

NATIONAL SPECIES ACTION PLAN FOR THE CONSERVATION OF SPOON-BILLED SANDPIPER (*CALIDRIS PYGMAEA*) IN MYANMAR

January 2017 – December 2020



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Produced by Biodiversity and Nature Conservation Association
(BANCA)

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This plan is based on outputs of a National Spoon-billed Sandpiper workshop, held on 17th January 2017 in Mawlamyine, Mon State, Myanmar.

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Abbreviations and acronyms

BANCA	Biodiversity and Nature Conservation Association
BECAR	Biodiversity and Environmental Conservation Association (Rakhine)
BNHS	Bombay Natural History Society
CEPA	Communication, education and public awareness
CLCMGOMP	Community-led Coastal Management in the Gulf of Mottama Project
DLN	Directory of Local NGOs in Myanmar
DOF	Department of Fisheries
EAAFP	East Asian-Australasian Flyway Partnership
ECD	Environmental Conservation Department
FD	Forest Department
FFI	Fauna & Flora International
GAD	General Administration Department
ICFC	International Conservation Fund for Canada
INGO	International non-governmental organization
IUCN	International Union for the Conservation of Nature
KNU	Karen National Union
LCG	Local conservation group
MFF	Mangroves for the Future
MFA	Myanmar Forest Association
MOLAI	Ministry of Livestock , Agriculture and Irrigation
MONREC	Ministry of Natural Resources and Environmental Conservation
MSAM	Marine Science Association Myanmar
NBSAP	National Biodiversity Strategic Action Plan
NGO	Non-governmental organization
NWCD	Nature and Wildlife Conservation Division
SLRD	Settlement and Land Record Department
RSPB	Royal Society for the Protection of Birds
SBS	Spoon-billed Sandpiper
SBS TF	Spoon-billed Sandpiper Task Force
SDC	Swiss Agency for Development and Cooperation
VDC	Village Development Committee
WCS	Wildlife Conservation Society
WWF	World Wildlife Fund

1. Foreword

Mon State Government is very proud to host this national Spoon-billed Sandpiper Conservation Action Plan meeting in Myanmar with participation of other coastal regions of Myanmar as well as with officials from the Forest Department in Naypyidaw.

The migrating bird species Spoon-billed Sandpiper (SBS) is Critically Endangered and will be extinct if no conservation actions take place in the near future. At least 50% of the Spoon-billed Sandpiper population is estimated to winter in Myanmar's Gulf of Mottama which shows its geographical and biodiversity uniqueness and importance.

Fortunately, the Gulf of Mottama is now an East Asian-Australasian Flyway (EAAF) Partnership site in Myanmar. Additionally the Government of the Mon State, which administers a part of the Gulf of Mottama, formed in 2016 a State Wetland Management Committee for management of this future Ramsar site. At the Union level, a National Wetlands Committee chaired by MONREC was also established in 2016. However the Spoon-billed Sandpiper conservation does not only concern the Mon State Government and the Gulf of Mottama but also other coastal regions of Myanmar where migrating shorebirds need to be protected. The Mon State government would also like to encourage other coastal regions, especially the Rakhine, the Ayeyarwaddy and the Tanintharyi Regions, to designate additional East Asian-Australasian Flyway Partnership sites and important wetlands as Ramsar sites.

Mon State Government is very hopeful that this national species action plan will help to improve the status of the Spoon-billed Sandpiper population. This will be accomplished by raising public awareness, providing alternative livelihoods for hunters, activating further monitoring and research and implementing laws as well as establishing National Protected Areas or internationally important Ramsar sites. These nationwide efforts will help to ensure the survival of this species in the long term.



Dr. Min Kyi Win

Minister

Ministry of Natural Resources and Environmental Conservation (MONREC)

Mon State

2. Executive summary

The Spoon-billed Sandpiper (*Calidris pygmaea*) is a long distance migrant, breeding in Russia and annually migrating more than 8,000 km to winter in South and South-east Asia, with approximately half of the global population understood to winter in Myanmar. This species is classified as globally Critically Endangered on the IUCN Red List of Threatened Species. That is the highest category of extinction threat for any species still present in the wild. In 2010, it was assessed that at the current rate of population decline this species could become extinct within a decade.

The main threats to the Spoon-billed Sandpiper were identified as taking place on the non-breeding grounds. In Myanmar the following four main threats were identified; hunting (the most severe and urgent threat), lack of formal protection of coastal sites, inadvertent by-catch from fishing and potentially, in the long-term, loss of habitat through unsustainable coastal development and inappropriate mangrove forest restoration on mudflats. While these threats remain, actions to protect this species in Myanmar have been on-going since 2008, particularly by identifying hunters through socio-economic surveys and providing them with support for alternative livelihoods, raising awareness of the Spoon-billed Sandpiper, establishing local conservation groups (LCGs) and taking steps to establish a Ramsar site in the Gulf of Mottama

This national species conservation action plan is a further development of the 2008 International Spoon-billed Sandpiper Conservation Action Plan and the previous National Spoon-billed Sandpiper Conservation Action plan for 2014-2016. It outlines a series of actions to take place between January 2017 and December 2020 to protect the Spoon-billed Sandpiper in Myanmar and support international efforts to save this species from extinction.

