HONG KONG 114°E
REEF FISH
SURVEY

FANTASTIC FISHES AND WHERE TO FIND THEM

114°E HONG KONG REEF FISH SURVEY
SUMMARY REPORT 2016 - 2020

PHOTO BY KATHLEEN HO

DIVE IN TO DISCOVER THE WORLD OF REEF FISHES

All reef fish photos in this report were taken by 114˚E Survey volunteers in Hong Kong waters

114˚E Hong Kong Reef Fish Survey
Summary Report for the period of
1st July 2016 to 30th June 2020
Project supported by:
The Swire Group Charitable Trust

Report submitted on:
30th September 2020

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Cover photo by
Eric Keung Photography

Back cover photo by
Siukin Wong

“114°E is a really excellent project - a great mix of discovery and sharing, and an opportunity for divers to show to Hong Kong what amazing creatures live right on the city’s doorstep.”

Prof. Yvonne Sadovy de Mitcheson

“In terms of building expertise and collecting valuable marine fish data, nothing compares to this project. Long may it continue.”

Dr. Andy Cornish

Authors of REEF FISHES OF HONG KONG published in 2000

PHOTO BY CARON WONG


PHOTO BY SAM INGLIS

ALL ABOUT 114°E

Since July 2016, 114˚E Hong Kong Reef Fish Survey (114˚E Survey) has embarked on a continuous survey of Hong Kong's reef fish, with the aims of creating a database that is scientifically accurate and up-to-date, and usable by acadmics, in informing policy making and educating the general public. Previous to the official commencement, two years of trial surveys were conducted from 2014 to 2016 to test out methodologies.

After decades of overexploitation, Hong Kong's reef and marine environment has become increasingly strained. With historically high fishing pressures, habitat destruction and degradation, uninformed fish release activities and a general lack of understanding of the state of our marine ecosystem, our reefs are facing growing challenges to survival. Most importantly, documentation and status updates on local reef fish species are scarce, so we may not even know what we are losing.

114˚E Survey aims to reinvigorate the interest for Hong Kong's marine life among Hong Kong people, and to fill gaps in the existing knowledge of local reef fishes. Information collected include species diversity, qualitative abundance, and distribution. Once collected, the data could ultimately be used to gain a better understanding in the long-term changes in local reef fish presence, changes in species dominance, prevalence of alien and invasive species, important sites for reef fish diversity, and the local reef ecology in general. The long-term and reliable data can also be used to inform future conservation actions, environmental impact assessments (EIAs), species conservation assessments and other academic and scientific research.


PHOTO BY SAM INGLIS


PHOTO BY SAM INGLIS


PHOTO BY SIUKIN WONG

Purpose:

To establish baseline knowledge of Hong Kong reef fish through underwater scientific dives by citizen scientists, overseen and guided by the project's marine researchers.

114˚E SURVEY OBJECTIVES

- Establish baseline data for Hong Kong's reef fish species and collect comprehensive and up-to-date monitoring data
- Empower and mobilize citizen scientists to join in the work of data collection, education and conservation
- Promote appreciation and encourage further research for a greater understanding of Hong Kong's marine reef fish and wildlife
- Contribute to Hong Kong's fulfilment of the Biodiversity Strategy and Action Plan and support positive marine policy changes

Working Group

The Working Group is comprised of marine and ecology scientists and academics, formed for the purposes of preserving the scientific validity of the project's methodology, ensuring that operations align with the initial objectives and providing expert advise on species identification.

Members of the working group include (in no particular order):

Professor Yvonne Sadovy (Hong Kong), Dr. Shao Kwang-Tsao (Taiwan) Dr. Andy Cornish (Hong Kong), Dr. Allen To (Hong Kong), Dr. Calton Law (Hong Kong), Dr. Liu Min (Xiamen, China), and Dr. Cynthia Yau (Hong Kong).

Fish Identification Support

Throughout the project, the 114˚E Survey was very fortunate to have had the support of many experts in species identification, particularly for the confirmation of new-to-Hong Kong species. The 114˚E Survey is particularly grateful for the help of Chen Ching-Yi and Dr. Chen Hong-Ming from Taiwan, for their continuous support and expert advice.

AT A GLANCE

UNDERWATER SURVEYS

35
NEW-TO-HONG KONG SPECIES DISCOVERIES

408+
TOTAL SPECIES IN DATABASE

141
RARE SPECIES ENCOUNTERED

80+
DIVE SITES VISITED

110
DAYS OF SURVEYS

1308
DATA SHEETS COLLECTED

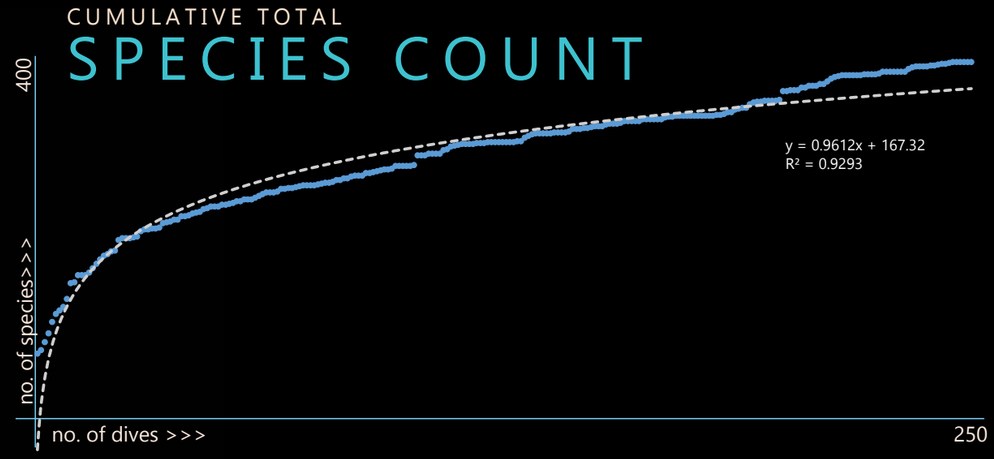
2647
HOURS UNDERWATER

210+
CITIZENS AS VOLUNTEERS

PHOTO BY® MARCO CHAN

UNDERWATER SURVEYS

PHOTO BY ERIC KEUNG PHOTOGRAPHY



Even with increasing survey effort, the cumulative count of species documented by the survey continues to rise. This rising trend indicates the potential for more species to be uncovered in Hong Kong. Existing literature has predicted at least 500 reef fish species for Hong Kong's waters, and to date only around 400 have been documented. To generate a complete and up-to-date reef fish species list for Hong Kong, survey efforts must continue until the cumulative total plateaus.

