









CONSTRUCTION OF THE YELLOW-BOHAI SEA SPOTTED SEALS PROTECTED AREA NETWORK

(UNDP/GEF YSLME Phase II Project)

UNDP/GEF/YS/ICC.4/Inf.2

China Biodiversity Conservation and Green Development Foundation "Construction of the Yellow-Bohai Sea Spotted Seals Protected Area Network" Project

Executive Report

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Overall Situation of the Project

From October 15th to December 15th, 2019, under the support and guidance of the United Nations Development Programme (UNDP), GEF Small Grants Programme, United Nations Office for Project Services (UNOPS), Yellow Sea Large Marine Ecosystems Phase II Project Office, The China Biodiversity Conservation and Green Development Foundation (CBCGDF) has organized nearly 20 Community Conservation Areas (CCAfa), including CCAfa for Spotted Seal • Panjin, CCAfa for Relic Gulls • Tianjin, CCAfa for Oriental Stork • Lvshun, CCAfa for Wader Bird • Tangshan, CCAfa for Coastal Wetland • Nanhui, and four spotted seal science popularization centers, which carried out five key works, including the compilation, distribution and publicity of the book "Spotted Seals on the Broken Ice"; short public welfare video clip and broadcast about spotted seal; popular science training of marine knowledge and spotted seal protection; production of promotional materials for spotted seal and operation matrix of new media for spotted seal conservation. In Beijing, Tianjin, Chongqing, Inner Mongolia, Anhui, Zhejiang, Xiangyang, Hubei, Changde, Hebei, Tangshan, Lianyungang, Jiangsu, Dalian, Panjin, Yingkou, Lyshun, Huludao and other 15 cities across the country, a large-scale science popularization publicity and 15 science popularization activities were carried out, with more than 3,000 people attended the activities on site; the cumulative reading volume of Weibo, WeChat and TikTok publicity exceeded 140,000; the broadcasting volume of public welfare video reached 2 million; distribute more than 2,500 "Spotted Seal on the Broken Ice" books (the rest is used for later publicity); customized 2 types of spotted seal toys and distributed to about 4,800 first-line fishermen; distributed 21,000 spotted seal annual calendars (2020).

By carrying out various forms of publicity and education activities for spotted seal conservation, the project guided the public to actively participate in the conservation of spotted seals, strengthened the popular science education of spotted seal in schools, enriched the common sense knowledge of the fishermen, volunteers, students and other members of the public, improved the public's cognitive level of wild marine animals and marine environment protection, and won the consensus of the masses and front-line volunteers Identification. Through the efforts of CBCGDF and its representatives of the network system of Community Conservation Areas (CCAfa), the project task of "Construction of the Yellow-Bohai Sea Spotted Seals Protected Area Network" has been successfully completed, and better publicity and science

popularization results have been achieved. The project executive report is explained from the following six aspects:

1. The Book "Spotted Seal on the Broken Ice"

As the only pinniped marine mammal that can breed in the sea area of China, the spotted seal is the wild animal under the second-class protection in China, which is extremely rare and valuable, and is also the flagship species of the marine ecosystem in the Bohai Sea and the Yellow Sea area. However, since ancient times, there are few popular science and professional books related to spotted seal. Only three monographs can be found in the search of "spotted seal" from the National Library of China, namely, the professional book "Spotted Seal" published by Wang zhemong in 1990, the popular science book "Liaodong Bay Spotted Seal Popular Science Image" published by Tian Jiguang in 2012, and the children's illustrated book "The Appointment Spotted Seal" published by Zhang Songkui in 2016. These three books focus on the basic knowledge of spotted seal, and do not elaborate on the current difficulties of poaching, illegal catching and other practical protection and rescue measures.

1.1 Basic Information of the Book

As an important part of the implementation of "Construction of the Yellow-Bohai Sea Spotted Seals Protected Area Network" Project, the spotted seal project team of CBCGDF divided the book into six major topics, which including: exploring the mystery of the spotted seal, the threat faced by the spotted seal and its solutions, the impact of climate change on the ocean and the spotted seal, the innovation of China's conservation system, the documentary of the volunteer action for the spotted seal conservation, the observation and rescue norms of the spotted seal, objectively expounded the current situation and survival crisis of the spotted seal population, etc. The book objectively expounds the current situation and survival crisis of spotted seal population, and expounds the systematic protection and linkage rescue action of spotted seal under the conservation system based on the extensive participation of people's forces through the introduction of the Chinese conservation area system.



Figure 1: Book Cover and Catalogue

At the same time, the book also includes the observation and rescue knowledge of spotted seal, making it more valuable for scientific guidance. This book fully contains the contributions of volunteers of spotted seal as citizen scientists, and reflects the documentary content of the forefront of spotted seal conservation. In addition, the book also undertakes the important task of educating young people about spot seal conservation. This part of work is displayed through children's spot seal

paintings collected in the book, thus further expanding the audience of the book. In terms of propagandizing, the book fully considers that the spotted seal conservation project is a task requiring international synergy. Therefore, there is a special chapter in the book, which is introduced in English, so as to minimize reading obstacles and expand the influence of the book.



Figure 2: Front and back of the spotted seal bookmarks

At the same time with the book production, the spotted seal project team of CBCGDF also designed and produced a spotted seal theme bookmark. At present, 10,000 bookmarks have been made, and some will be distributed together with the books, and the other will be used as the later propaganda materials for spotted seal conservation project.

1.2 Review and Publication of the Book

The book "Spotted Seal on the Broken Ice" is published in the 35th issue (1,052 in total) of the Journal of Green New Era on December 10th, 2019. The book has 193 pages in total, and 3,000 copies will be published before December 20th. From the first draft compilation to the content review and proofreading, the experts are invited to participate in the guidance and review of each chapter of the book.