The following objectives of the action plan comprise actions in all four wintering grounds of the Spoon-billed Sandpiper in Myanmar which were identified in the previous national action plan. Those wintering grounds are the Gulf of Mottama, Nan Thar Island, the Ayeyarwaddy Delta and the Myeik mangroves and mudflats. For each objective corresponding actions, responsible actors and a timeline were agreed during the national Spoon-billed Sandpiper action plan meeting in January 2017.

The objectives of this National Spoon-billed Sandpiper Conservation Action Plan for 2017-2020 are as follows:

Objective 1: Ensure the protection of all wintering sites in Myanmar as National Protected Areas or international Ramsar Sites, especially Gulf of Mottama, Nan Thar Island, Ayeyarwaddy Delta and the Myeik Mangrove and Mudflats.

Objective 2: The Spoon-billed Sandpiper Task Force supports the national partner BANCA in implementing necessary conservation actions and regular monitoring and research at the wintering sites.

Objective 3: Support BANCA and other NGOs in mitigating the hunting pressure on the Spoon-billed Sandpiper at all four wintering sites.

3. Introduction

The Spoon-Billed Sandpiper (*Calidris pygmaea*) is categorised as Critically Endangered on the IUCN Red List of Threatened Species (Birdlife International 2016). In 2010, it was assessed that the global population of this species was declining by 26% per year, with a global population estimate of approximately 100 pairs (Zockler et al. 2010). Conservation actions since then, especially in Myanmar and the breeding grounds, have reduced the rate of decline and the population may have stabilised. Nevertheless, the population remains precariously low and conservation actions need to be maintained throughout its range and in some places increased. There still remain important gaps in knowledge of this species, especially identifying more of the important breeding, passage and wintering sites, but Myanmar and in particular the Gulf of Mottama continues to be considered the most important country and site respectively for wintering Spoon-billed Sandpipers (Zockler et al. 2016).

The Spoon-billed Sandpiper is a long distance migrant, breeding on the coastal tundra of far eastern Russia, and migrating 8,000 km south along the East-Asian Australasian Flyway, including key staging posts in the Yellow Sea. The species winters on inter-tidal mudflats in South and South-east Asia, particularly Myanmar, China and Bangladesh. The demographic driver of the recent population decline appears to be extremely low juvenile survival with few birds recruited back into the breeding population. Young birds generally do not return to the breeding grounds until the second year. The major cause of juvenile mortality is believed to be trapping and hunting, primarily on the wintering grounds, and notably in Myanmar, China and Bangladesh.

Conservation actions in Myanmar and Bangladesh have substantially reduced, although not yet eliminated, the threat from hunting particularly through public awareness raising in local communities and supporting ex-hunters with alternatives livelihoods. On the breeding grounds in Russia, head starting has increased the survival rate of chicks, with 130 juveniles successfully head started and migrating since 2011. Shorebird hunting and loss of intertidal mudflat habitat to development projects continue to be the main threats to this species throughout the flyway.

During the period of the previous National Spoon-billed Sandpiper Conservation Action Plan (2014-2016) a management plan of the proposed Ramsar site in the Gulf of Mottama was prepared and consultations on its expansion to Bago and Yangon Regions were held. Community-based natural resource management was supported and supervised in this area including forming and training local conservation groups (LCGs), the construction of fresh water ponds and support for alternative livelihoods. Furthermore communication, education, participation and awareness (CEPA) actions took place. In addition, consultations on Nan Thar Island to be established as a Ramsar site were held.

Annual monitoring of the Spoon-billed Sandpiper in the Gulf of Mottama and on Nan Thar Island is conducted. Surveys have been carried out in the Tanintharyi region, the Ayeyarwaddy Delta, the Southern Gulf of Mottama (Mon State) and in Rakhine State to identify other important wintering sites of the species, where further conservation actions are needed. A map of all sites where the Spoon-billed Sandpiper has been recorded in Myanmar is shown below.

In order to fill knowledge gaps identified in the previous action plan, research has been conducted on benthos fauna and its relation to the feeding behaviour of the Spoon-billed Sandpiper and estuarine use, mud flat dynamics, mangrove plantation and its impact on shore birds, and on the potential impact of climate change on coastal areas.

A chronological list of the main actions taken for conservation of the Spoon-billed Sandpiper in Myanmar since 2008 is given in Annex 1.