NEW TO HONG KONG

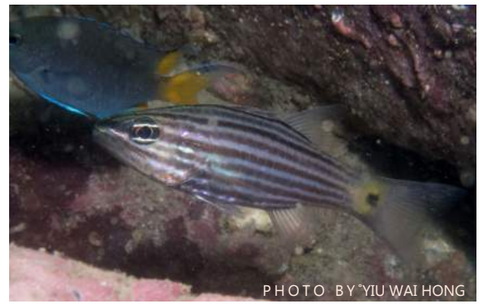
Being one of the few organised survey efforts in the past two decades to research the local reef fish status, the 114˚E Survey had anticipated the discovery of species that were not previously documented in official records. The number of such species discovered, however, far exceeded the project's original expectations. In just 4 years of surveys, 35 species new to Hong Kong's official records were discovered and confirmed. Several more potentially new species records were also documented and pending experts' confirmation on identification.

Interestingly, several of the new species are considered tropical species. While Hong Kong waters within these species' natural distribution, it is uncommon to find them thriving in sub-tropcial environments such as Hong Kong. The phenomenom is observed elsewhere as evidence of the impact of climate change, where species are shifting from their typical ranges with changing climates, but this has not yet been documented in Hong Kong or neighouring regions. The survey finding therefore raises an interesting question of whether or not the appearance of these new tropical species in Hong Kong also carry the story of climate change.

To find the answers, the 114˚E Survey will continue analyses on future discoveries of new species records. In addition, the related survey data has been submitted to academics to further research and investigations.

Rare species

Apart from new species records, the 114˚E Survey has also recorded at least 141 species that are considered rare for Hong Kong, constituting over 1/3 of the total species record. These findings are evidence that, contrary to what is commonly thought, Hong Kong's marine life still have immense research and conservation value, and the marine environment is not at all barren.



New to Hong Kong records:

1. *Acanthurus xanthopterus*
2. *Amblyeleotris japonica*
3. *Amblygobius nocturnus*
4. *Arothron mappa*
5. *Aspidontus taeniatus*
6. *Bodianus dictynna*
7. *Canthigaster papua*
8. *Canthigaster valentine*
9. *Chaetodon adiergastos*
10. *Cheilodipterus species*
11. *Chromis fumea*
12. *Cirrhilabrus cyanopleura*

PHOTO BY KATHLEEN HO

Rare species encounter!

The Short dragonfish (*Eurypegasus draconis*) is an extremely rare species, observed only once throughout the entire project period. The species is classified as Vulnerable (VU) under the IUCN Red List of Threatened Species with observedly decreasing population trends.

PHOTO BY STAN SHEA

PHOTO BY DR ALLEN TO

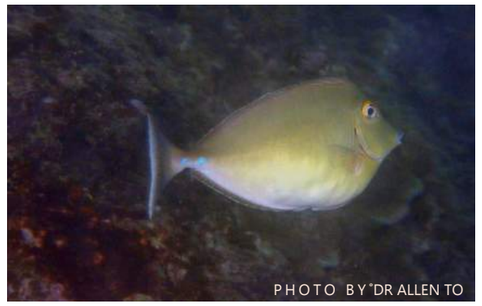


PHOTO BY DR ALLEN TO

PHOTO BY TERESA MA

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PHOTO BY RENEE LAM

PHOTO BY CALTON LAW

PHOTO BY DR ANDY CORNISH

PHOTO BY STAN SHEA

PHOTO BY GOMEN SEE

PHOTO BY STAN SHEA

PHOTO BY DR ALLEN TO

New to Hong Kong records (cont'd):

1. *Diodon hystrix*
2. *Echidna polyzona*
3. *Gymnothorax albimarginatus*
4. *Halichoeres hartzfeldii*
5. *Halichoeres marginatus*
6. *Halichoeres melanochir*
7. *Istigobius hoshinonis*
8. *Myripristis botche*
9. *Naso unicornis*
10. *Parapercis millepunctata*
11. *Parapercis tetracantha*
12. *Parapriacanthus* species

PHOTO BY ^FRANCIS TSANG

Rare species encounter!

An Orbicular batfish (*Platax orbicularis*). At this juvenile stage, the Orbicular batfish resembles floating leaves, therefore easily overlooked by divers and presumably predators. As adults the species will move to deeper waters, and elsewhere are often found in small groups among shipwrecks.