Partial Review Comments

1. The abbreviations in brackets in the list of sponsoring units on page IV shall be consistent with the foreword.

- 2. On page 9, the distribution map of spotted seals should be changed to noon, and the reference source should be indicated (P.L. Boveng, et al. 2009).
- 3. In the second section of page 10, the historical data of population number of spotted seal in Liaodong Bay should indicate the source; in the third section, the total area of the reserve is currently 561,975 hectares, and the ice age of Liaodong Bay is generally from the middle of December to the first ten days of March.
- 4. In the content, should use the specific terminology for "fin foot".
- 5. In the part of synchronous investigation in 1.4, one investigation concluded that the population number of spotted seal in Liaodong Bay was less than 1,000 and the population number decreased, which was too arbitrary. Personally, I disagree with this statement.
- 6. On page 22, it is inaccurate to say that there is a lack of gene exchange between the spotted seal in the breeding area of Liaodong Bay and other areas (the statement comes from the Protection Action document, which is actually inaccurate). There should be communication between the breeding areas of Liaodong Bay and Peter Bay, and the simple change can be "the lack of gene exchange between the spotted seal in Liaodong Bay and other areas".
- 7. The contents of 2.4 and 1.4 are repeated.
- 8. In the second paragraph of page 31, the reduction of the conservation area "greatly affects the habitat and breeding of spotted seal", the description is not accurate, and the situation of marine animal conservation area is very complex, so the protection function cannot be evaluated simply by the area size. It is suggested to change to: the scope of each spotted seal conservation area does not cover the critical habitats such as the breeding area of spotted seal, so it is urgent to reasonably determine the scope of protection.
- 9. On page 84, the content about the dead spotted seal can be changed to "suspected to be one of the 37 surviving spotted seal cubs released by Dalian municipal government on May 10, 2019".
- 1. Foreword, preface, catalogue and acknowledgment can be combined into one concise foreword.
- 2. The catalogue and content of the book should be simplified for reference to the book published by a state-level publishing house, such as a science publishing house or a social science publishing house.
- 3. The logical structure of the content in the book needs to be combed and carefully refined.
- 4. Instead of chapter structure, it is better to divide the book into several topics: Topic 1: mysterious spotted seal; Topic 2: threats faced by spotted seal; Topic 3: impacts of climate change on oceans and spotted seal; Topic 4: Innovation of

Chinese spotted seal reserve system; Topic 5: volunteer action record of spotted seal conservation; Topic 6: observation and rescue specifications of spotted seal; Topic 7: CBCGDF and UNDP/GEF/UNOPS/YSLME spotted seal project.

1.3 Promotion of the Book

As of December 20th, CBCGDF has printed 3000 copies of the book "Spotted Seal on the Broken Ice", and have been distributed to 19 Community Conservation Areas (CCAfa), including Panjin, Dalian, Lushun, Baiyangdian, Tangshan, Lianyungang, which covered more than 10 cities across the country. The books are mainly used as reference books for science popularization and training of spotted seal conservation, school education reward materials, and fishermen's reward for rescuing spotted seal.

Number	Community Conservation Areas	Number	Community Conservation Areas
Number	(CCAfa)	Number	(CCAfa)
300	CCA for Smotted Scal & Dolina	100	CCAfa for False Killer Whale
300	CCAfa for Spotted Seal • Dalian	100	 Lianyungang
300	CCAfa for Spotted Seal • Panjin	100	CCAfa for Coastal Wetland •
300	CCATA for Spotted Sear Frangin	100	Nanhui
200	CCAfa for Oriental Stork •	100	CCAfa for Dark and Starry
200	Baiyangdian	100	Sky • Yeludang
200	CCAfa for Libellula Angelina •	100	CCAfa for Great Bustard •
200	Tianjin	100	Tianjin
100	CCA for four Suretted Seed a Levelson	100	CCAfa for Oriental Stork •
100	CCAfa for Spotted Seal • Lvshun		Lvshun
100	CCAfa for Wader Bird • Tangshan	100	CCAfa for Sea Finless Porpoise •
100	CCAIa for wader Bird • Tangshan	100	Dalian
100	CCAfa for Wader Bird • Hulu	100	CCAfa for Black-faced Spoonbill
100	Island		• Zhuanghe
100	CCA for Smottad Scale Vingkou	100	CCAfa for Great Bustard •
100	CCAfa for Spotted Seal • Yingkou	100	Jinzhou
100	CCAfa for Finless Porpoise •	100	CCAfa for Relic Gulls •
100	Yingkou	100	Tianjin
100	CCAfa for Relic Gulls • Tianjin	500	CBCGDF

During the project, the books were distributed directly to about 3,000 people. As to the online distribution, the book will be available to more people, benefit the public and help people learn more about the progress of spotted seal conservation.

1.4 Post Promotion and Updates of the Book

- 1. Strengthen book marketing and change passive publicity into active learning. Due to the time limit of the project, this book distribution mainly adopts to claim on demand. After the directors of each Community Conservation Area take the books, they will distribute them to the students and fishermen who participate in the science popularization activities according to the arrangement of their own conservation area activities. The activity form is still rigid and single. In order to further achieve the expected effect of book publishing, the project team of CBCGDF believes that the next step should be carrying out book review activities, knowledge competition, signature and gift book activities, reader meeting and other forms, so that positively encourage the public to actively understand the book content and participate in point publicity.
- 2. Pay attention to book cover design and content editing. According to rough statistics, about half of now-days book buyers are more concerned about the design and production process of books, and many classic works are often overshadowed by the lack of exquisite design art. Therefore, the importance of cover design cannot be ignored. In order to make sure that the book "The Spotted Seal on the Broken Ice" can stand out in numerous books, the most direct way is to make the cover design the best. The cover design should be exquisite, neither to be carved like embroidery, nor to be too rigid and square. At the same time, the content of books is of great importance. Only works that pursue details can stand the test of time.

