IUCN Conservation Outlook Assessment 2017 **(archived)**
Finalised on 09 November 2017

Please note: this is an archived Conservation Outlook Assessment for Phoenix Islands Protected Area. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Phoenix Islands Protected Area

SITE INFORMATION

Country:
Kiribati
Inscribed in: 2010
Criteria:
(vii) (ix)

Site description:
The Phoenix Island Protected Area (PIPA) is a 408,250 sq.km expanse of marine and terrestrial habitats in the Southern Pacific Ocean. The property encompasses the Phoenix Island Group, one of three island groups in Kiribati, and is the largest designated Marine Protected Area in the world. PIPA conserves one of the world's largest intact oceanic coral archipelago ecosystems, together with 14 known underwater sea mounts (presumed to be extinct volcanoes) and other deep-sea habitats. The area contains approximately 800 known species of fauna, including about 200 coral species, 500 fish species, 18 marine mammals and 44 bird species. The structure and functioning of PIPA's ecosystems illustrates its pristine nature and importance as a migration route and reservoir. This is the first site in Kiribati to be inscribed on the World Heritage List. © UNESCO

SUMMARY

2017 Conservation Outlook

Good with some concerns

The overall conservation outlook for this extremely large and mostly intact property remains positive. The complete ban on commercial fishing inside the property is without doubt the most significant development since inscription – an overwhelmingly positive step in protecting the OUV of the site and one for which the State Party should be highly commended. This policy change will enhance the oceanic wilderness qualities and the natural large scale ecological and evolutionary processes at work in this vast, relatively pristine system. The property has good protection and a newly updated management plan for 2015-2020. However, much of this is still dependent on the development of a Trust Fund which will compensate Kiribati for the loss of fishing revenue and support the protection of its fish and other natural resources. There has been progress in building the size of the Trust Fund but until this mechanism is fully in place with adequate resources to ensure future protection and management of the property, its long-term conservation cannot be assured. Currently external organisations (such as Conservation International and bilateral partners such as New Zealand, Australia and the USA) are very active in the region and their continued presence and support is important. Tourism threats remain low but biosecurity in this system remains a concern. The unknown effects of global warming could have a significant impact on the property.

Current state and trend of VALUES

Good
Trend: Improving

Large scale ecosystem values continue to be retained with no reports of damage and the overall large scale, oceanic wilderness qualities of the property have been retained. The 2015 introduction of a total ban on commercial fishing in the property, if effectively enforced, will significantly improve the values of PIPA through enhancing the wilderness quality and reducing pressure on fished

species thereby reinforcing unimpeded marine and terrestrial ecological and evolutionary processes.

Overall THREATS

Low Threat

The site remains under low threat primarily due to its remoteness from human influence and its vast size. The decision from 2015 to ban all commercial fishing across the entire property goes beyond the requests of the World Heritage Committee and represents a remarkable commitment of the Government of Kiribati to better protect the world’s largest World Heritage site. Tourism remains at low manageable levels however the potential of increasing tourism demand may place additional pressures on the property and increase the risk of invasive species introductions. Climate change impacts are already evident on the property including the significant bleaching event of 2002. Further impacts such as sea level rise and inundation, groundwater salinization, ocean acidification and increased extreme weather events are likely given the trajectory of global warming trends.

Overall PROTECTION and MANAGEMENT

Mostly Effective

Significant concern at time of inscription about the level of management presence within the property continues to be the case with low staffing levels and slower than expected progress on the Trust Fund to provide stable, long-term management funding. Nevertheless, good progress has been made with the updating of the property management plan and continued growth in the Trust Fund. Overall, protection and management of the property appears to be adequate, with some important successes such as the eradication of some invasive species from the islands. The complete ban on commercial fishing within PIPA is a major positive step in protecting the property’s values, but will need effective ongoing management to ensure compliance. Low levels of management are maintaining the property’s values whilst ever threats also remain low.