PHOTO BY ^DR ANDY CORNISH

PHOTO BY ^BRIAN LAM

PHOTO BY ^MARCO CHAN

PHOTO BY ^KAMY YEUNG

PHOTO BY ^CARON WONG

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PHOTO BY ^DR ANDY CORNISH

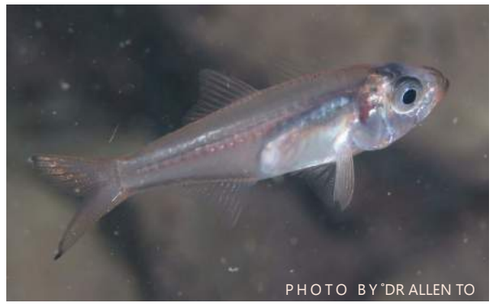


PHOTO BY ^DR ALLEN TO

PHOTO BY ^CARON WONG

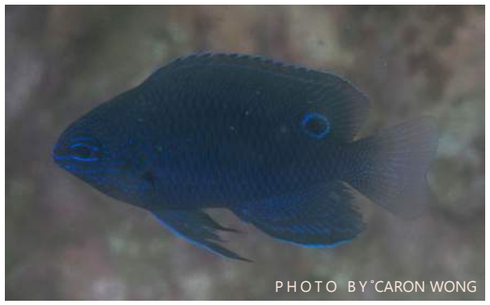


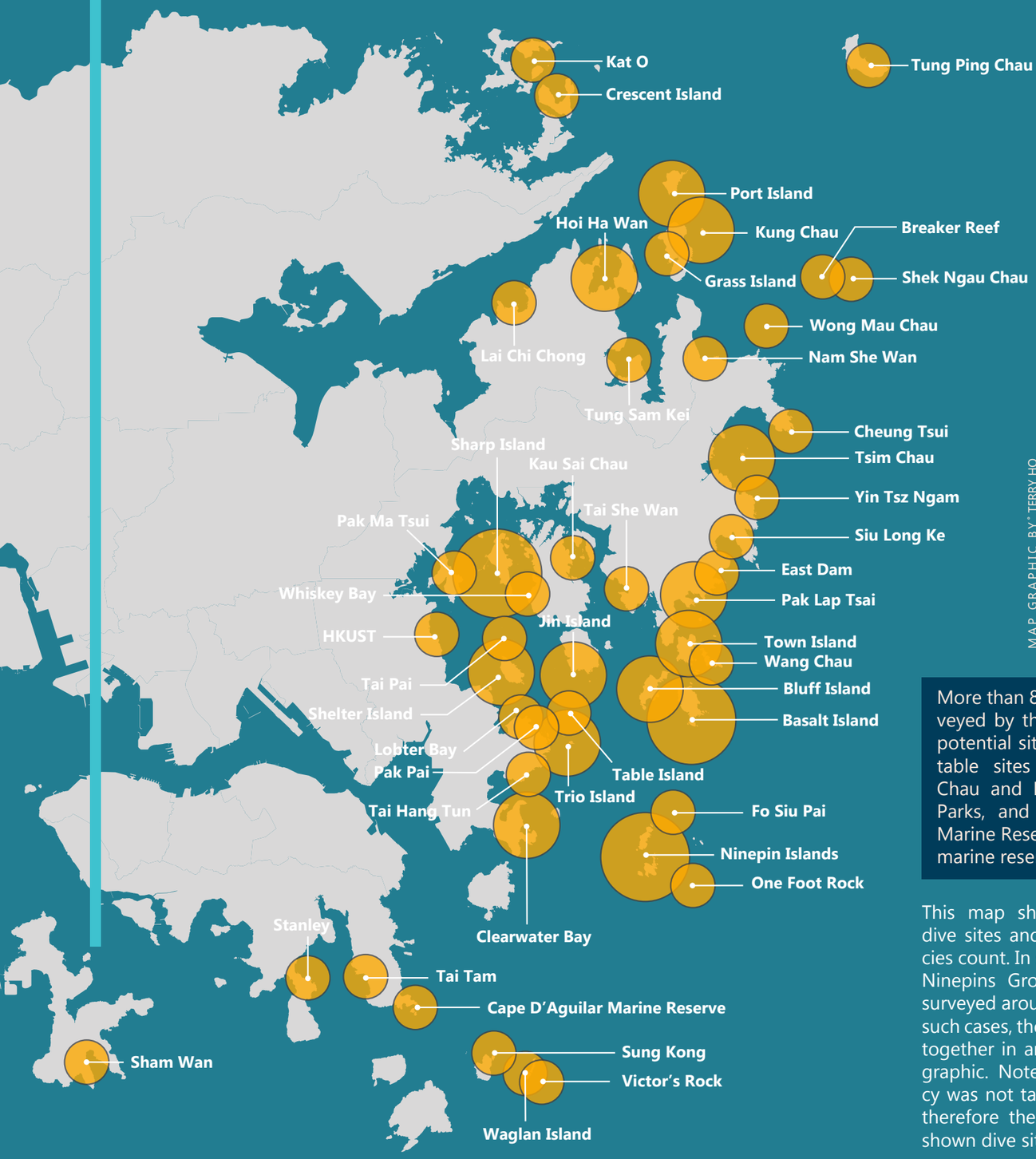
PHOTO BY ^CARON WONG

PHOTO BY ^ARTHUR CHUNG

New to Hong Kong records (cont'd):

1. *Petroscirtes springeri*
2. *Pherallodus indicus*
3. *Plectroglyphidodon leucozonus*
4. *Pomacentrus nagasakiensis*
5. *Pseudanthias squamipinnis*
6. *Ptereleotris heteroptera*
7. *Rhabdamia gracilis*
8. *Scolopsis ciliata*
9. *Tomiyamichthys oni*
10. *Valencienna wardii*
11. *Xiphasia setifer*