This action plan builds on the 2008 International Spoon-billed Sandpiper Conservation Action Plan and the previous National Spoon-billed Sandpiper Conservation Action Plan for 2014-2016. It is a result of a stakeholder consultation which culminated in a national workshop for conservation of the Spoon-billed Sandpiper in Myanmar held on 17 January 2017 in Mawlamyine, Mon State (See Annex 2 for list of participants). This action plan also supports Myanmar's commitments to the following international conventions and agreements:

- Convention on Biological Diversity (and in doing so the National Biodiversity Strategy and Action Plan)
- Ramsar Convention on Wetlands of International Importance
- East Asian-Australasian Flyway Partnership

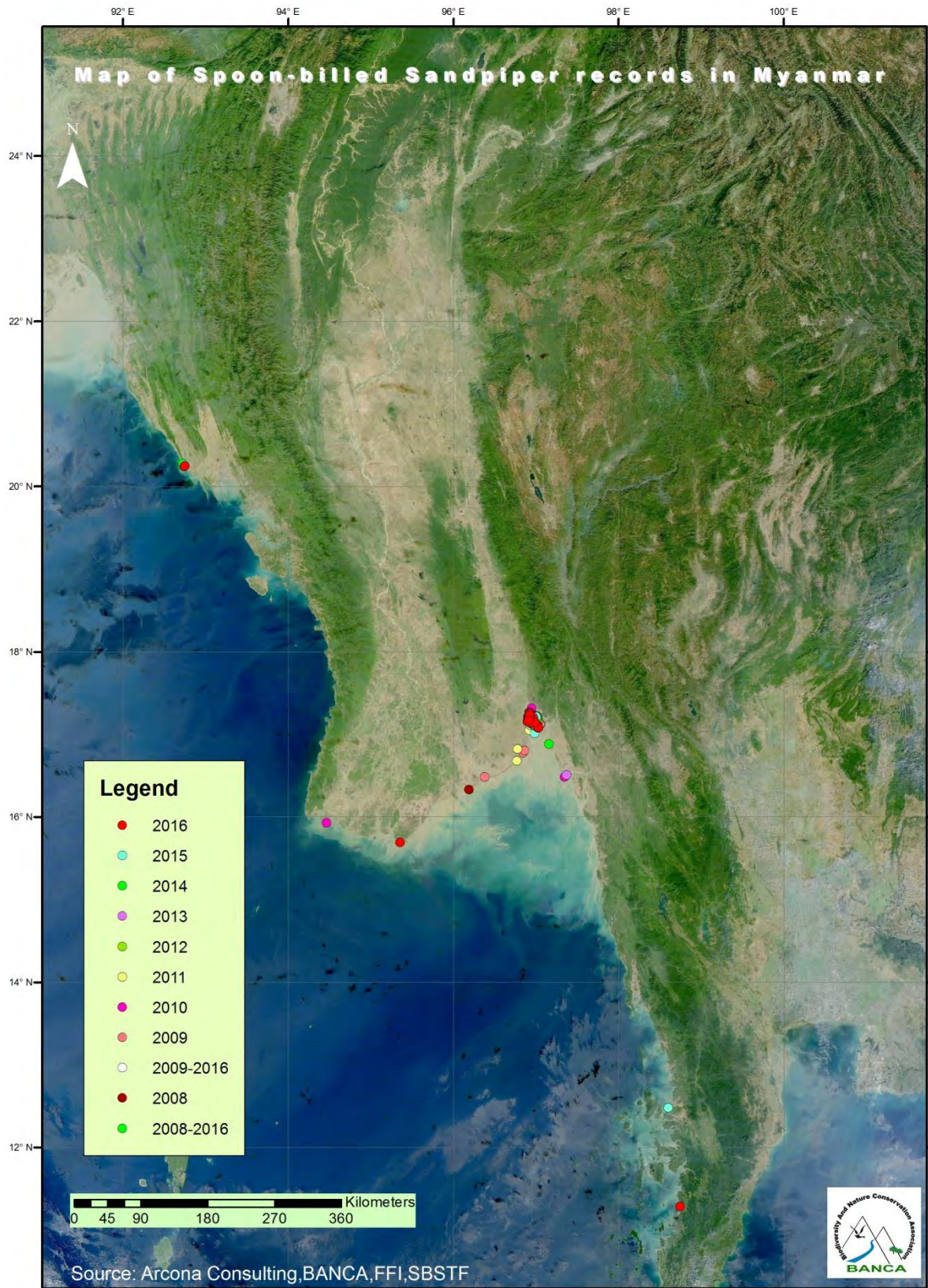


Figure 1: Map of Spoon-billed Sandpiper records in Myanmar

4. Key threats to the Spoon-billed Sandpiper in Myanmar

Five high priority threats were identified that require urgent action during the life-time of this action plan:

1. **Hunting remains the key threat to the Spoon-billed Sandpiper** that needs urgent action to reduce the impact on the world population. Although conservation actions since 2009 have led to a sharp drop in hunting, a small level of hunting could have a very serious impact on the small Spoon-billed Sandpiper population.
2. **Lack of legal protection at key Spoon-billed Sandpiper sites.** Only the key site of Meinmahla Island and its outer islands is recognized as a Ramsar site and part of the Gulf of Mottama is proposed to become a Ramsar Site. Coastal development linked to the expected rapid economic growth in the next few years should not be under-estimated. Ensuring key sites are identified, protected and developed in an environmentally sensitive way is a high priority.
3. **The potential loss of important inter-tidal mudflats** due to inappropriate mangrove plantation could be detrimental to shorebirds, including Spoon-billed Sandpiper. There are currently plans to stabilise coastlines in Bago Region and in Thahton township of the eastern Gulf of Mottama with mangrove plantations.
4. **Illegal fishing by using nets left in-situ** could lead to unintentional by-catch of shorebirds, including Spoon-billed Sandpiper.
5. **Illegal sand extraction on Nan Thar Island** could lead to major changes in the morphology of the island and its habitats.

Additional lower priority threats include development of aquaculture, mangrove deforestation and subsequent changes in hydrology sediments and nutrients, indirect effects of intensification of agriculture, upstream developments, such as hydro-electric power, pollution from upstream industries and weak environmental legislation and enforcement

Other issues that need addressing are the lack of a national red list identifying national species of high conservation priority, including Spoon-billed Sandpiper, and weak collaboration between key stakeholders needs addressing at the site and national levels.

5. Key knowledge gaps

Four key knowledge gaps were identified for which research and monitoring needs to be progressed during the life-time of this action plan:

1. Within intertidal mudflats there is a need for a better understanding of how Spoon-billed Sandpipers utilise the wider estuary area. This will help focus site protection (particularly boundary demarcation and internal zoning) and hunting mitigation work.
2. Greater understanding of the occurrence of Spoon-billed Sandpiper in Myanmar.

Departure dates are poorly understood, and it is not clear if first-year birds overwinter in Myanmar or elsewhere on the flyway. This information is key to enable appropriate conservation measures.

3. What is the medium and long-term sustainability of alternative livelihoods work, and is community-led coastal zone conservation an appropriate approach in Myanmar?
4. Lower priority knowledge gaps that need addressing include a greater understanding of feeding behaviour and habitat use, the potential threat of loss of mudflat habitat in the Gulf of Mottama from mangrove planting, and the implications of mangrove destruction on Spoon-billed Sandpiper habitats. Future implications of climate change at priority sites are also largely unknown. These gaps are low priority during the life-time of this species action plan.

6. Aim and objectives of this Species Action Plan

The aim of this Spoon-billed Sandpiper Action Plan for Myanmar is to contribute to the international conservation effort to prevent the global extinction of this species. This will be achieved through ensuring the protection of the main wintering grounds as National Protected Areas or internationally important Ramsar Sites, as well as implementing necessary conservation actions and regular monitoring and research, alternative livelihoods supports and awareness rising to tackle the key threat of hunting.

This action plan has three main objectives and targets the four known wintering areas.

Objective 1: Ensure the protection of all wintering sites in Myanmar as National Protected Areas or international Ramsar Sites, especially the Gulf of Mottama, Nan Thar Island, Ayeyarwaddy Delta and the Myeik Mangrove and mudflats.

A Ramsar site is an international designation for wetlands recognised as being of international importance, which are managed to protect important wetland values through wise-use of natural resources by local stakeholders. It is essential that all sites and habitats, including high tide roost sites of the Spoon-billed Sandpiper are sufficiently protected and engage local communities in supporting that protection. Ramsar sites are therefore an appropriate means to protect habitat of the Spoon-billed Sandpiper.

In the **Gulf of Mottama** important water bird habitats include areas in Mon State as well as Yangon and Bago regions. Progress towards establishment of the Ramsar Site is more advanced in Mon State, where the two townships of Kyaito and Bilin are about to be established, therefore a phased approach is recommended. Consultations with local stakeholders and informed research will need to continue so that remaining important townships of Mon State and areas in Bago and Yangon regions are added later on. The final Ramsar site will need to include parts of Mon State and the other two regions and a coordination mechanism for managing the whole area will need to be identified.

On **Nan Thar Island** important areas for wintering Spoon-billed Sandpipers need to be demarcated to establish internal and external boundary delineation appropriate to maintain

critical habitat. A socio-economic survey has to be undertaken to identify alternative livelihoods may be required for local communities. Furthermore awareness raising activities need to be conducted among the local communities and consultations to establish the Ramsar site. Further studies of nesting sea turtles can enhance biodiversity knowledge of the site and strengthen the case for its protection.

In the **Ayeyarwaddy Delta** the main Spoon-billed Sandpiper site at Meinmahla Wildlife Sanctuary is now protected as a Ramsar site, but a management structure that involves all stakeholders still needs to be established and a management plan developed. Two sites in the west (Phoe Htaung Chaing and Phone Taw Pyae) need to be surveyed more extensively in order to understand the importance of these sites and if they fulfill the Ramsar criteria.