FULL ASSESSMENT

Description of values

Values

World Heritage values

▶ **Exceptionally pristine oceanic wilderness**
Criterion:(vii)

PIPA in an exceptional oceanic wilderness due to its remoteness and lack of human impact on the atolls and in the adjacent seas. PIPA is a very large protected area, a vast wilderness domain where nature prevails and humans are only occasional visitors. The near pristine mid-ocean environment with its range of intact and functioning marine ecosystems from coral reefs, submerged reefs, seamounts to deep sea, in a remote and nearly uninhabited region, is globally remarkable. The property exhibits a high degree of natural integrity through its predator-dominated ecosystems; healthy fish, coral and sea turtle populations; and demonstrated resilience of its reefs to coral bleaching. (Nomination, 2009; IUCN Evaluation; 2010, SoOUV, 2011).

▶ **Exceptional scale of the property and number of intact seamounts**
Criterion:(vii)

One of the very few large marine protected areas in the world that contains numerous intact seamounts, and the only such one in the tropics. A total of 14 large seamounts have been confirmed within the boundaries of the Phoenix Islands Protected Area (PIPA) and doubtless other smaller seamounts will be discovered as bathymetric exploration of the ‘inner space’ of deep ocean continues. At the time of this assessment, PIPA is the world’s largest World Heritage property with the deepest water depth (Nomination, 2009;

IUCN Evaluation, 2010; SoOUV, 2011).

▶ **An exceptional site for on-going marine and terrestrial evolutionary processes**
Criterion:(ix)

Local endemicity and distinctive species assemblages associated with seamounts demonstrate excellent examples of on-going in situ evolution of marine ecosystems and communities of plants and animals. The remoteness and excellent state of preservation allows the property to serve as a scientific global benchmark for identifying and monitoring the processes of sea level change, growth rates and age of reefs and reef builders (both geologically and historically) and in evaluating effects from climate change and coral bleaching events without the confounding factors of pollution or resource extraction (Nomination, 2009; IUCN, Evaluation, 2010; SoOUV, 2011).

Assessment information

Threats

Current Threats

Low Threat

The large size of this mostly intact and legally protected property (the size of the US state of California), composed mostly of open seawater, would indicate that threats should be very low. Historical problems such as introduction of rats, cats and rabbits to the atolls are being dealt with, but until these invasive species are eradicated and more effective biosecurity programmes are in place, the local seabird populations remain under high threat. Global temperature rise has already resulted in coral bleaching events in 2002, 2010, and 2015 and climate modelling is predicting an increase in such events, however, the corals are said to be relatively resilient due in large part to the scale and relative intactness of the ecosystem. Global warming causing thermal stress and associated habitat loss will continue to be major influences in future damage to PIPA reefs. (SP Report, 2015; IUCN Stakeholder

Consultation, 2017). The complete ban on commercial fishing from 2015 is a highly commendable and significant commitment by the State Party to additional protection (SP Report, 2015).

▶ Tourism/ visitors/ recreation

Low Threat
Inside site, localised(<5%)

Unregulated visitors pose threats through disposal of sewage and wastes, illegal collection and harvest of terrestrial and marine resources, potential introduction of invasive species (which would be disastrous and seriously undermine the restoration goals for the PIPA) and disturbance of bird populations (PIPA-MC, 2010). The movement of people to Kanton or to any of the PIPA islands is closely monitored with the obligatory completion of an arrival form for locals going to Kanton from Tarawa and Kiritimati. (SP Report, 2015)

▶ Invasive Non-Native/ Alien Species

High Threat
Inside site, localised(<5%)

Invasive species (rats, rabbits, cats) on terrestrial habitats that have reduced vegetation/shade cover and nesting bird numbers on some of the islands (Nomination., 2009). Successful Pacific Rat eradication on Birnie Island (IUCN SOC, 2012) and eradications of rabbits from Rawaki and Asian Rat from McKean (PIPA-MC, 2010) are very important steps forward. Other invasive alien species (such as some ant species) could pose long-term threats, and are being monitored (PIPA-MC, 2010). Eradication and biosecurity programmes are reported as having been effective (Rotjan et al. 2014). All visitation to PIPA and in particular, Kanton, the only island with habitation, is now strictly monitored with the aim of severely limiting the introduction of invasive species. (SP Report, 2015). The ban on commercial fishing introduced in 2015 has reduced the numbers of vessels in the property potentially lowering the biosecurity threat however, surveillance across the vast marine areas remains problematic (IUCN SOC, 2015)