2. New Media Publicity: Weibo, WeChat and TikTok

In order to ensure the full and effective dissemination of the spotted seal project and maximize the effect of the project, since the implementation of the project application for 2 months, the spotted seal project team of CBCGDF has registered the spotted seal WeChat public platform, carried out a series of science popular activities on spotted seal conservation, and timely posted of spotted seal related knowledge and articles. At the same time, relevant content also spread in CBCGDF's official WeChat account, Weibo account and TikTok account of the CBCGDF, made full use of the number of people and followers that CBCGDF has accumulated, and further strengthened the communication. The following table is the release of the content publicity about spotted seal on the main new media platform of CBCGDF. According to incomplete statistics, CBCGDF published more than 50 articles related to spotted seal during the project, and the total reading volume reached 140,000 without considering other media (such as articles reprinted by CCTV). Among them, large-scale media, such as WeChat and videos of CBCGDF reprinted by CCTV, reading volume as much as 100,000 single articles. The details are as follows:

Name of New Media	Number of Posts	Subscription/Followers/Rea ding Volume
The Spotted Seal on the Broken Ice Account	32	2,096
ChinaGreenExpress	8	2,000
CBCGDF's Weibo Account	10	59,000
CBCGDF's Tiktok Account	18	51,303
Other media platforms (Incomplete Statistics)	*Numerous	Over 1 million



Figure 3: CCTV, Xinhua News Agency, Liaoning satellite TV and other media reported on the spotted seal "Gousheng", which was wild released by CBCGDF's Community Conservation Area

In addition, the platforms associated with CBCGDF's subscription account, such as Jinri Toutiao, ThePaper.cn, Phoenix News, Baidu, Sohu, and the official website of CBCGDF also carried out synchronous propaganda of the content about spotted seal.

2.1 Analysis of WeChat Public Platform

As the most important media communication platform in recent years, WeChat Public Platform has covered more than 700 million users, most of whom are young people with great vitality and age orientation. According to the follow-up capture of the "Feb 11th • Dalian Spotted Seal Poaching Incident", most of the perpetrators were young and middle-aged people. Therefore, how to educate and promote teenagers and youth to protect the spotted seal is an extremely important key factor.

The WeChat Public Platform of CBCGDF is the official WeChat account of CBCGDF. During the project, a total of 8 articles were published, including an increasing of 212 followers, reading volume of 2,673, and single article reading up to 700.

The articles posted on CBCGDF's WeChat Account	New Followers	Reading Volume
"Spotted seal on the Broken Ice" science popularization activity in kindergarten	46	146
Share with Tian Jiguang of CCAfa for Spotted Seal • Panjin	39	396
A series of activities of the Science Popularization Center of CCAfa for Spotted Seal in Bohai No.1 Primary School of Liaohe Oilfield	22	123
Gather in the "Yellow and Bohai Sea": Community Conservation Area and "Construction of the Yellow-Bohai Sea Spotted Seals Protected Area Network" Project	16	639
Sophia- Promoting China Conservation Area to Go Deep into the International Stage with Outstanding Achievements Launching Event of "Building Spotted Seal Network" Project of the CBCGDF Supported by the UN	16	218
How Cute is Spotted Seals? It's Up to You! The CBCGDF Seeks Doll Design The UN Supports the Project of "Building the Yellow Sea and Bohai Sea Spotted Seal Marine Conservation Area Network"	19	151
The Launching Event of "Building the Yellow Sea and Bohai Sea Spotted Seal Marine Conservation Area Network" Project	20	167
The Book "Spotted Seal on the Broken Ice" will be Soon Published	20	587
Building the Yellow Sea and Bohai Sea Spotted Seal Marine Conservation Area Network	14	246

"Spotted Seal on the Broken Ice" is a WeChat public platform specially designed for the science popularization of spotted seal. During the project, nearly 40 new followers, and the total reading volume was over 20,00. The highest single reading volume was over 400. It mainly focuses on users in Beijing, Liaoning, Inner Mongolia and Chongqing. The main reason for the increase in the number of followers concerned is the active implementation of related science popularization activities.



Figure 4: Trend of New Followers

Figure 5: Trend of cumulative followers



Figure 6: Trend of reading volume of single article

Analysis 1: Although the number of WeChat public platform attention has been increasing, the growth rate was still too small. The 3 most significant growth rates in October 14th, October 17th and November have increased by 6 followers, 7 followers and 5 followers respectively. There is a simple positive correlation between the peak reading volume and the growth of the number of followers concerned. Corresponding to the content of articles published on the same day and the number of forwarding, both are important indicators affecting the growth of the number of concerns.



Figure 7: Article sharing channels

Figure 8: Area Distribution of followers

Analysis 2: from the current chart, it is noticed that the followers of "Spotted Seal on

the Broken Ice" WeChat public platform are mainly distributed in Beijing and Liaoning, and the followers are mainly volunteers, most of them are the directors of CBCGDF's Community Conservation Areas. This data can be seen that the spread of WeChat public platform is also concentrated within the small scope, and has not really played the role of communication.



Figure 9: Updates of "Spotted Seal on the Broken Ice" WeChat public platform (Partial screenshot)

Improvement Measures 1: improve the quality of the article and find the best posting time. The quality of articles is an important factor that affects readers' repeated reading. Making full use of the function of WeChat public platform and publishing corresponding content articles are one of the measures to improve the amount of reading. Secondly, determining the posting time is also an important factor affecting the spreading rate. It is observed that "Spotted Seal on the Broken Ice" WeChat public platform regularly update 5 times a week, but the daily post time fluctuates greatly. Posting time is usually from 18:00 to 24:00 in the evening. According to the data analysis of WeChat public platform, 20:00 to 22:00 every day is the most suitable time for posting. "Spotted Seal on the Broken Ice" WeChat public platform should be adjusted according to the analysis results in the follow-up work.

Improvement measure 2: increase the way of publicity and marketing, not limited to internal communication. During the project period, the spotted seal project team of CBCGDF and Community Conservation Area System successively carried out 15 spotted seal science popularization activities, with a population of 3,000 people. However, the WeChat public platform failed to make full use of the relevant advantages and missed the publicity opportunities. This work should be greatly improved, fully combined with offline activities, in order to do a good job of online publicity. At the same time, making full use of online publicity to truly spread the theme of spotted seal

protection throughout the country.