In the **Tanintharyi division**, three priority sites have been identified already as wintering grounds for Spoon-billed Sandpiper. Priority site I is west and north of Bokepyin, priority site II is situated on Kan Maw Island and Sah Kan Thit Island and priority site III lies within Thit Yar Wa Beach and Tanissarim estuary. In some of the sites, fisheries are active. Priority sites I and II hold healthy mangroves. Surveys were conducted in 2013 and 2016 and have shown that some of the sites are not only important for Spoon-billed Sandpiper but also for other globally threatened shore birds.

A Regional Wetlands Management committee should be established in 2017. At the same time local awareness raising and education is needed for the local communities to point out the benefits of a Ramsar site and the international and national significance of the Spoon-billed Sandpiper. Further detailed regular surveys should be conducted at all sites to establish an internal and external boundary delineation which is appropriate to maintain critical species habitat. After the consultation with the local community the proposal for the Ramsar site will be submitted by the end of the period of this action plan.

Objective 2: The Spoon-billed Sandpiper Task Force supports the national partner BANCA in implementing necessary conservation actions, regular monitoring and research at the wintering sites.

On all wintering sites law enforcement is needed to guarantee the necessary protection in accordance with the Wildlife Law, the Environmental law, the Forest law, the Landscape Planning Law as well as the Fisheries Law and the Pesticide Law. Enforcement should be conducted in collaboration with governmental authorities, e.g. the Forest Department, the Fisheries Department or the Land Registration Department and Administrative Department and NGOs.

At the **Gulf of Mottama** monthly shorebird surveys should be carried out from October to April. Furthermore the Forest Department will carry out patrolling with the help of community leaders and village development committee members in collaboration with local conservation groups.

Additional CEPA activities for local communities using sign boards and other media are needed. Capacity building training should be conducted to inform them of laws, regulations and

sustainable management of natural resources and keen local conservation group leaders can be empowered for conservation work. Local conservation groups as well as bird watching groups should be formed in Bago regions, especially near important wintering sites.

On **Nan Thar Island** collaboration with State governmental authorities should be pursued. Permission and support from the State government is needed to carry out conservation actions as well as monitoring and research. A conservation committee should be established comprising local NGOs, the State government and universities.

Community empowerment and capacity building should be supported in the form of environmental education and awareness raising with the focus on conservation issues, laws and alternative livelihoods. This can be conducted by signboards, pamphlets and other media for communication and entertainment. Local conservation groups should be formed and regular patrolling is needed.

In the **Ayeyarwaddy Delta** monthly shorebird surveys should be conducted between October to April in order to identify shorebird high tide roosts and important mudflats. Moreover, an assessment of anthropogenic threats on shorebirds should be conducted. These surveys and the assessment can be carried out by BANCA, FFI and trained university staff. A meeting with local authorities is necessary to get permission for the surveys. After seven months there should be a wrap up meeting followed by annual meetings. Awareness raising and community empowerment are important in that area, especially in the four villages which are located around the priority sites of Thame Hla Island, Phoe Htaung Chaing and Phone Daw Pyae.

In the **Myeik mangrove and mudflats**, shorebird surveys should be conducted between 2017 and 2020 by the Forest Department, the Myeik University or FFI and BANCA. A Wetlands Management Committee for Ramsar site designation should be formed under the responsibility of the Forest Department and the local governor. Local communities should be included in decision-making. Therefore environmental education and awareness raising should be provided by FFI, BANCA and the Myeik University to enhance capacity building and the forming of local conservation groups.

Objective 3: Support BANCA in mitigating the hunting pressure on the Spoon-billed Sandpiper at all four wintering sites

To mitigate the hunting pressure at the **Gulf of Mottama** enforcement measures by governmental institutions to uphold the national Wildlife Law are essential. Furthermore education and awareness raising among the local communities is important to enhance the understanding of the importance of wetland and species conservation. The Forest Department, the Department of Fisheries, Environmental Conservation Department, NGOs, universities and the media should collaborate in this issue.

The provision of alternative livelihoods to support ex-bird hunters is also crucial. Therefore, help should be provided to facilitate getting loans or micro credits to promote business and employment opportunities, which are in-line with sustainable use of natural resources and support conservation of shorebirds. Furthermore a bird watching centre could be established in

order to promote the Gulf of Mottama as an ecotourism site. Biannual monitoring of the ex-poachers should be conducted and further support provided if needed.

On **Nan Thar Island** not only hunting of shorebirds is a threat to conservation but also sand mining, over fishing and illegal fishing and the collection of sea turtle eggs. Therefore law enforcement needs to be strengthened, through regular patrolling (including establishing patrol base camps) and community engagement.

Environmental education and awareness raising in the local communities will have additional effects on the mitigation of the hunting pressure. Local community groups need to be formed to implement conservation actions. Additionally, the development of community-based ecotourism is needed in this area, which has some potential to attract foreign as well as local tourists. To support this development bird identification training as well as language training should be provided to locals by students or dropouts. Ecotourism can also provide alternative livelihoods to ex-hunters. A livelihood assessment (current and potential) should be conducted in this area and other forms of alternative livelihoods need to be supported.