▶ Shipping Lanes

Data Deficient

Inside site, localised(<5%)

Coral damage occurs during grounding and break-up of ocean vessels, but the extent of the impact of rusting shipwrecks is unknown. These add iron to the surrounding seawater environment. In iron-limited regions such as the Central Pacific, iron addition can result in a phase shift from coral-dominated reefs to reefs dominated by iron-enriched microbial mats and turf algae. (Rotjan et al 2014)

► Ocean acidification, Temperature extremes

High Threat
Inside site, throughout(>50%)

Mass coral bleaching occurred in 2002 but coral reefs are slowly recovering; some bleaching damage noted in 2010 and 2015. The relatively pristine nature of the ecosystem is said to increase resilience to coral bleaching (Nomination, 2009). Ocean warming due to climate change is expected to lead to frequent heat stress on PIPA’s coral reefs, with the probability of bleaching alerts in a given year rising to 70% by mid-century (Obura et al, 2016). Ongoing thermal stress and associated habitat loss will continue to be major influences in future damage to PIPA reefs. (Rotjan et al. 2014). In 2015, the State Party noted a lack of understanding of the sensitivity of deep sea communities to acidification and that the seamounts will be highly vulnerable to climate change impact (SP report, 2015)

► Fishing / Harvesting Aquatic Resources

Low Threat
Outside site

The 2009 nomination and IUCN evaluation noted concerns about potential over-fishing by DWFN (Distant Water Fishing Nations) and illegal shark finning. As of 1 January 2015, the entire area of PIPA has been closed to all commercial fishing (IUCN SOC, 2015; McCauley et al. 2016). This is a very significant improvement in protection taking the no fishing zone from the original 3.12% of the property’s area to 100% and goes beyond the requests of the WH Committee.

Potential Threats

High Threat

Climate change impacts such as higher temperature extremes and sea level rise could have potentially devastating effects on the values of the property through extensive coral bleaching, groundwater salinization and ocean acidification from which even the most resilient ecosystem may not be able to recover. Recent research points to the probability of coral bleaching alerts in a given year rising to 70% by mid-century (Obura et al, 2016). Potential ship groundings could cause extreme localised damage, however, the 2015 ban on commercial fishing has greatly reduced the numbers of vessels within the property according to the State Party (SP Report, 2015). The introduction of invasive species from commercial fishing vessels should also be reduced, however, the risk of alien invasives from other shipping continues to be of high threat especially given the challenges of surveillance and enforcement over such a large area. Increasing tourism interest in the site would increase the risk of damage to the reefs, introduction of invasive species and impacts from the development of tourism infrastructure (SP Report, 2015). Careful ongoing monitoring and management of tourism will be essential.

► Shipping Lanes

Data Deficient
Inside site, extent of threat not known
Outside site

Ship groundings have occurred in the past and could occur in the future, causing pollution (Nomination., 2009) and potentially lead to the arrival of invasive species. Oil and other chemical spills remain a persistent threat with ship traffic and even small and non-commercial vessel groundings have potential negative impacts via nutrient pollution and other forms of plastic pollutants. Shipwrecks also introduce terrestrial dangers such as the introduction of invasive species such as the Asian rat. (Rotjan et al 2014). The impacts of iron leaching from shipwrecks is unclear (IUCN, SOC, 2015)

► Ocean acidification, Temperature extremes

High Threat

Inside site, throughout(>50%)

Climate change impacts such as higher temperature extremes and sea level rise could have potentially devastating effects on the values of the property through extensive coral bleaching, groundwater salinization and ocean acidification from which even the most resilient ecosystem may not be able to recover. Recent research points to the probability of coral bleaching alerts in a given year rising to 70% by mid-century (Obura et al, 2016). Terrestrial vegetation and seabird populations are vulnerable to salinization of groundwater due to sea level rise and inundation (PIPA-MC, 2010).

