biological and ecological outcomes (Lester and Halpern 2008, Edgar et al. 2014, Appolloni et al. 2017, Strain et al. 2018, Aalto et al. 2019). Platinum awards are reserved for these fully protected MPAs or those with a significant (> 100 km<sup>2</sup>) fully protected zone buffered by a zone allowing only very limited lower-impact extraction. However, 94% of all MPAs allow some fishing (Costello & Ballantine 2015), and the Blue Park Standard acknowledges the contributions of partially protected marine areas with strong regulations for biodiversity conservation (Lester & Halpern 2008, Coll et al. 2011, Tyler et al. 2011, Sciberras et al. 2013, Campbell et al. 2017, Gill et al. 2017, Giakoumi et al. 2017, Zupan et al. 2018), while recognizing that not all partially protected areas are effective at conserving fished populations (e.g., Denny and Babcock 2003, Di Franco et al. 2009). Gold and Silver Blue Park Awards may be earned by highly protected areas (Horta e Costa et al. 2016, Zupan et al. 2018) designed, managed and enforced to contribute to biodiversity conservation.

To assess the strength of an MPA's regulations, the Blue Park evaluation employs a classification system based on the number of fishing gears allowed, their ecological impact, the types of bottom exploitation and aquaculture allowed and the regulations relating to recreational boating (Horta e Costa et al. 2016, Zupan et al. 2018). For MPAs with multiple zones, the evaluation uses a weighted average of the individual zone scores (weighted by the proportion of zone area to total MPA area). The scores produced by this simple classification system strongly correlate with scores produced by a classification system employing a rigorous assessment of all MPA regulations (Horta e Costa et al. 2016), and also correlate with the biological outcomes of MPAs (Zupan et al. 2018).

#### **Additional Considerations: Other Activities**

Science Council members may consider allowed activities and regulated activities that are not well-represented by the regulations-based MPA classification system in determining

the award status of a nominee. Of particular concern may be MPAs in which non-extractive non-boating activities have a large impact on the protected ecosystem (Thurston et al. 2012), such as coral reef trampling by tourists (Williamson et al. 2016).

#### **Additional Considerations: Buffers**

Buffer zones – areas with some fishing restrictions surrounding no-take zones – do not necessarily contribute positively to the conservation value of an MPA (Claudet et al. 2008, Di Franco et al. 2009). However, a strongly regulated zone – one that would earn a Blue Park Award on its own – buffering a very large fully protected zone (> 100 km<sup>2</sup>) may be considered for a Platinum Blue Park Award, given that strictly regulated buffer zones can effectively enhance conservation outcomes (Coll et al. 2011).





## 4. Evidence-based Management Planning

Developing and implementing a management plan is associated with positive ecological outcomes in MPAs (Gill et al. 2014, Di Franco et al. 2016, Hargreaves–Allen et al. 2017) and benefits for local fishing communities (Di Franco et al. 2016).

Adaptive management planning is an evidence-based approach that provides managers with feedback about the effectiveness of their management activities and a framework for improving conservation outcomes, making it a valuable approach even in data-poor situations (McCook et al. 2010). However, it is very challenging for MPA managers to adopt a rigorous adaptive management approach using an experimental approach because of high costs and untenable changes for users, and few examples exist of rigorous adaptive management implementation in MPAs (Tony et al. 2020).

An evidence-based approach can be used to foster resilience in the face of climate change (O'Regan et al. 2021), allowing for updates to management as conditions change (Ban et al. 2011). This type of management approach includes identifying and communicating measurable objectives, prioritized threats, management activities, and measuring ecological outcomes (Tear et al. 2005, Day 2008, Bennett and Satterfield 2018). Evidence-based management requires consistent ecological monitoring to inform managers about the progress made towards their conservation objectives and inform decisions about whether to implement changes to the MPA to improve outcomes (Carr et al. 2017, McLeod et al. 2019).





## 5. Comprehensive Compliance Strategy

High compliance is essential to effective MPAs (Guidetti et al. 2008, Pollnac et al. 2010, Rife et al. 2013, Bergseth et al. 2015, Di Franco et al. 2016, Giakoumi et al. 2017, Gill et al. 2017, Bergseth et al. 2023). Most MPAs lack sufficient compliance (Mora et al. 2006), and the expected conservation outcomes in MPAs with non-compliance are typically null (Mora et al. 2006, Rife et al. 2013, Edgar et al. 2014). It has been estimated that increased compliance in no-take coral reef MPAs could produce 91% increases in median fish biomass for targeted species (Bergseth et al. 2023).