Improved communication between the government and the community is also essential. This can be achieved by a short and long term management plan concerning the cooperation with communities but also by local media engagement, improved transportation, transparency between government, NGOs and community as well as by education in form of talks or exhibitions.

In the **Ayeyarwaddy Delta** it is assumed that there are only few hunters. However an assessment of hunting needs to be conducted. Alternative livelihood support should be provided, perhaps through provision of mini grants. Bird trapping has been identified as a threat to most sites and has been addressed by the Marine Turtle Protection Team of the Fishery Department. However, after its leading person has been moved to another place in the delta the future of the hunting mitigation measures and its monitoring is in jeopardy and requires a new commitment.

Furthermore environmental education and awareness raising in the local communities are essential to mitigate hunting and positive impacts of a Ramsar site need to be pointed out.

A consultation meeting should take place involving all stakeholders to promote awareness raising and cooperation. Township level meetings or workshops have to be conducted regularly to improve the relationship between local community groups and the local government. A monthly assessment is needed along with a group meeting in order to understand the impact of the conservation actions.

In the **Myeik mangrove and mudflats** the hunting pressure on the Spoon-billed Sandpiper is comparatively low. Most people in this area are fishermen and the demand for wild birds is low. However a detailed assessment is needed in order to confirm this as well as a threat monitoring survey. The threat of mangrove deforestation on mudflat needs to be assessed and is potentially quite serious.

Environmental education and awareness raising in local communities is essential to mitigate the hunting pressure as well as the support of alternative livelihoods. Regular patrols and surveys

have to be conducted by LCGs or the government. Township level meetings or workshops have to be conducted regularly to improve the relationship between LCGs and the local government.

7. Summary of conservation actions

In summary, the objectives of this action plan will be achieved by implementing all or some of the following general actions at the four main priority areas:

1. Establishing Ramsar sites and protected areas and setting up wetland committees to protect priority sites.
2. Shorebird surveys, monitoring and research (including on benthic fauna) to fill knowledge gaps and monitor progress.
3. Strengthening law enforcement and establishing and supporting patrolling.
4. Communication, education and participation and awareness (CEPA).
5. Establishing and building capacity of local conservation groups (LCGs) (including bird watching groups).
6. Addressing local livelihoods through conducting threat and socio-economic assessments, micro-grants, ecotourism and other forms of livelihood support.
7. Local stakeholder engagement (including stakeholder workshops, improving communications between local authorities and local communities).
8. National coordination of this action plan by BANCA supported by national and international partners and reporting to the national government.

8. Framework for action

Table 1: *Gulf of Mottama*

Key Actions	Priority	Time	Main partners	Funding
1. Establishing and expanding the Ramsar Site				
1a.1 Establishment of a Ramsar site in Mon State, starting at Kyaito and Bilin and expanding to Thaton and Paung	High	2017	Forest Department (FD), Fisheries Department (DOF), Ministry of Agriculture and Irrigation (MOAI), General Administration Department (GAD), Settlement and Land Record Department (SLRD), Environmental Conservation Department (ECD), NGOs/ INGOs, Civil Societies (CSO)	Swiss Agency for Development and Cooperation (SDC)
1a.2 Establishment of a Ramsar site in Bago region	High	2017	FD, DOF, MOAI, GAD, SLRD, ECD, NGOs/ INGOs, CSO	As part of Phase 1, CLCMGoMP will support CEPA in Bago Region (SDC)
1a.3 Establishment of a Ramsar site in Yangon region	Medium	2018-2020	FD, DOF, MOAI, GAD, SLRD, ECD, NGOs/ INGOs, CSO	Subject to the planning and funding of CLCMGoMP Phase 2
1a.4 Further research in order to identify priority areas	Medium	2017-2020	NGOs/ INGOs (BANCA)	