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2.2 Analysis of Weibo Propaganda

Restricted by the certification, the Weibo communication carried out by CBCGDF mainly focuses on the official Weibo of CBCGDF. During the project, 10 Weibo related to spotted seals were published, with a total reading of 59000, and have a good communication effect. The following chart shows the specific data:

Weibo	Views
Publish popular science books of spotted seal, establish Popular Science Center. several major events to be completed in the project!	9,202
United Nations Supporting – CBCGDF "Construction of the Yellow-Bohai Sea Spotted Seal Protected Area Network" Project Launching Event Held in Panjin, Liaoning	2,942
Event Notice: The Launching Event of "Construction of the Yellow-Bohai Sea Spotted Seal Protected Area Network" Project of the CBCGDF	3,478
The Book "Spotted Seal on the Broken Ice" will be Soon Published	Over 10,000
Yellow-Bohai Sea Spotted Seal Protected Area Network	2,020
How Cute is Spotted Seals? It's Up to You! The CBCGDF Seeks Doll Design The UN Supports the Project of "Building the Yellow Sea and Bohai Sea Spotted Seal Marine Conservation Area Network"	1,827
Sophia- Promoting China Conservation Area to Go Deep into the International Stage with Outstanding Achievements Launching Event of "Building Spotted Seal Network" Project of the CBCGDF Supported by the UN	Over 13,000
Launching of "Construction of the Yellow-Bohai Sea Spotted Seal Protected Area Network" Project	1,747
The First Designed of Spotted Seal toy has been Received	Over 14,000
"The Spotted Seal on the Broken Ice": Popular Science Activities in Kindergartens	2,052

Analysis 1: According to the existing data, Weibo has a better communication effect than WeChat subscription in a short time, and the main indicators show a significant increase on views, with an average of views is 5900. However, it can also be seen from the data that the communication of Weibo is unstable, and the views of interesting articles is significantly higher, which is 5 or 6 times that of general articles.

Analysis 2: the effect of Weibo communication is better. Another reason is that the timeliness of Weibo communication is very high. Unlike the WeChat subscription sent on a daily basis, the publish time of Weibo information is almost synchronous with the occurrence time of events. In the information age, the timeliness of information dissemination is just the life of information value. Whoever can grasp the instant information in the first time can get the initiative. Compared with traditional media, Weibo is obviously low cost, fast and interactive.

Improvement measures: Weibo and WeChat have their own advantages, and they should be used together. WeChat articles should tend to have deep and knowledge-based media, while Weibo should reflect the timeliness of communication, quickly and efficiently publish the hot spot topic of spotted seal and attract the attention of young people.

2.3 Analysis of TikTok Online Short Video Platform

As one of the most popular social software in this era, TikTok mainly focuses on young people's pursuit of fashion, as well as their interests and hobbies, thus developing a platform for short video communication of music, which has become a hot spot that people want to view at any time. Many people think it is a new product after WeChat and Weibo. Since this app mainly involves the release and viewing of short music videos. It is like watching a short film, and it's like the moments of friends, which also establishes its position in the same category of software market.

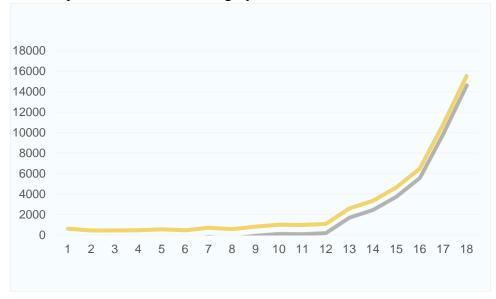


Figure 10: Trend of views of TikTok after setting up the account

In October, CBCGDF officially set up the TikTok account, and began to release the spotted seal videos provided by the volunteers. Affected by the migration time of spotted seal, the video of spotted seal at this stage is limited, mainly focusing on the previous rescue video. Since October, the project team of spotted seal has released 18 videos of spotted seal with the views of 51,303, of which the maximum single video views is 15,525. From the following trend chart, it can be seen that with the use of the app, the video views have an exponential growth, slow growth in the early stage and significant increase in the later stage.

Video Title	Views	Video Title	Views
Lovely Spotted Seal	609	Giving a Salute to the Volunteers and Thanks for Your Help	999
The Way Home for the Spotted Seal - Gousheng	428	Gousheng: I'm Happy to Play with Bubbles Myself	961
The Way Home for the Spotted Seal - Gousheng	437	The Cute Spotted Seal was Fed, the Expert of CBCGDF was at the Aquarium	1,068
The Way Home for the Spotted Seal - Gousheng	455	Dr. Zhou Jinfeng of CBCGDF visited Dalian Shengya Ocean World to Observe the Spotted Seal Cub after that the Poaching of Spotted Seal Happened	2,575
Three Bows When the Spotted Seal "Gousheng" Leaving	544	Dr. Zhou Jinfeng of CBCGDF visited Dalian Shengya Ocean World to Observe the Spotted Seal Cub after that the Poaching of Spotted Seal Happened	3,323
You need have a good life. The spotted seal went home	454	Dr. Zhou Jinfeng of CBCGDF visited Dalian Shengya Ocean World to Observe the Spotted Seal Cub after that the Poaching of Spotted Seal Happened	4,633
The Spotted Seal "Gousheng" is Ready to Take a Bath	705	Dr. Zhou Jinfeng of CBCGDF visited Dalian Shengya Ocean World to Observe the Spotted Seal Cub after that the Poaching of Spotted Seal Happened	6,455
The Spotted seal "Gousheng": I took a bath with the help of the volunteer today. I'm so happy!	555	Dr. Zhou Jinfeng of CBCGDF visited Dalian Shengya Ocean World to Observe the Spotted Seal Cub after that the Poaching of Spotted Seal Happened	10,765
Looking at the Spotted Seal "Gousheng" Rolling Forward	812	The Spotted Seal "Gousheng" went Home.	15,525

Note: the views volume of CBCGDF's TikTok videos

Analysis 1: the users of TikTok short video mainly focus on the young people. These users have superior life, independent thoughts and strong ability to accept new things. At the same time, they are also our target users. According to the analysis of existing data, the authentication time of TikTok of spotted seal is short, but in only two months, the views is very significant, the number of followers has increased from 0 to 952, and those videos have been praised by over 11,000 users. A large number of netizens highly approve of short time and interesting videos. In addition, for the non-coastal population, the spotted seal is a novel species, and it is lovely in appearance, which conforms to the definition of cute of Chinese people. The cute spotted seal in the short video quickly attracts the attention of a large number of people.