► Tourism/ visitors/ recreation

Low Threat
Inside site, localised(<5%)

There is a need to develop specific guidelines to control and manage a possible increase in tourism to PIPA in order to minimise impacts to reefs, seabird colonies and prevent the introduction of invasive species to any of the islands. Transportation infrastructure built for tourism and research will link the three archipelagos of Kiribati that are currently only connected by boat or international flights, allowing the flow of people and goods (SP Report, 2015)

Protection and management

Assessing Protection and Management

► Relationships with local people

Highly Effective

Currently the only inhabited island is Kanton with fewer than 50 people (either government employees or their families) assigned to the Phoenix Islands for a fixed period of time (circa 3 years) (Nomination., 2009).
The declaration of PIPA has been a source of national pride for all-Kiribati citizens. The Kiribati Government disseminates knowledge of PIPA to its citizens through regular news broadcasts; signage celebrating PIPA in Kiribati International Airports and through songs to celebrate major PIPA milestones and events. The use of the local word ‘okai’ meaning a traditional storehouse

where reserved foods and treasures are kept for future use—especially in times of prolonged draughts and bad times is used to explain PIPA. This attitude is evident throughout the country in relation to PIPA and has local and global benefits of ocean stewardship. (Rotjan et al, 2014)

► Legal framework

Highly Effective

Highly protected area fully legally established under the PIPA Regulations 2008 (IUCN SOC, 2012). The 2015 Kiribati Cabinet decision to implement a complete ban of commercial fishing in around PIPA has significantly strengthened the protection of the property's biological values. The Ministry of Fisheries and Marine Resources Development (MFMRD) is responsible for informing all DWFCs about the closure and ensuring compliance. The State Party also agreed to the establishment of a Tuna Working Committee that will determine a mutually agreeable compensation to Kiribati for the full closure of PIPA. This will be based on the monitoring of patterns and revenues from tuna fishing in the Kiribati Exclusive Economic Zone (EEZ) and will be finalised no later than 2020 (IUCN SOC, 2015). A Conservation Contract between the Republic of Kiribati and the PIPA Conservation Trust was signed on April 12, 2014.

► Enforcement

Some Concern

The State Party has in place in the new management plan strict control provisions for all activities within PIPA to ensure no impact to marine species and habitats. (SP Report, 2017). Enforcement capacity for this vast site is, however, a significant concern due to weak staffing and the uncertainty of sustained funding from the planned Trust Fund (IUCN Consultation, 2017)

► Integration into regional and national planning systems

Highly Effective

Appears adequate (Nom., 2009).

► Management system

Some Concern

The new PIPA Management Plan 2015-2020 contains specific recommendations for limiting climate impacts; identifies strict control of all activities to ensure there is no impact to marine species and habitats; and recognizes the need for effective surveillance and enforcement whilst acknowledging the significant challenge faced in terms of technology, capacity and resources. (SP Report, 2015; IUCN SOC, 2015). The plan is strong in concept but some concerns remain as to how it will be implemented as there has been some weakening in the support able to be provided by international partners. (IUCN Consultation, 2017).

► Management effectiveness

Mostly Effective

Major challenges in surveillance due to extreme remoteness and large size of the property remain (IUCN SOC, 2012). The property is reported to have weak staffing and equipment capacity (IUCN Evaluation, 2010). The involvement of other countries, particularly Australia, New Zealand, USA and France, and other organizations, in the joint efforts to minimize illegal activities in the region has been recognised (IUCN SOC, 2015). However, it should be noted that recent studies observed a drastic reduction in observed fishing activity following new regulations that established the no-take area (OCEANA, 2016, http://usa.oceana.org/sites/default/files/pipa_report_final_low_res_3_7_16.pdf)

► Implementation of Committee decisions and recommendations

Highly Effective

The decision to fully close the entire area of PIPA from commercial fishing is a significant achievement and goes beyond the WH Committee’s requests to increase no-take zones. The State Party provides information in the new management plan to address illegal activities, but acknowledges the significant management challenges due to limited resources, remoteness and size of the property. (IUCN SOC, 2015). The State Party has also responded to Committee decisions in updating the management plan and in its continued efforts to secure sustainable financing for the property (IUCN SOC 2015).