2. Shorebird surveys, monitoring and research				
2a.1 Monthly survey of shorebirds from October to April	High	2017-2020	BANCA, LCGs	SDC, State Wetland Committee, Private Sector
2a.2 Benthos research	High	2017-2020	BANCA, IUCN, Mawlamyine University	SDC, State Wetland Committee, Private Sector
3. Strengthening law enforcement and patrolling				
3a.1 Patrolling during winter season	High	2017-2020	FD, DOF, BANCA, LCGs	SDC, State and Regional Wetland Committee, Private Sector
3a.2 Law enforcement in Mon State	High	2017	FD, Regional Government and Departments	SDC, State Wetland Committee, Private Sector
3a.3 Law enforcement in Bago Region	High	2017	FD, Regional Government and Departments	SDC, Regional Wetland Committee, Private Sector
3a.4 Law enforcement in Yangon Region	Medium	2018-2020	FD, Regional Government and Departments	SDC, Regional Wetland Committee, Private Sector
4. Communication, education and participation and awareness (CEPA)				
4a.1 Erecting signboards in Mon State	High	2017	CLCMGOMP partners, Wetlands Management Committee	SDC, State Wetland Committee, Private Sector
4a.2 Erecting signboards in Bago Region	High	2017	CLCMGOMP partners	SDC
4a.3 Erecting signboards in Yangon Region	Medium	2018	CLCMGOMP partners	SDC
4a.4 Environmental education and awareness raising (CEPA)	High/ Medium	2017-2020	BANCA, Wetlands Management Committee, VDCs, FD, DOF, ECD, NGOs/ INGOs, Universities, Media	SDC, State and Regional Wetland Committee, Private Sector
5. Establishing and building capacity of local conservation groups				
5a.1 Empowerment of keen local leaders for conservation	High	2017-2020	BANCA	SDC, State and Regional Wetland Committee, Private Sector
5a.2 Forming of bird watching groups in different regions especially at important sites	High	2017-2020	BANCA, Local Communities, other NGOs	SDC, State and Regional Wetland Committee, Private

				Sector
5a.3 Capacity building training on conservation in Mon State	High	2017	BANCA, IUCN, LCGs, Wetlands Management Committee	SDC, State Wetland Committee, Private Sector
5a.4 Capacity building training on conservation in Bago Region	High	2017	BANCA, IUCN, LCGs, Wetlands Management Committee	SDC, Regional Wetland Committee, Private Sector
5a.5 Capacity building training on conservation in Yangon Region	Medium	2018-2020	BANCA, IUCN, LCGs, Wetlands Management Committee	SDC, Regional Wetland Committee, Private Sector
6. Addressing local livelihoods				
6a.1 Continued provision of alternative livelihood. Support to category I and II bird hunters	High	2017-2018	BANCA, IUCN, Helvetas	SDC
6a.2 Biannual monitoring of ex-hunters / review/ support if necessary	Medium	2018-2020	BANCA, IUCN, Helvetas	SDC
6a.3 Establishment of a bird watching centre to promote ecotourism and other business options	Low	2019	BANCA, LCGs	Funding required
6a.4 Facilitate getting loans or micro credit	Medium	2018	BANCA, Helvetas	SDC
6a.5 Promotion of private businesses, employment opportunities and marketing	Low	2020	BANCA, Helvetas	SDC

Table 2: Nan Thar Island, Rakhine State

Key Actions	Priority	Time	Main partners	Funding
1. Establishing Ramsar Sites and protected areas				
1b.1 Demarcation of important areas for Ramsar sites or protected areas	Medium	2018-2020	FD, DOF, LRD, ECD, GAD, Local Communities, BANCA and BECAR	Funding required
1b.2 Forming of a Wetlands Management Committee	High	2017	FD, DOF, Departments, University, with technical support of INGOs/ NGO	Funding required
2. Shorebird surveys, monitoring and research				
2b.1 Research and monitoring	High	2017	Focal Departments: FD, DOF, GAD, SLRD, ECD, Local Communities, Institutions: NGOs (BANCA, BECAR), Universities (Sittwe)	Disney Conservation Fund (through RSPB), International Conservation Fund for Canada (ICFC), WWF-HK
2b.2 Survey and research	High	2017-2020	BECAR, BANCA, FD	ICFC, Disney (RSPB)
3. Strengthening law enforcement and patrolling				
3b.1 Law enforcement	High	2017-2020	FD, DOF, NGO/ INGO	Funding required
3b.2 Patrolling to monitor for shorebird hunting and sea turtle egg collection	High	2017-2020	BECAR, LCGs, FD Local Government, NGO/ INGO	ICFC, Disney (RSPB), further funding required
3b.3 Base camp established for patrolling	High	2017	Local Government, NGO/ INGO	ICFC
4. Communication, education and participation and awareness (CEPA)				
4b.1 Environmental education and awareness raising (erecting signboards, distribution of pamphlets, communication website/ entertainment) CEPA programme	High	2017-2020	BANCA, BECAR, FD, LCGs	ICFC, WWF, Disney (RSPB), further funding required