Compliance rates are challenging to measure directly (Bergseth et al. 2015). To address the critical connection between high compliance and conservation effectiveness, the Blue Park Standard relies on the growing scientific literature regarding a wide variety of complementary compliance strategies in MPAs. Multiple strategies are needed in most MPA contexts to achieve high compliance, including equity in governance and community engagement in management, persuasive communication of regulations and boundaries with users, and active enforcement (Smith and Anderson 2004, Guidetti et al. 2008, Agardy et al. 2011, Giakoumi et al. 2017, Bergseth et al. 2018, Brown et al. 2018, Fidler et al. 2022, Bergseth et al. 2023).

Community engagement and outreach are widely recognized as critical components of conflict resolution and compliance within MPAs, particularly when there are user groups marginalized by restrictions that impact their livelihoods (Bennett and Dearden 2014, Bennett et al. 2014). Negative attitudes towards conservation measures such as MPAs can result in lower compliance rates and thus worse outcomes for biodiversity conservation, whereas community involvement can lead to more effective MPAs (McCook et al. 2010, Bennett et al. 2014, Fidler et al. 2022). Education and awareness campaigns about regulations, the benefits of MPAs, and the role of humans in the ecosystem can also lead to greater compliance, understanding, and resource protection (Bennett and Dearden, 2014).

The Blue Park evaluation of compliance relies on evidence of effective compliance strategies, including enforcement strategies, as well as multiple indicators of compliance outcomes – some qualitative and some quantitative – to mitigate the biases inherent in each (Bergseth et al. 2015).

In addition to assessing the degree to which compliance strategies are appropriate to the ecological as well as social context of the MPA, the Blue Park evaluation includes a consideration of three years of enforcement records and enforcement effort (Iacarella et al. 2021) as well as managers' self-assessments of enforcement effort and compliance rates. Self-assessment questions include one used by Gill et al. (2017) as a measure of enforcement capacity because their analysis revealed a significant association between enforcement capacity and conservation outcomes – this question is taken from the Management Effectiveness Tracking Tool and the World Bank MPA Score Card (Staub and Hatzilios 2004, Stolton et al. 2007).<sup>10</sup> The second and third self-assessment questions are based on those used by Bergseth et al. (2023) to measure MPA compliance.



<sup>10</sup> While we include this self-assessment question with nearly identical wording to the one used by the World Bank MPA Score Card, we have made a small modification to differentiate the focus of this question from the following two self-assessment questions. The World Bank MPA Score Card question was “How would you characterize the level of enforcement and compliance with regulations in the MPA?” We have taken out “and compliance.”

## Self-Assessment Questions for Managers:

- (1) How would you characterize the level of enforcement with regulations in the MPA? (Please select the statement that most closely resembles enforcement and compliance in the MPA.)
  - a) There are few or no rules or the staff lacks the capacity to enforce rules and regulations
  - b) There are rules and regulations, but they are inconsistently enforced
  - c) There are rules and regulations that are actively and consistently enforced
  
- (2) How many people fish illegally – in no-take areas or using banned fishing gears – in the marine protected area?
  - a) None
  - b) A small percent of the total users (less than 10%)
  - c) A large percent of the total users (10–50%)
  - d) Most of the total users (more than 50%)
  
- (3) How often do people fish illegally – in no-take areas or using banned fishing gears – in the marine protected area?
  - a) Never
  - b) Rarely (few occurrences)
  - c) Often
  - d) All the time

Where available, third-party expert assessment of compliance, scientific literature related to enforcement, additional compliance evidence collected by managers, and remote sensing data related to compliance will be considered in the Blue Park evaluation. The evaluation prioritizes ecological data showing a positive MPA effects (e.g., peer-reviewed research demonstrating higher fish abundance or biomass in the MPA), since these positive outcomes are associated with high compliance and reflect the conservation success that the Blue Park Awards are meant to recognize.





## 6. Capacity for Implementation

The capacity to carry out management and enforcement activities – including adequate staffing, training, budget, and infrastructure – is vital to the conservation performance of MPAs (Gill et al. 2017, Bennett and Satterfield 2018, Brown et al. 2018), and yet most MPAs lack adequate funding or management capacity to implement effective management (Gill et al. 2017, Millage et al. 2021).