► Boundaries

Data Deficient

Recent changes have been made to the PIPA outer boundaries following boundary delimitation negotiations between the Government of Kiribati, the USA and Tokelau. The State Party is yet to submit an official boundary modification for the property (IUCN SOC, 2015)

► Sustainable finance

Some Concern

A phased approach to building an endowment Trust Fund is in place, which originally envisaged a capital of $13.5M USD before the end of 2014. This was linked to closing an additional 25% of the PIPA EEZ with the fund covering potential loss of DWFN fees and has now been revised with a target of 25m USD (SP Report, 2015). Various financial commitments have been made to the Trust Fund including 2.5m USD from Conservation International (IUCN SOC, 2012). The Waitt Foundation and Oceans 5 Alliance have agreed to provide 1m USD p.a., from 2015, for 5 years for the implementation of the new management plan (IUCN SOC, 2015). A concern has been raised regarding the slowness of raising Trust Fund money (IUCN Consultation, 2017)

► Staff training and development

Some Concern

Staffing levels remain low, although the threats to the property are also currently low. Several initiatives with NGO’s, SPREP and bilateral partners (NZ, Australia and USA) were in place at the time of inscription (IUCN SOC, 2012). The State Party has included in its Work Plan and Budget the need to conduct stakeholders workshop(s); and to increase curriculum development areas of MPA Biosecurity (SP Report, 2015)

► Sustainable use

Some Concern

Sustainable, subsistence use of specified allowable species is allowed in the Kiribati’s Territorial Sea (to 12 nm), Internal Waters, and terrestrial areas of Kanton Island. (SP Report, 2015). Some concerns have arisen about tensions

between conserving the property for its intrinsic values and the need to financially justify the existence of PIPA (IUCN Consultation, 2017)

► Education and interpretation programs

Mostly Effective

The State Party has allocated funds for an eight-part Education and Outreach program using money available in the Trust Fund. (SP Report, 2015). Outreach initiatives focus on encouraging a conservation mind-set, building in-country capacity and expertise in areas relevant to ocean conservation and research and promoting knowledge of all-of- Kiribati geography, since very few Kiribati citizens have ever been to the Phoenix Islands. (Rotjan et al 2014)

► Tourism and visitation management

Mostly Effective

Currently there are very few visitors with no regular tourism, just occasional visitors from ocean-going yachts, special boat charters for recreational divers and various researchers. There may be a number of unregulated visitors (Nomination, 2009; PIPA-MC, 2010) and there does not appear to be an adequate biosecurity mechanism in place to prevent careless introduction of invasive species. The State Party recognises the need to develop specific guidelines to control and manage tourism to PIPA in order to minimise impacts to reefs, seabird colonies and pelagic and deep sea environments and prevent the introduction of invasive species to any of the islands. (SP report, 2015)

► Monitoring

Some Concern

Better and more standardised monitoring is required (PIPA-MC, 2010). The State Party’s 2015-2020 Management Plan seeks to address illegal activities, but acknowledges that surveillance and monitoring constitute a significant challenge due to limited resources and remoteness and size of the property. (IUCN SOC , 2015)

► Research

Some Concern

State Party has identified the ongoing need to support climate change research in PIPA and acknowledges that “PIPA has exceptional value as a natural laboratory for the study and understanding of the significant ongoing ecological and biological processes in the evolution and development of marine ecosystems of the Pacific.” (SP Report, 2015)

Overall assessment of protection and management

Mostly Effective

Significant concern at time of inscription about the level of management presence within the property continues to be the case with low staffing levels and slower than expected progress on the Trust Fund to provide stable, long-term management funding. Nevertheless, good progress has been made with the updating of the property management plan and continued growth in the Trust Fund. Overall, protection and management of the property appears to be adequate, with some important successes such as the eradication of some invasive species from the islands. The complete ban on commercial fishing within PIPA is a major positive step in protecting the property’s values, but will need effective ongoing management to ensure compliance. Low levels of management are maintaining the property’s values whilst ever threats also remain low.