Analysis 2: At present, the operation of TikTok of spotted seal is mainly based on title, video and music, but the video content is relatively primary and has not been processed deeply, so there is a great space for improvement in interest.

Analysis 3: the TikTok account of CBCGDF has obvious advantages. Up to now, the short videos of spotted seals published on the account are original. In addition, the spotted seal in the videos are relatively rare. This advantage makes up for the insufficient content innovation in the development of our TikTok community. As an Internet new media community, high-quality content always supports its sustainable development.

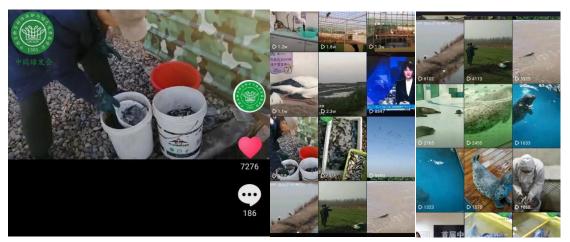


Figure 11: The partial videos of CBCGDF's TikTok

Improvement Measures: "TikTok", as an online short music video community (platform), it uses short video as a form of information communication to connect the audience, uses creative and interesting content to communicate with the audience, and wins the audience's love. In order to achieve long-term development goal and gain more audience value, it is necessary to focus on the content level. Only by continuously

providing more positive, healthy, interesting and interactive content for the audience, can make the audience continue to pay attention to and occupy the user's mind.

Conclusion: the Weibo, WeChat and TikTok of "The Spotted Seal on the Broken Ice" are in the growing period, and the radiation range is limited. However, it is noticed that from the existing data that the new media publicity of the spotted seal has grown very fast. In just two months, it has been able to see the prototype. In addition, those software seem to be the most concentrated platform for young people. Making good use of the media to educate young people, the propaganda of spotted seal will achieve good effects. Therefore, how to use the intelligent social new media to strengthen the relationship between media and followers, build an intelligent social ecosystem with new media content as the core, and improve user stickiness has become a very important exploration direction.

In the next stage, making perfect use of the media resources accumulated in the early stage of CBCGDF to publicize "The Spotted Seal on the Broken Ice" on Weibo and TikTok, strengthen the contact with other media and expand the publicity channels will also be the exploration direction of the new media of "The Spotted Seal on the Broken Ice".

3. Production of Promotional Items for Spotted Seal

In order to make the image of spotted seal more vivid and specific, and through the vivid image to let more people participate in the conservation and rescue operations of this endangered species, with the support of relevant units and institutions, the project team of spotted seal of CBCGDF respectively produced 5,000 spotted seal toy key chains, 20,000 spotted seal calendars, 11,000 spotted seal bookmarks, 10,000 spotted seal stickers, and 2,000 spotted seal badges.

3.1 Spotted Seal Toy and Key Chain

Spotted seal is very sensitive, they live in the sea and ice floes, occasionally on the coast, and have a certain distance from human life. Therefore, to do a better job in the publicity, protection and science popularization of spotted seal, we need to further close the distance between spotted seal and the public. In this regard, the working team of spotted seal of CBCGDF invited designers to carry out anthropomorphic design of spotted seal, and to design and produce toy with two facial expressions (cute version and energetic version).

In the producing process, practical considerations are added to determine the size of 10cm long, 5cm wide and 6cm high, which has the following characteristics and functions:



Figure 12 The above are 2 types of toy design drawings, interior bag pattern and toy design concept respectively

- 1. It can be used as the bag, car interior and other accessories, as well as a key chain, table and other trinkets;
- 2. It is convenient to carry and can be used as interactive props and small prizes in the science popularization activities of spotted seal;
- 3. The stuffing inside the toy key chain can be expanded into a portable storage bag, which can help reduce the use of plastic bags in daily life;
- 4. The toy label and the outside of the bag are printed with the project logo, which plays a good image in communication.

Finally, the project team and the expert team of CBCGDF screened the six

products submitted, and selected two representative toys, which were the representative toys of young and adult of the spotted seal. After the investment and price comparison, the two products were respectively produced 2,500.

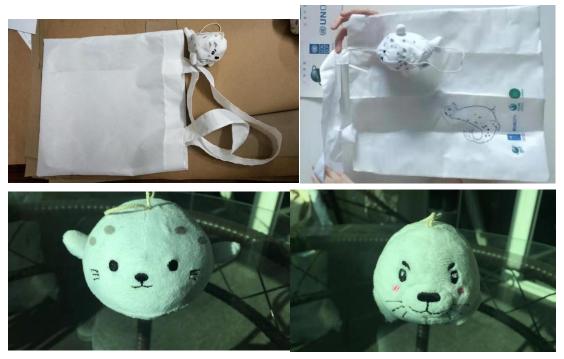


Figure 13 The actual picture of the spotted seal toy (key chain)

The distribution of the spotted seal toy is made by applying for the distribution. The director of the Community Conservation Area (CCAfa) will receive the toy as required by evaluating the number of fishermen in the conservation area. At present, of the total 5,000 toys, in addition to the 1,000 lefts by CBCGDF for later promotion, the remaining 4,000 were sent to 19 Community Conservation Areas (CCAfa).

3.2 Spotted Seal Badge, Sticker and Bookmark

In order to create teenager's awareness of ecological and environmental protection and atmosphere of popular science activities, cultivate young people's learning and interest in natural knowledge, and widely improve their awareness of popular science, ecological environment and animal protection. After the suggestions of the spotted seal work team and the expert guidance group of CBCGDF, we finally decided to make several promotional items specifically for young students. Firstly, the spotted seal badge is easy to carry and has commemorative value; Secondly, for kindergarten, grade one primary school and other young children, we specially made stickers to avoid accidental stabbing; Thirdly, according to the fact that teenagers are generally studying in schools and bookmarks are the commonly used items, the work team has customized the bookmarks of spotted seal to support the book "Spotted Seal on the Broken Ice", so as to further expand the publicity of spotted seal conservation.