114°E DIVE SITES

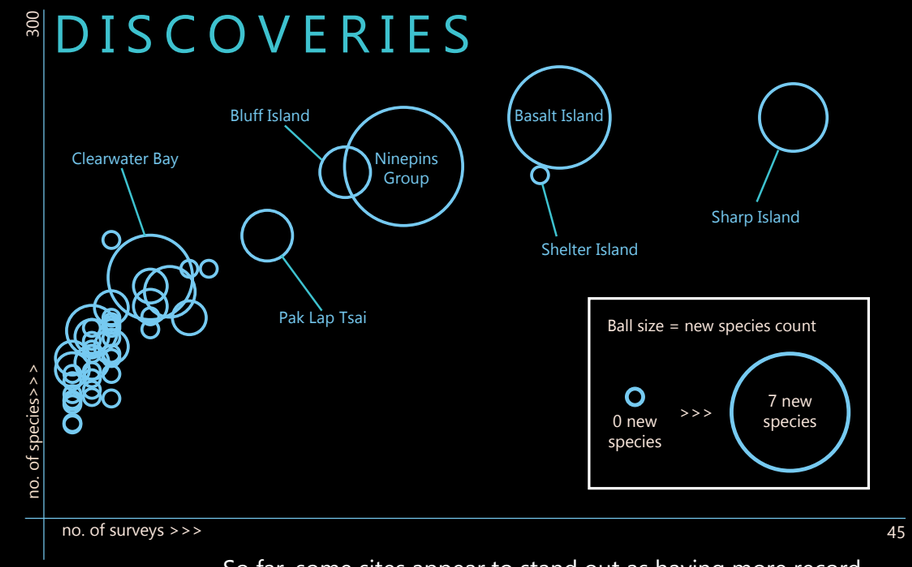


More than 80 dive sites were surveyed by the project, with more potential sites to visit. Some notable sites include Tung Ping Chau and Hoi Ha Wan Marine Parks, and the Cape D'Aguilar Marine Reserve, which is the only marine reserve in Hong Kong.

This map shows all the surveyed dive sites and each site's total species count. In some cases such as the Ninepins Group, several areas are surveyed around the island group. In such cases, the sub-sites are grouped together in analyses, such as in this graphic. Note that survey frequency was not taken into account here, therefore the sample size for each shown dive site may vary.

SURVEY FREQUENCY VS

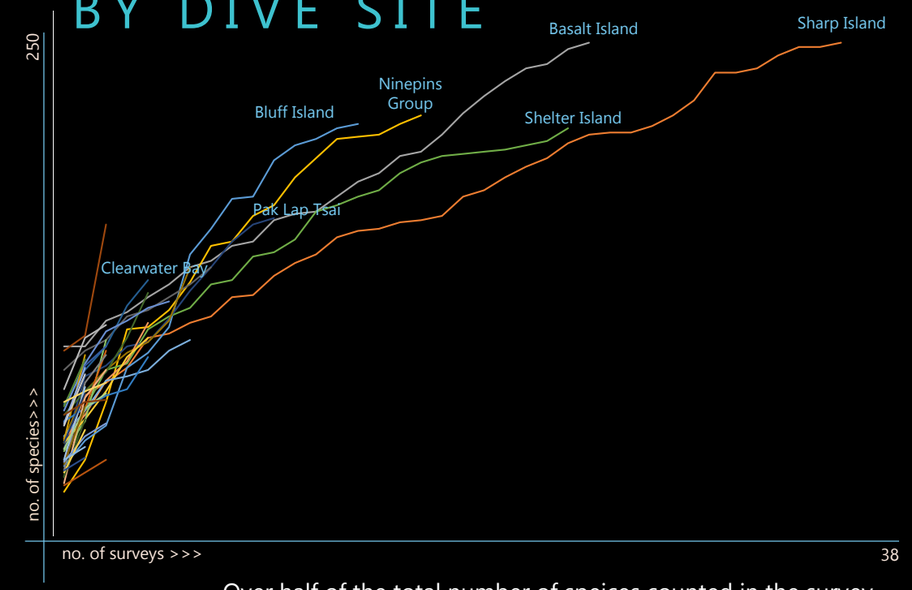
NEW-TO-HK DISCOVERIES



So far, some sites appear to stand out as having more recorded species or new species discoveries. To understand potential trends, still more years of survey effort are needed.

CUMULATIVE SPECIES TOTAL

BY DIVE SITE



Over half of the total number of speices counted in the survey were documented in Basalt Island and Sharp Island