► Assessment of the effectiveness of protection and management in addressing threats outside the site

Mostly Effective

A major threat from outside the site is posed by deep-sea fishing vessels. Given the size of the property this is very difficult to regulate and control. However, since the introduction of the complete ban on commercial fishing there appear to be much fewer vessels within the property (SP Report, 2015; OCEANA, 2016). There is nevertheless a concern about the capacity to enforce compliance with the fishing ban. Further concerns relate to management’s capacity to adapt effectively to climate change impacts which are beyond the control of site managers.

► Best practice examples

Significant commitment to introduce a complete ban on commercial fishing within this vast property is a commendable (SP Report, 2015).

State and trend of values

Assessing the current state and trend of values

World Heritage values

► Exceptionally pristine oceanic wilderness

Good
Trend:Improving

No reports of damage. Again, the total ban on commercial fishing in the property (SP, Report, 2015) should significantly enhance its wilderness qualities by reducing the volume of shipping within the site and creating more natural ecosystem trophic balance.

► Exceptional scale of the property and number of intact seamounts

Good
Trend:Stable

No reports of damage (IUCN SOC, 2012). There have been some minor boundary modifications reported by the State Party however, these appear to be minor (a reduction in size from 40,825,000 ha to 40,711,200 ha) and the overall scale of the property has not been impacted (SP Report, 2015).
The full closure of the entire area of PIPA to commercial fishing will reduce the potential degradation of seamounts in the property due to deep sea trawling. (IUCN SOC, 2015)

► An exceptional site for on-going marine and terrestrial evolutionary processes

Good
Trend:Improving

Large scale ecosystem values continue to be retained with no reports of

damage. Several successful eradication programmes were noted at the time of the inscription [Pacific Rat eradication on Birnie Island (IUCN SOC, 2012); eradications of rabbits from Rawaki and Asian Rat from McKean (PIPS-MC, 2010)]. The full closure of the entire area of PIPA to commercial fishing represents an important step towards minimizing the threats from overfishing and degradation of seamounts in the property. (IUCN SOC, 2015)

Summary of the Values

► **Assessment of the current state and trend of World Heritage values**

Good

Trend: Improving

Large scale ecosystem values continue to be retained with no reports of damage and the overall large scale, oceanic wilderness qualities of the property have been retained. The 2015 introduction of a total ban on commercial fishing in the property, if effectively enforced, will significantly improve the values of PIPA through enhancing the wilderness quality and reducing pressure on fished species thereby reinforcing unimpeded marine and terrestrial ecological and evolutionary processes.

Additional information

Benefits

Understanding Benefits

► **Sacred natural sites or landscapes**

The property and its natural resources are central to the economic and spiritual wellbeing of the people of Kiribati. They regard PIPA as a traditional storehouse of food reserves and other treasures, to be used in the future if needed. (Rotjan et al 2014)

► Fishing areas and conservation of fish stocks

Well-protected sanctuary zones have a demonstrated positive impact on fish populations elsewhere.

► Importance for research

An important area for marine research without the confounding effects of human habitation, pollution and resource extraction.

► Outdoor recreation and tourism

Some recreational diving charters but currently almost no tourism. Potential for tourism benefits (as well as problems). There are potential benefits from an increased use of the site for tourism and research for both local and international visitors. (SP Report, 2015)

► History and tradition

Relicts of archaeological Micronesian and Polynesian settlements. Historical guano mining and whaling ships from the 19th / early 20th centuries; relicts of World War II activity; possible site for crash of Amelia Earhart.