Promotional Items	Badge	Sticker	Bookmark
Amount	3,000	10,000	11,000



Figure 14 The actual picture and design draft of badge and sticker

3.3 Publicity Effect and Improvement Measures

Spotted seal toys: toys are children's close playmates, accompany them to grow up together, bring them a lot of warm childhood memories. We have observed that there are many different types of toys in the homes of relatives, friends and colleagues. For children in schools along the Yellow Sea and the Bohai Sea region, spotted seal is the name they hear very often. However, due to the sharp decline in the number of spotted seal in recent years, there are very few children who actually see spotted seal. The spotted seal toys are lovely and useful, which can effectively make up for children's regret that they have never seen spotted seal. At the same time, the toys can inspire children's protection awareness of spotted seal.

At the same time, in order to further encourage children to protect the environment and love nature, spotted seal toys are equipped with inside storage bags. When going out for shopping or related activities, people can reuse them effectively, avoid wasting resources, so that let children learn to protect nature from daily life practices.

Badges, stickers and bookmarks: as for small spotted seal items, the advantages of badges, stickers and bookmarks are easy to carry, and the exquisite small gifts are of great collection value.

Publicity effect: 24,000 small gifts and 4,000 toys were distributed to more than 10 schools in China, including Binhai Primary School and No.1 Primary School of Huabei Oilfield. At the same time, the students learned more about the conservation of spotted seal. From the simple consultation in the later period of distribution, the children and students generally prefer the spotted seal toys.

Improvement Measures: Firstly, the publicity items should be more targeted. One of the main difficulties faced by spotted seal in China is illegal poaching. According to the investigation, most of the suspects in the "2.11 Poaching Incident" are young

fishermen. How to carry out targeted publicity work and prepare publicity items for young fishermen is the next improvement direction. In addition, teenagers are also one of the main targets of publicity. It is also one of the important measures to protect the spotted seal from poaching. Secondly, publicity items should be environmentally friendly and sustainable. The crystal super soft fabric used in the toy customized in this project meets the requirements of international environmental protection standards. However, in the long term, the recycling of the fabric is low, and choosing more environmentally friendly publicity materials will be the next step and target.

4. Science Popularization Activities of Spotted Seal

CBCGDF has carried out 15 publicity and science popularization activities of spotted seal in 6 cities and counties for 3 months, with more than 2,900 people participating in the related training. Among them, there are more than 40 children, more than 2,600 primary and secondary school students, more than 260 college students and volunteers. Primary and secondary school students accounted for 89.6% of the total number, of which the proportion of popular science in Changxing Island fishermen's primary school was 72.4%. In addition, about 2,000 copies of science popularization materials were distributed. The details of the popular science are as follows:

4.1 Basic Information of Science Popularization Activities

"CCAfa for Spotted Seal • Panjin", "CCAfa for Spotted Seal • Dalian", "CCAfa for Oriental stork • Baiyangdian", "CCAfa for Libellula Angelina • Tianjin" and 4 of their science popularization center has carried out scientific popularization around the basic situation of the spotted seal, the practical difficulties of the spotted seal, the reasons for protecting the spotted seal, and the specific actions needed to protect the spotted seal.





Figure 15 Pictures of the science popular activities about spotted seal

No.	Name of Activity	Time	Location	Number of Participants (Students, Faculties)
1	Protect Spotted Seal, Let's Act Together	Oct 14 th , 2019	Liaohe River Oil Field Bohai No.1 Elementary School	95
2	Endangered Species of Spotted Seal Popular Science Class	Oct 22 nd , 2019	Beijing Yucai School	50
3	Protect Spotted Seal, Let's Act Together	Oct 24th, 2019	Binhai Elementary School	100
4	Popular Science Activity about Spotted Seal Conservation	Nov 3 rd , 2019	"CBCGDF's Green Great" in Inner Mongolia	40 (on the spot), 200 (remote volunteers)
5	Publicity Activities of Spotted Seal Science Popularization Center in CCAfa	Nov 13 th , 2019	Dalian Changxing Island Secondary Vocational and Technical School	400
6	Publicity Activities of Spotted Seal Science Popularization Center in CCAfa	Nov 13 th , 2019	Dalian Changxing Island High School	1,200
7	"Spotted Seal on the Broken Ice" Science Popular Activity	Nov 20th, 2019	Huabei Oil Field Organ Primary School	50
8	"Be the Guardian of the Life on Earth • Spotted Seal on the Broken Ice" Science Popular Activity	Nov 22 nd , 2019	North China Oil Field Youjian Elementary School	70
9	Recognizing the Spotted Seal in Liaohekou	Nov 26 th , 2019	Golden Apple Kindergarten	40
10	Green Great • Guangdong Universities Public Welfare Organization Exchange Meeting	Nov 26 th , 2019	Guangzhou After Graduating from the Public Library	60 (volunteers)
11	Lecture on Protection Knowledge of Spotted Seal	Nov 29 th , 2019	Xianyuwan Central Primary School	300
12	"Spotted Seal on the Broken Ice" Science Popular Activity	Nov 29 th , 2019	Wafangdian Honghe Hope Primary School	200

13	Publicity Activities of Spotted Seal Science Popularization Center in CCAfa	Nov 29 th , 2019	Wafangdian Tuoshanxiang Elementary School	70
14	"Spotted Seal on the Broken Ice" Story- telling Activity	Dec 1 st , 2019	Renqiu Library	40 (Parents & Kids)
15	Youth Volunteer Class for Spotted Seal Conservation	Dec 3 rd , 2019	Xinglong Middle School	90
Total				2,900





Figure 16 Pictures of the science popular activities about spotted seal

4.2 Summary of Advantages and Disadvantages of Science Popularization Activities

1. Advantages

(1) The science popularization activities in this project have the characteristics of "taking the Yellow Sea and the Bohai Sea as the main areas and carrying out at the same time all over the country". This science popularization activity is not limited to four teams awarded the "China Science Popularization Center for Spotted Seal", but

also carried out by 20 CCAfa teams around the Yellow Sea and the Bohai Sea, as well as CBCGDF's "Green Great Students" and "Green Children Bases" nationwide. The scope of activities has been extended to the whole country, forming into a network coverage benefit.