THE PEOPLE OF 114°E

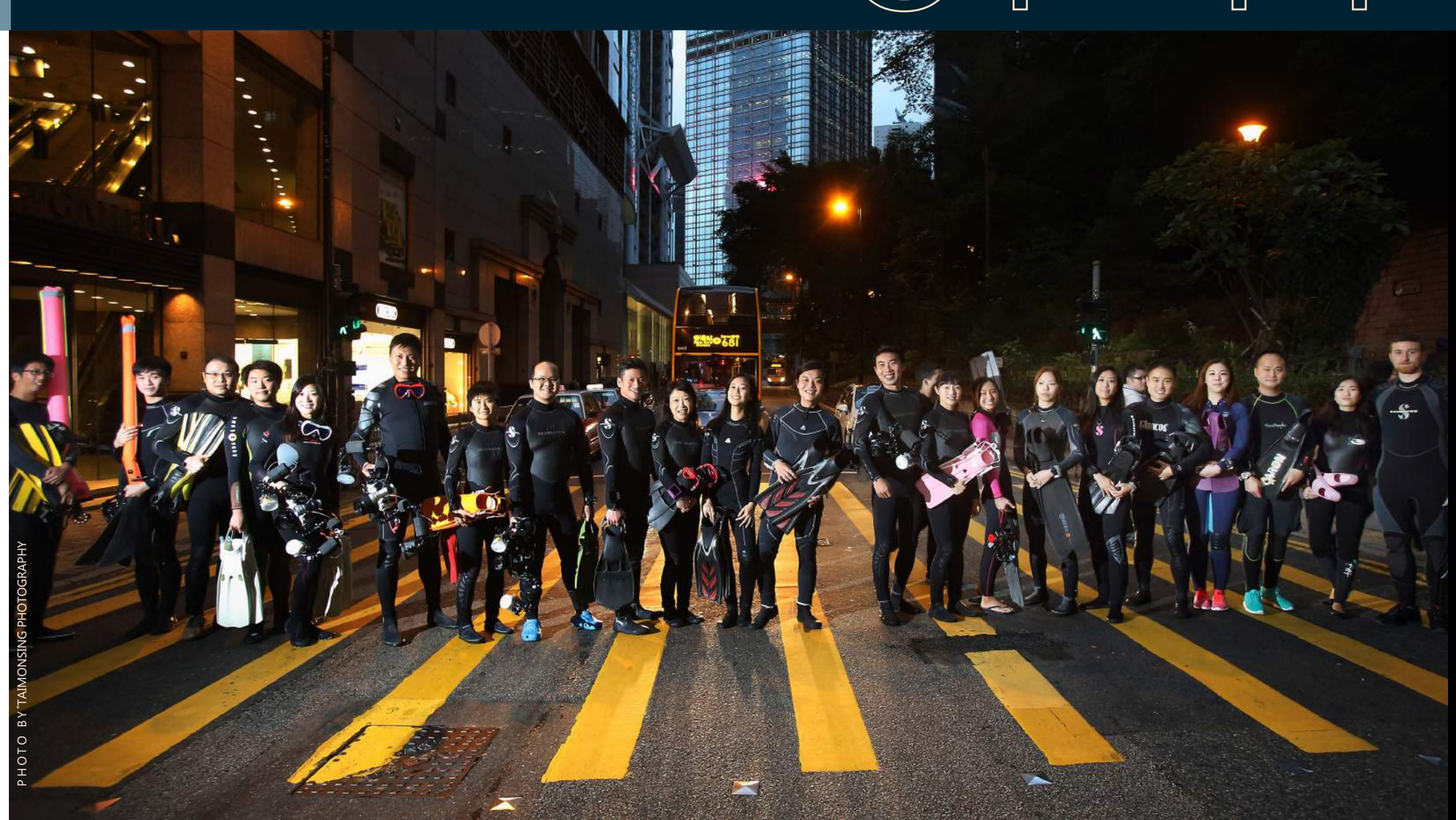


PHOTO BY TAIMONSING PHOTOGRAPHY

The people of the project are the most important element of the 114°E Survey. None of the 114°E Survey's achievements would have come to be without all the people who dedicate their time and skills.

To date, the 114°E Survey has been joined by over 200 volunteers, many of which are recreational divers and members of the general public. Apart from participating in surveys and data collection, many have also shared their skills in underwater photography, fish identiication, scuba-savviness, education, and even graphic design. Through the people, the 114°E Survey has been able to reach dive communities in not only Hong Kong, but also other neighbouring regions, such as Taiwan.

Many individuals from Swire Group's workforce has also joined 114°E Survey dives as volunteers. Special thanks to the Swire dive teams for contributing to the project, learning about both Hong Kong's marine life and the work of the Swire Group Charitable Trust.

“I DIVED WITH 114°E”

Throughout the years, we have completed evaluation exercises with the project’s volunteers to better understand how the project can be improved, and gain insight into what surveyors found most valuable about the 114°E Survey? Here are some of their faces and comments.

What do you like most about the 114°E Survey?

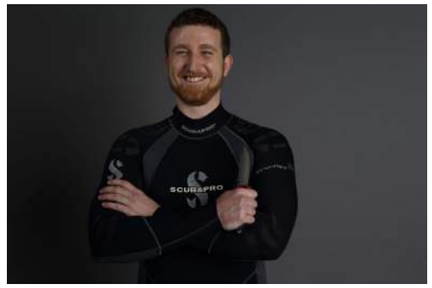
The team spirit. Teamates are from all walks of life but are passionate and serious about each survey. Knowledge exchange between teammates are great too!

Meet with a team of divers wih different background of knoweldge to explore the underwater world of Hong Kong. Inspire my scope of view of fishes.

As divers we love to join this project, as we can contribute in building the database for hong Kong.

Such a significant research and so glad to be part of the team!

Meaningful, as the result can really contribute to Hong Kong biodiversity information. Fun! Makes diving more fun and meaninful apart from just diving; leaning. Can learn a lot about fish identification.



There is still so much to discover.

Without understanding what's in our ocean, we would never know what we are conserving, what we are losing, and our Hong Kong underwater residents.

For future planning of Hong Kong's sustainability in waters - analysis of trends in data to prevent/slow down the negative side effects. Use this information to expose current young generations to care and make sustainability choices.

To allow more layman to understand and the marine life and Hong Kong’s special species. At the same time, it can have a great chance to continue for monitoring the changes of Hong Kong marine life over years. Furthermore, we can explore more survey sites and build up a fishery database with map to indicate the spatial distribution of the concerned sites/ species.

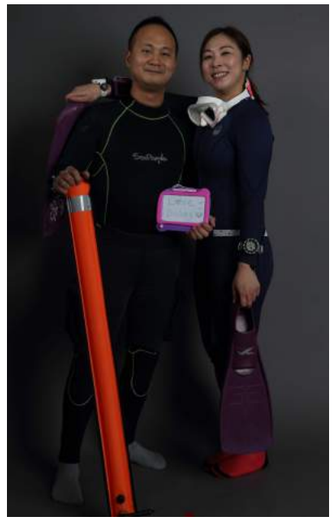
Why do you think the 114°E Survey should continue into the future?

We are still discovering new records, and there are definitely some diving spots that haven't been surveyed.

....the terrestrial part of HK has been explored for decades but a lot wait to be found in the sea.

The project helps people to know the value of Hong Kong water, the unbelievable diversity of species. Then we should know how to make it sustains.

To find out the changes in fish species in related to climate change.



It's important to know the population of fish in our water. So we know whether our conservation effort is working or not.

I think it is important to maintain continuous monitoring for Hong Kong reef fishes, discovering new species, and for volunteer divers to contribute to scientific research.

It is a unique dataset that should be maintained and developed, to ensure that we understand the condition of marine biota around Hong Kong.

Overall it is very great while I'm interested to understand more on the biotaxonomy of the fishes too. It is a fascinating project with lots of amazing divers. Many thanks for the team’s contribution, and also the sponsor parties.