Summary of benefits

The property benefits the local and global community for protecting wildlife and wilderness values, and providing environmental services. Its no-fish sanctuary zones provide a nursery for fisheries outside of the property, and potential tourism benefits. The decision to stop all commercial fishing within in the property will greatly improve its capacity as a fisheries nursery. An important resource for scientific studies, with more study it could provide increasing benefit in cultural and historic knowledge. The islands are said to harbour species of plants used medicinally elsewhere which have become rare due to over-use. The declaration of PIPA has been a source of national pride for all Kiribati citizens and the Kiribati government continues to disseminate knowledge by means of outreach programs and via the media to them. (Rotjan et al, 2014)

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	UNEP/GEF/PIPA		UNEP/GEF Phoenix Islands Protected Area project 2011-2014.
2	Pacific Invasives Initiative		Pacific Invasives Initiative. Funded by donors. Island rat, rabbit and cat eradications. Capacity development.
3	Conservation International		The CI support for PIPA is part of the Coral Reef Initiative in the South Pacific (CRISP).
4	SPREP		SPREP’s Coastal Management, Marine Species and Invasive Species programmes. Networking.
5	http://es.www.sidsnet.org/node/23414		Various capacity-building and research programmes

REFERENCES

№	References
1	BirdLife International (2013). IUCN Red List for birds. Downloaded from http://www.birdlife.org on 15/06/2013.
2	GEF project proposal Phoenix Islands Protected Area 2011-2014. https://www.thegef.org/project/pas-phoenix-islands-protecte…. Accessed 25 May 2017
3	IUCN (2010). IUCN Technical Evaluation Phoenix Islands Protected Area (Kiribati).
4	IUCN (2012). State of Conservation Report Phoenix Islands Protected Area IUCN, Gland, Switzerland. http://whc.unesco.org/en/soc/144
5	IUCN (2015). State of Conservation Report Phoenix Islands Protected Area IUCN, Gland, Switzerland. http://whc.unesco.org/en/list/1325/documents/
6	IUCN (2017) IUCN Consultation Form. IUCN Gland, Switzerland.
7	McCauley, D.J., Woods, P., Sullivan, B., Bergman, B., Jablonicky, C., Roan, A., Hirshfield, M., Boerder, K. and Worm, B. (2016). Ending hide and seek at sea. Science, 351(6278), pp.1148-1150.
8	Nomination (2009). Phoenix Islands Protected Area. Nomination for inclusion in the World Heritage List natural sites. Government of Kiribati.
9	Obura D, Donner SD, Walsh S, Mangubhai S, Rotjan R. Living document. Phoenix Islands Protected Area climate change vulnerability assessment and management, Report to the New England Aquarium, Boston, USA. 35 pp. Updated January 18, 2016
10	Oceana (2016). Global Fishing Watch Enables Clear View of Fishing in Marine Protected Areas: New Tech Tool Can Test the Success of Phoenix Islands Protected Area. Accessed 9th November 2017.
11	PIPA-MC (2010). Phoenix Islands Protected Area Management Plan, 2010-2014. Phoenix Islands Protected Area Management Committee.
12	Pierce, R. 2011. Biosecurity Guidelines for the Phoenix Islands Protected Area, Kiribati. Conservation International, Apia, Samoa.

№	References
13	Pierce, R., Kerr, V. 2013. Preliminary Report on a Biota Survey of the Phoenix Islands Atolls, Kiribati. Draft, 16 June, 2013.
14	Rotjan et al. (2014) Establishment, Management, and Maintenance of the Phoenix Islands Protected Area. In: Magnus L. Johnson and Jane Sandell, editors, Advances in Marine Biology, Vol. 69, pp. 289-324 Oxford: Academic Press
15	SoOUV (2011). Phoenix Islands Protected Area (Kiribati) Statement of Outstanding Universal Value. http://whc.unesco.org/en/list/1325/documents/
16	State Party Report of Kiribati (2015). Report of the State Party to the World Heritage Committee on the state of conservation of the Phoenix Islands Protected Area (Kiribati) http://whc.unesco.org/en/list/1325/documents/