- (2) Popular science activities have entered the primary school of fishing village, which is the area that related to the real poaching incidents. After the incident of poaching of spotted seal in Dalian on February 11th, the reporter interviewed the local fishermen about the illegal poaching in recent years. The fishermen said that every year, during the spawning season of spotted seal in Bohai Bay, some fishermen drove their own fishing boats to kill the spotted seal, and one time of poaching the spotted seal could earn about 300,000 to 500,000 CNY. In the early years, they only wanted male spotted seal. In recent years, the number of spotted seal has decreased, and fishermen are not satisfied with the profits brought by male spotted seal. Now, no matter male or female spotted seal, they can sell at a good price. In this context, the expert guidance group of CBCGDF said that to let popular science activities enter into fishing villages, educate fishermen's children, and block the possibility of future poaching from the source. Therefore, in 15 science popularization activities, there are 6 in total, and about 2,100 fishermen and children have received the knowledge of endangered animal protection.
- (3) The content theory of science popularization is combined with practice and experience. The science popularization training content in this project mainly focuses on the status quo faced by spotted seal, and also introduces the differences and similarities of posters, sea lions, seals and other species in detail, so that children can not only understand the basic situation of the spotted seal, but also know its conservation direction. The teacher insisted on the combination of theory and practice, and gave a detailed explanation on the illegal poaching of spotted seal and the exhibition of aquarium in a systematic, comprehensive and systematic way, from basic knowledge to protection measures, from daily actions to advocacy initiatives. At the same time, they also use a large number of cases to illustrate that through comparative analysis, not only vivid and humorous, but also in a very simple and grounded way, the physiological structure of the spotted seal is easy to understand and remember. The classroom teaching is vivid and lively, which arouses the children's enthusiasm for learning, so that they can ask questions on their own initiative. In response to the questions, the teachers answered questions patiently one by one. The children have said that such science popularization activities are lively and interesting, they feel that they have gained a lot, and they are willing to be advocates of spotted seal conservation in the future.
- (4) The form of popular science has added painting activities, which made young students have more interests on spotted seal. 15 popular science activities are divided into two popular science methods: one is the form of lectures, the other is the form of painting and propaganda. According to the age of the students, teachers choose the

specific way of science popularization. Young students are more inclined to paint activity. They understood the physiological structure of spotted seal in the painting, which also aroused their interest in spotted seal. According to teachers' feedback, students who have participated in painting activities can tell the difference between spotted seal and fur seal when they saw the fur seal on TV. The effect of science popularization was very significant. In the process of painting, the students tried their best to practiced and asked numerous questions until they mastered the details of spotted seal.

2. Disadvantages

- (1) Some Community Conservation Areas (CCAfa) are lack of professional knowledge of spotted seal. In this series of science popularization activities for spotted seal, we found that due to the lack of professional knowledge of spotted seal, some of the conservation areas were mainly engaged in the protection of other species, which made it difficult for them to play independently and freely in the actual science popularization activities about spotted seal, so that they can only carry out consistent science popularization propaganda according to the initial training template. In a short time, this kind of propaganda has little influence. In the long run, however, the enthusiasm of participants will decline. Therefore, in the future's science popularization activities, we need to conduct regular training and communication for all teachers who carry out science popularization activities, so as to ensure that teachers know the latest situation of spotted seal.
- (2) The form of activity is limited, lacking the outdoor practice. During the implementation of the project, CBCGDF's spotted seal work team carried out 15 activities on the basis of Science Popularization Center and "Green Great and Green Teenager Bases", which exceeding the target. However, the form of project activities is limited, mainly including popular science lectures, painting activities, and drama rehearsal, lacking diversity of activities. In particular, there is a lack of actual activities linked with spotted seal, such as beach garbage collection, fishing village related activities and other types of activities. Excellent practical activities can arouse students' and more people's sense of identity to the content. In the later stage, CBCGDF will organize the directors of Community Conservation Areas (CCAfa) to further discuss the diversity of activity forms, seriously mobilize and organize volunteers of CCAfa to go deep into fishing villages, rural areas and young people, and carry out science popularization activities in various forms such as exhibition, consultation and knowledge competition, etc.

4.3 Later improvement

Through the detailed organizing plan, CBCGDF's spotted seal work team and nearly 20 volunteer teams of Community Conservation Areas (CCAfa) have formed a positive situation of responding up and down, and the whole people are engaged in

science popularization activities together. In response to the actual needs of spotted seal conservation, various popular science activities have been organized in different CCAfa, which have been welcomed by the masses, especially the students, effectively expanded the impact of a series of popular science activities of "Protect Spotted Seal, Let's Act Together", and achieved great social benefits. In the whole process of deployment, planning and development of the activity, the publicity offensive of spotted seal conservation has been strengthened, the content of the activity has been enriched, the form of the activity has been innovated, the popularization of "scientific popularization, let's participate together" has been further strengthened, and the students have been guided to establish the correct concept of natural protection and participate in the construction of ecological civilization and harmonious society.

However, there are still some deficiencies in our work to some extent. The main target of the science popularization activity was students, and we did not strive for more masses participation. In particular, more participation of fishermen in science popularization activities should be considered in the future work, since they will help us fully understand the importance of science popularization of spotted seal and further strengthen the determination of relevant work. At the same time, we should fully combine the science popularization work of spotted seal with the daily work carried out in the Community Conservation Areas (CCAfa), have actions and publicity, give full play to the advantages of modern remote education, and expand the social influence of science popularization activities.

5. Public Video Production and Promotion

Public video is an important channel to advance the publicity of wildlife conservation. The Spotted Seal Conservation Working Group of China Biodiversity Conservation and Green Development Foundation (CBCGDF) produces three two-minute videos based on the first-hand records of spotted seal conservation offered by volunteers and professionals. The first version of public video introduces the CBCGDF Spotted Seal Girl, with the support from five CCAfa sites, helped the rescued seal "Gousheng" back to the wild this March. Since it was posed online, the video has been broadcasted by over ten major media including CCTV, China National Radio and Global Times. The video reposted by CCTV official Weibo account has been viewed over 3,000,000 times and displayed over 1,000,000 times. It is estimated that the public film has spread among at least 5,000,000 audience. The second version of public film specializing on the illegal poaching event in Dalian was posted on CBCGDF official platforms as well as displayed at the 4th Meeting of the Interim Commission Council (ICC-4) of the UNDP/GEF YSLME Phase II Project which was held in Jeju, South

Korea. The third version is enriched with science popularization on Community Conservation Area and basic knowledge of spotted seal, and it is available at two Chinese video giants, Tencent Video and iQiyi.