ALL PHOTOS BY TAIMONSING PHOTOGRAPHY

PHOTO BY MARCO CHAN

PHOTO BY ERIC KEUNG PHOTOGRAPHY

OUTREACH CONNECT INSPIRE

One key objective of the project is to connect with people, whether they be volunteers, divers, policy-makers, members of the general public, or other stakeholders of the marine environment. To achieve this, the 114˚E Survey has formed collaborations to complete seminars, media interviews, and public engagemen events, while synergizing with NGOs and working closely with government departments.

Public engagement

Public and dive community engagement were one of the strongest focus of outreach efforts. The project has conducted school talks for students of all ranges from primary schools to universities, as well as seminars that target divers (such as through Dive Resort and Travel Expos) and non-divers (such as through government-hosted public talks).

The project was also featured in several stories across major local media platforms, including Apple Daily, SCMP, Sing Tao, Oriental Daily News and RTHK among others, exceeding expectations.

Collaborations

Opportunities for collaboration are valueable to the project, and the potential of project impacts are actualised when survey findings are meaningfully used.

114˚E Survey data, by request, was shared to NGOs, academics and the Hong Kong government For example, the survey data contributed to WWF-Hong Kong's Marine Ecological Hotspot Map, and the IUCN Red List regional assessments of commercially important grouper species. Photographs were shared to various sources for documentary production and printed publications.

Importantly, the 114˚E Survey strives to maintain a productive relationship with the local government in marine matters. The project regularly updates relevant departments within the government of survey findings, to actively seek out opportunities to collaborate. For instance, data of the most common reef fishes, indicator species and rare species were used in the publication of three volumes of guidebooks, in official partnership with the Agricultural, Fisheries and Conservation Department (AFCD).

In addition, the project takes initiative in sharing data for new species records to Hong Kong with AFCD so that official species records may be updated.

Some collaborations have also allowed the project to be introduced to audiences outside of Hong Kong. In 2019, the National Geographic Society supported 114˚E Survey in an exchange to Taiwan's dive communities to introduce the project methodology and vision, and inspire the attempt of similar citizen science initiatives.

Moving forward, the 114˚E Survey will continue collaborations with the local government, as well as NGOs and academics as a member of the Marine Policy Alliance, to work towards unified goals for Hong Kong's future.

114˚E Web-Portal

15k

users recorded since launch

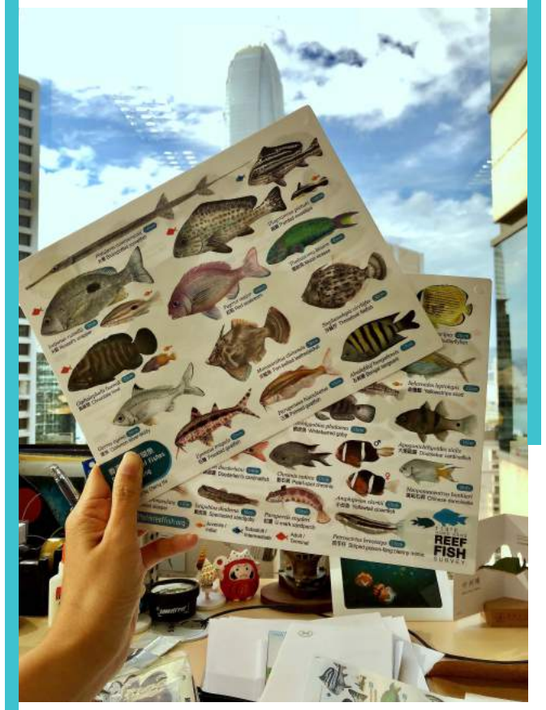
The 114˚E Hong Kong Reef Fish Web-Portal was created as Hong Kong's first publicly accessible online platform documenting reef fish species in a way that targets the general public. The website is bilingual, and includes 380+ reef fish species with profiles containing basic description and biology information, as well as photographs of the species taken from Hong Kong waters.

To encourage user interaction, the 114˚E Web-Portal furthermore offers a function where users can upload their own reef fish photographs to contribute to the database. Since the launch, this function has enabled at least one significant species finding.

Notably, users of the website were recorded to be located in not only Hong Kong, but also from neighbouring regions sharing similar reef fish species, such as Taiwan, Australia and mainland China.

The launch of the 114˚E Web-Portal was reported in over 40 Chinese and English online and print media.

To connect with local recreational divers and bring awareness to the 114˚E Survey initiative, the project created Hong Kong's first underwater fish identification plate featuring the most commonly encountered reef fishes, made possible by the survey data.



114°E MILESTONES & HIGHLIGHTS


PHOTO BY DR ALLEN TO

2016

Launch!

- Discoveries of 4 new species to Hong Kong published in the journal, Marine Biodiversity Records: "New records of four reef fish species for Hong Kong".
- Swire Group staff participates in seminars and 114˚E Survey dives.
- Data contributed to the WWF-Hong Kong Marine Ecological Hotspot Map.
- Introduced in a seminar for the Third Xiamen Symposium on Marine Environmental Science.
- Participation in the Hong Kong Biodiversity Festival.
- Seminar for secondary school students through "Take Action! Youth Biodiversity Conservation Leadership Training Scheme".
- Public seminar held at the Dive, Resort, Travel Expo Hong Kong.

2017

- First underwater fish identification plate created for Hong Kong's most commonly encountered species.
- Two books: "Field Guide to Common Reef Fishes of Hong Kong" and "Field Guide to Indicator Fishes of Hong Kong Reef Check" published in partnership with AFCD.
- 114˚E Survey Marine Researchers join the Hong Kong Register of Marine Species editorial board for fish.
- Interviews with RTHK Radio III and Oriental Daily News.
- Introduced in the government-hosted Marine Parks and Marine Ecological Resources Public Seminar.
- Participation in the Hong Kong Biodiversity Festival.
- Seminar for secondary school students through "Take Action! Youth Biodiversity Conservation Leadership Training Scheme" and at the Discovery College.
- Public seminar held at the Dive, Resort, Travel Expo Hong Kong.