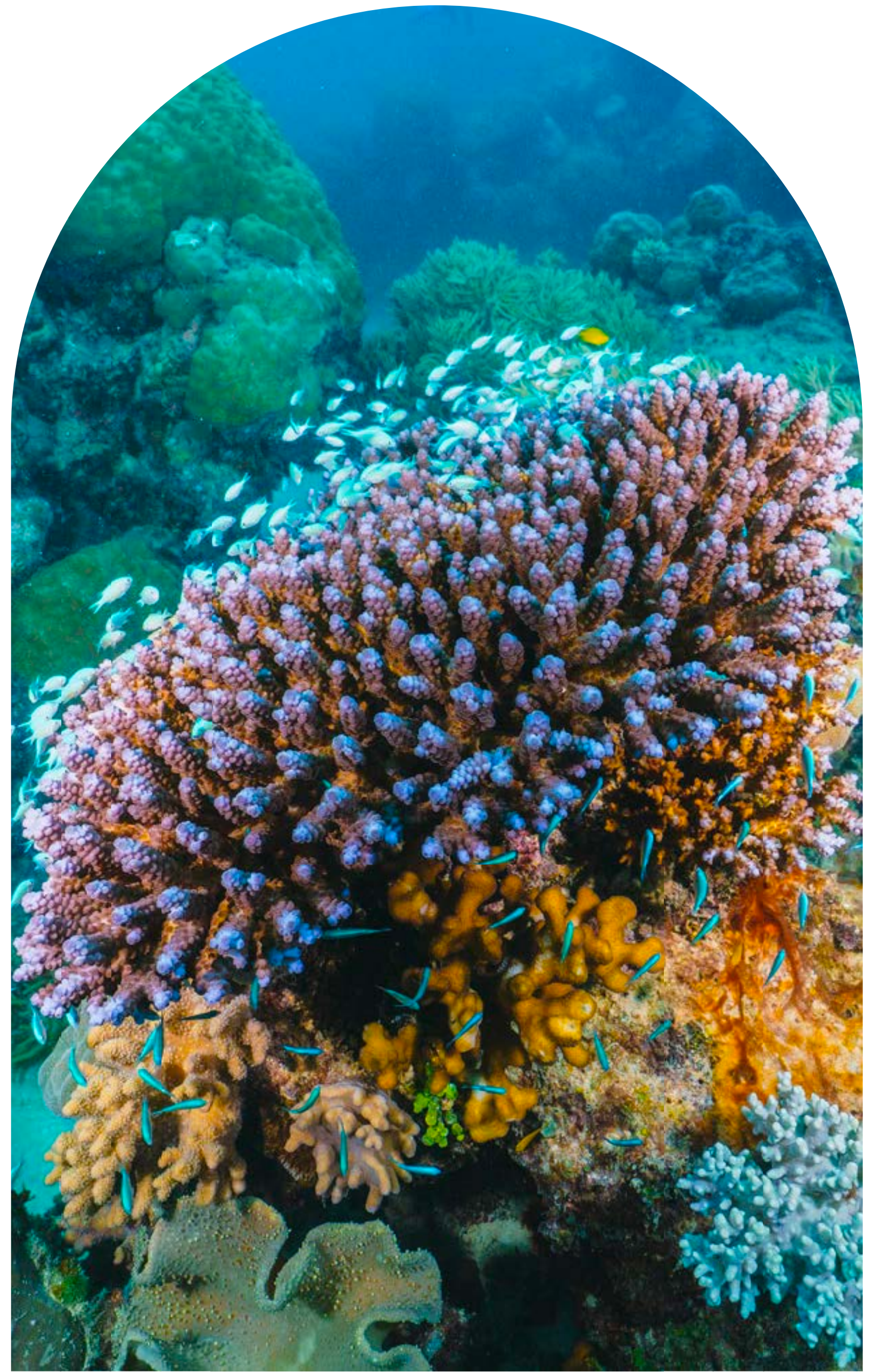
MPAs have more substantial long-term operating costs than terrestrial protected areas, likely due to water transportation costs and technology costs associated with surveillance, enforcement, and ecological monitoring in marine areas (Bohorquez et al. 2019). This makes ongoing funding and staff capacity for management particularly important for MPA effectiveness.



Gregory Piper, Ocean Image Bank

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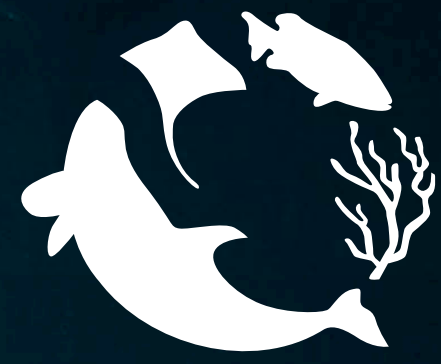
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