In order to make full use of internet and to increase the audience for the public video, the experts of the CBCGDF's spotted seal work team revised the preliminary promotion mode (public video display on LED walls of 6,000 buildings in Beijing, frequency/four times one day; duration/one week). According to the experts, the publicity campaign of spotted seal conservation should be advanced around China rather than restricted to downtown Beijing. It would be more effective to give out deliverables like calendar to fishermen who live in the coastal area along the Yellow Sea and the Bohai Sea for wide advertising. Accordingly, after weighing up the shortcoming of LED video wall display, the final promotion mode mainly based on calendar delivering and online video advertising was adopted.

5.1 Public Video Production

Public video has the merit in conveying information directly and touching people by visual description. Beginning with the news that baby spotted seal being poached, the video gives an introduction of spotted seal's current living situation. The lovely creature requires much more attention and protection. Any minor rescue operation, small donation or even a picture depicted by children is telling the loving kindness to spotted seal. The sun will rise, but we don't know whether the delightful creature could enjoy the warm sunshine as always. We are in the action and call for joint effort to safeguard the sustainable future for spotted seal.



Figure 17 Partial subscriptions for the second and the third versions of the public video

5.2 Calendar Promotion

Over 100 baby spotted seal were stolen from a breeding zone on Changxing Island, Wafangdian city this February, which instantly aroused strong attention home and abroad. Governmental agencies at all levels have strengthened measures to protect spotted seal. With the incentive to broaden the effective communication channel and promote the awareness about wildlife conservation, the work team designed single-page calendar printed with the adorable image of wild spotted seal after soliciting suggestions from experts. All the customized calendars were given out to local fisher-folk families who share the habitat with spotted seal. During the process of distributing calendars, CBCGDF volunteers also spread spotted seal conservation knowledge to local community face to face for mainstreaming relevant protection regulation and law. In terms of publicity effect, calendar exceeds video because it could be wildly used and reached as a daily necessity.

About 20,000 pieces of calendars (1,000 pieces were kept by the CBCGDF's work team) were distributed at over ten fishing villages scattered in Liaoning province and Guangzhou city, such as Guanghui Village in Tuanshan county, Gaizhou city, and Luogang community in Guangzhou, Xiaoheishi Village in Dalian city, the village at Huping Island. It is roughly estimated that 20,000 indigenous people received education and sharing on spotted seal conservation during the process.





Figure 18 volunteers are giving out calendars

5.3 Public Video Promotion Outcome/Effect

The first public interest promotion video <Good Luck! Spotted Seal "Gousheng" Went Back Home> shot by CBCGDF's spotted seal work team tells a series of rescue and training work to help spotted seal "Gousheng" go back to the wild conducted by Community Conservation Area (CCAfa) for waterfowl at Tangshan under the guidance of animal behavior experts of CBCGDF. The one-minute video has received wide attention and forwarded by multiple media platforms such as CCTV, China National Radio (CNR) and Liaoning TV, view counts exceeding 5,000,000. This can be treated as a successful promotion case for spotted seal protection.



Figure 19 Screenshots of CCTV and other media posted the spotted seal's video

6. Summary and Development Prospect

6.1 Deficiency

Firstly, the implementation of early programme is poor, and some projects are not implementable. Secondly, the implementation phase of the project happens to be the period when the spotted seal was migrated, which causing some works such as synchronous investigation and maritime patrol cannot be carried out. Thirdly, Community Conservation Area (CCAfa) actively participated in every work, but still lacked more professional knowledge of spotted seal education, which needs to be improved during the training process of CCAfa's directors. Fourthly, the implementation period of the project is short, and some works has not been optimized. Fifthly, there are differences in the design and implementation of the project, for instance, due to the poor communication effect of 6,000 office buildings, they are finally replaced by offline promotion of the calendar.

6.2 Experience and Enlightenment

Firstly, in view of spotted seal conservation is facing those issues, experts need to do a thematic research in advance and come up with a project plan that is in line with the actual situation, so as to carry out science popularization activities, publicity and promotion. Secondly, we should make full use of the existing Community Conservation Area (CCAfa) system of CBCGDF, give full play to the advantages of local volunteers, and establish a nationwide science popularization network system for spotted seal. Thirdly, to increase the basic investigation work of spotted seals, especially the investigation on the influence of human activities on the survival and habitat of spotted seal. Fourthly, make full use of network channels, strengthen online publicity and awareness education, and make short-term face to face popular science become long term education. Fifthly, strengthen the communication with relevant departments, assist to establish spotted seal rescue center, cultivate the rescue ability of volunteers, and improve the survival rate of spotted seal and other marine mammals. Sixthly, we will keep promoting the upgrading of spotted seal from the second level of the state to the first level protection. Seventhly, make full use of the volunteer system of CBCGDF to build a dynamic monitoring system covering the main habitats of spotted seal.

6.3 Development Prospect

This project is strongly supported by the United Nations Development Programme (UNDP), GEF Small Grants Programme, United Nations Office for Project Services

(UNOPS), Yellow Sea Large Marine Ecosystems Phase II Project Office, and it is also a positive start for cooperation projects with CBCGDF. CBCGDF looks forward to more extensive, sustainable and stable cooperation with GEF, and the establishment of international cooperation and exchange projects for environmental protection brand. In the future, projects with more diversified forms and richer contents can be carried out. For example, jointly hold seminars on environmental protection, wild animal and plant conservation, etc. We believe that through the joint efforts and our cooperation, we can build an efficient communication platform of environmental protection, green development and play a positive role in the common development of international environmental protection career.

Appendix 1: Electronic book of Spotted Seals on the Broken Ice

Appendix 2: Public welfare publicity video of Spotted Seal "Gousheng" Went Back Home

Appendix 3: Third edition of public welfare publicity video of spotted seal

China Biodiversity Conservation and Green Development Foundation December 13th, 2019