2018

- Discoveries of 15 new species to Hong Kong published in the journal, Marine Biodiversity Records: "Ocean fifteen: new records of reef fish species in Hong Kong".
- Interviews with RTHK, Chinadialogue, SCMP, Ming Pao.
- Seminars held for the South China Diving Club and Natural History Society.
- Public education through the government-hosted Marine Parks and Marine Ecological Resources Public Seminar.
- Seminar for students through "Take Action! Youth Biodiversity Conservation Leadership Training Scheme" & school talks.

2019

- The 114˚E Web-Portal officially launches!
- Officially joined as a member of the Marine Policy Alliance initiated by the Swire Group Charitable Trust.
- "Field Guide to Indicator Fishes of Hong Kong Reef Check II" published in partnership with AFCD.
- Support from National Geographic Society brings the 114˚E Survey team to Taiwan for an exchange with local dive communities.
- Collaboration in "Underwater World of Hong Kong" Special Stamps with Hongkong Post.
- Internal sharing session held with AFCD on 114˚E Survey methodology and objectives.
- Participation in Outdoor Wildlife Learning Hong Kong's Hong Kong Ecology Board Game Ambassador Scheme (secondary school students) as mentor.
- Interviews with RTHK Radio "Climate Watcher" programme, Sunday Ming Pao, Commercial Radio Hong Kong, Sing Tao and Apple Daily.
- Public education through the government-hosted Marine Parks and Marine Ecological Resources Public Seminar and in the AFCD-hosted Hong Kong Marine Classroom webinar.
- Public seminar held at the Dive, Resort, Travel Expo Hong Kong.

2020

Despite affects related to COVID-19, outreach activities were able to continue in the form of webinars.

114°E EVALUATION

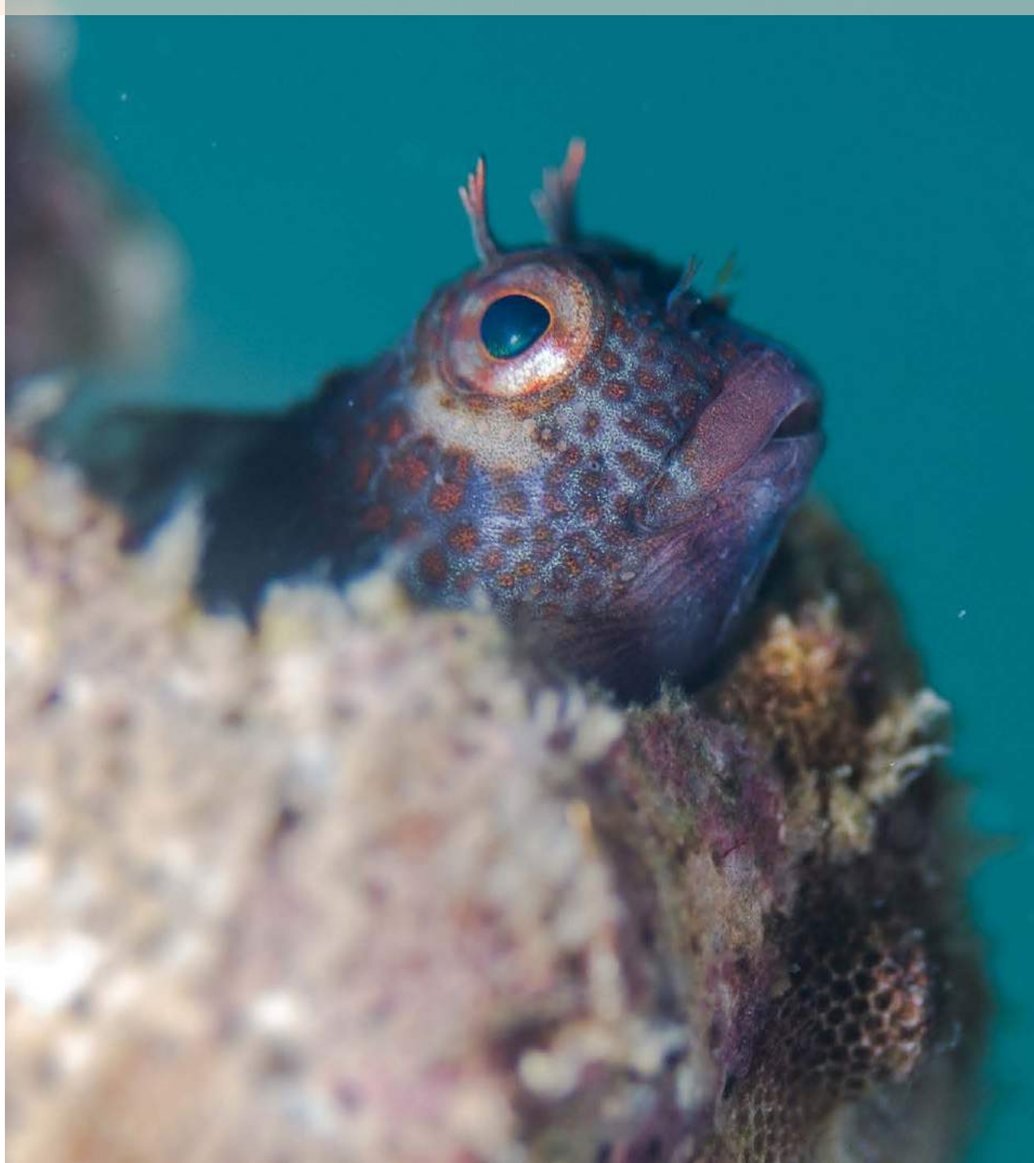


PHOTO BY MARCO CHAN

The 114˚E Survey started as a project to document Hong Kong's reef fish species through underwater surveys, and to connect members of the general public and dive communities to the project through citizen science and education seminars. Indeed, after four years, the project has achieved what was expected, and more.

The original purpose of the project was —

To establish baseline knowledge of Hong Kong reef fish through underwater scientific dives by citizen scientists.

The data collected by 114˚E Surveys has enabled an initial baseline of Hong Kong's reef fish status to be formed, including knowledge on what species reside in Hong Kong waters, which species are the most commonly encountered, which are historically common but rare today, and which areas of water houses exceptional diversity. All of this information was previously unknown or out of date, yet found wanted to inform marine conservation and policy decisions.

The 114˚E Survey volunteer group has grown significantly, and the portion that constitutes returning volunteers (forming the core volunteer group) have excelled in their knowledge of reef fishes and conservation topics related to the marine environment. This outcome is especially valuable in creating impact, as these core volunteers now function as ambassadors in their own dive groups, social circles or workplaces, allowing the conservation message conveyed by the project to reach beyond only people who are already the field of environmental conservation (e.g. marine science students or eNGO staff).

Notably, the 114˚E Survey has facilitated conversations with the local government on marine conservation matters, in particular related to education and policy-making. The process of data sharing with AFCD has allowed the project to understand more about the challenges AFCD faces in moving forward with conservation policies, and their needs where NGOs or project such as the 114˚E Survey may be able to support in fulfilling.

Apart from achievements, the four project years have also uncovered the need for more work to be done, and more resources to be dedicated to enhancing Hong Kong's marine conservation potential. For instance, a tool that was often found in demand but short in supply was video footage. While the project generated many underwater photographs of reef fishes to close the gap for their demand across the South Chna Sea region, it has also on many occasions received requests for videos featuring various species or habitats. In future projects, such footage may become an important output to fulfil widespread demand.

More importantly, as the 114˚E Survey uncovered the incredible species diversity in Hong Kong and the many dive sites with high ecological value (as indicated by high species diversity, rare species count and new species discoveries), the potential for species conservation and marine protection is more apparent now than ever.

The more we know, the more we know we need to protect.

Fortunately, as the project uncovered more and more ways that Hong Kong's marine life must be protected, it has also built capacity for its protection. Project seminars and media interest have enabled the increase of public awareness of Hong Kong's underwater world and the conservation challenges. There is also increased interest in learning about the local marine life, especially among direct users of the marine space (such as recreational divers and snorkelers), as indicated by the high usage of the 114˚E Web-Portal.

This support from the public is synergised with a focus on local marine biodiversity topics in the work of many environmental organisations. Simultaneously, the Hong Kong government has also begun to place a greater interest in the issue, as seen in their hosting of public seminars and exhibitions, resource book publications, marine ecology research (of which findings are not shared publicly) and continued willingness to discuss ways forward with environmental NGOs. Marine fishes are even included in the Hong Kong governments' ongoing regional assessment of endangered species in Hong Kong, which will be an important tool to inform future species-specific policies.

Notably, the Marine Policy Alliance formed by local NGOs and academics and initiated by the Swire Group Charitable Trust has provided an unprecedented platform for exploring and strategising on the future of marine conservation in Hong Kong.

Given this momentum, the 114˚E Survey has developed a plan for the upcoming project years to address the following issue, which has surfaced as a key "next step" for Hong Kong.

Moving Forward: Marine Protected Areas (MPAs)

In the past four years, the project has discovered in Marine Parks new to Hong Kong and rare species, indicating their value as a conservation tool. In the upcoming project years, the 114˚E Survey will communicate more closely with the Hong Kong government's Country and Marine Parks Board and work to address the need for greater areas of Hong Kong's eastern waters to be protected as MPAs. Currently, less than 5% of Hong Kong waters are designated as MPAs, and several of the dive sites found by the 114˚E Survey to have high ecological value do not come under existing MPAs.

In 2020, the Hong Kong government announced plans to update MPA policies to phase out fishing activities in selected MPAs, and to establish one new MPA in western waters. While this indicates will within the government to update their policies, there have been few formal discussions about the eastern waters, where coral areas and reef fishes are abundant and where both recreational and commercial fishing is prevalent.

Working together with the Marine Policy Alliance, the project will strive to initiate conversations with the Marine Park Division and Marine Park Committee to move towards a future for enhancing MPAs in Hong Kong's eastern waters.

In addition, the project will continue to conduct underwater surveys, with goals to achieve a database of at least 10 years of continuous survey data, and reach a plateau for as many dive sites as possible for the cumulative species count, in order to gain a thorough understanding of reef fish diversity and distribution within Hong Kong. There are still many questions to be answered, such as the pervasiveness of invasive and artificial species, and the implications behind the appearance of tropical species in relation to climate change.

To support the work towards establishing more MPAs for Hong Kong's eastern waters, the 114˚E Survey will focus on conducting surveys within and around existing MPAs. Findings of these MPA surveys will provide an initial assessment of the effectiveness of MPAs in ecological conservation at least for reef fishes, which can support positive policy change and is currently found wanted.

A Future for Fantastic Fishes

Historical records and fishermen anecdotes are testament to the prior magnificence of Hong Kong's underwater world. Today, Hong Kong must no longer delay the conservation of what remains in its waters, to ensure a future for the local marine life.

There is still a vast potential for more species to be discovered in Hong Kong waters, and existing literature has predicted at least 500 reef fish species locally. Without a doubt, there is a need for continuous monitoring in order to understand the effectiveness of management and conservation measures.

The 114˚E Survey is honoured to play a part in bringing the beauty of the little-known side of Hong Kong above the waves to its citizens, and will continue to work towards a future where the city will stand together in reversing the depletion of its marine resources.

With the support and commitment of the Hong Kong people, and continued research to inform effective management, the 114˚E Survey looks towards a brighter future for Hong Kong's fantastic fishes and the waters in which they are found.

HONG KONG 114°E

REEF FISH

SURVEY