5. Establishing and building capacity of local conservation groups				
5b.1 Forming local conservation group	High	2017-2018	BANCA, BECAR, LCGs	Disney (RSPB)
5b.2 Capacity building and maintaining local conservation group 5b.3 Bird watching training 5b.4 Language training	High	2017-2020	BECAR, BANCA, LCGs	Disney (RSPB), ICFC, further funding required
6. Addressing local livelihoods				
6b.1 Community based ecotourism	High	2017-2020	BANCA, BECAR, LCGs, Local Government	ICFC
6b.2 Livelihood assessment (current and potential)	High	2017-2018	BANCA,BECAR	ICFC
6b.3 Support alternative livelihood	Medium	2018-2020	BANCA,BECAR	ICFC, further funding required
7. Local stakeholder engagement				
7b.1 Local level Consultation meeting/ Advocacy	High	2017-2020	Local Communities, NGOs, Universities, Focal Departments	ICFC (Partial funding)
District level consultation	Medium	2018-2020	BANCA, Focal Departments	ICFC (Partial funding)
State level consultation	Medium	2018-2020	BANCA, Focal Departments	ICFC (Partial funding)
Union level consultation	Medium	2018-2020	BANCA, Focal Departments	ICFC (Partial funding)
7b.2 Community engagement	High	2017-2018	Local Government, NGO/ INGO	ICFC
7b.3 Improved and transparent communication between government and community 7b.3.1 Media engagement 7b.3.2 Short/ long term management plan cooperation with communities	Medium	2018-2020	BANCA, BECAR, INGOs, Local Government	Funding required

Table 3: Ayeyarwaddy Delta

Key Actions	Priority	Time	Main partners	Funding
1. Establishing Ramsar Sites and protected areas				
1c.1 Establishment of a Ramsar site in Thame Hla Island	High	2017	FD, MOAI, Local Communities, NGOs	Flora Fauna International (FFI), Directory of local Non-Government Organisations in Myanmar (DLN)
1c.2 Establishment of a Ramsar site in Phoe Htaung Chaing	Medium	2018	FD, MOAI, Local Communities, NGOs	FFI, DLN
1c.3 Establishment of a Ramsar site in Phone DawPyae	Low	2019	FD, MOAI, Local Communities, NGOs	FFI, DLN
1c.4 Forming a Wetlands Management Committee and annual meeting	High	2017-2020	BANCA, Navy, Patheingyi University, FD, FFI, DOF	FFI, DLN
2. Shorebird surveys, monitoring and research				
2c.1 Monitoring in all three sites	High	2017-2020	FFI, FD, BANCA	FFI, DLN
2c.2 Monthly survey of shorebirds from (October to April)	High	2017-2020	BANCA, FFI and Universities	FFI, DLN
2c.3 Assessment of anthropogenic threats on shorebirds	High	2017-2020	BANCA, FFI and Universities	FFI, DLN
2c.4 Forming of working groups				Funding required
2c.4.1 Monthly assessment on impact of conservation actions	High	2017-2020	BANCA, FFI, FD, DOF	
3. Strengthening law enforcement and patrolling				
3c.1 Law enforcement	High	2017-2020	Local Government, FD, DOF, FFI	Funding required

4. Communication, education and participation and awareness (CEPA)				
4c.1 Environmental education, awareness raising, community empowerment (especially in four villages around the priority area)	High	2017-2020	BANCA, FFI	FFI, DLN
4c.2 Forming of working groups on 3c.2.1 Environmental education and awareness raising	High	2017-2020	BANCA, FFI, FD, DOF	Funding required
5. Addressing local livelihoods				
5c.1 Forming of working groups 3c.2.2 Alternative livelihoods and minigrants	High	2017-2020	BANCA, FFI, FD, DOF	Funding required
5c.2 Assessments on hunters	High	2017	FFI, BANCA, DoF	Funding required
6. Local stakeholder engagement				
6c.1 Meeting with the local authorities	High	2017-2020	Local Government, FD, DOF, Navy, BANCA	FFI, DLN
6c.2 Township level meetings or workshops	Medium	2018-2019	FFI, BANCA , LCGs and Local Government	Funding required

Table 4: *Myeik Mangrove and Mudflats*

(Priority site I: West + north of Bokeyyin; Priority site II: Kan Maw Island Sah Kan Thit; Priority site III: Thit Yar Wa Beach and Tenessarim estuary)

Key Actions	Priority	Time	Main partners	Funding
1. Establishing Ramsar Sites and protected areas				
1d.1 Establishment of a Regional Wetlands committee to submit the proposed Ramsar sites	High	2017	Ministry of natural resources and environmental conservation (MONREC, Tenessarim), DOF, Karen National Unit (KNU), FFI , CSOs, INGOs, NGOs, Regional government, local village heads and villagers, Myeik University, local religious leaders, navy	FFI, Mangroves for the future (MFF), foundations, Private Sector
1d.2 Submitting the proposal for all three Ramsar sites	High	2020	Wetlands Management Committee	FFI, MFF, foundations, Private Sector
2. Shorebird surveys, monitoring and research				
2d.1 Detailed surveys in all three sites	High/ Medium	2017-2019	NGOs, Myeik University	FFI, MFF, foundations, Private Sector
2d.2 Continued survey of shorebirds	High	2017-2020	FD, Myeik University, FFI	FFI, Private Sector
2d.3 Assessment of threats for shorebirds	High	2017	FFI	FFI, Private Sector
3. Strengthening law enforcement and patrolling				
3d.1 Law enforcement	High	2017-2020	FD, DOF, SLRD, NGO	FFI, Private Sector
3d.2 Patrolling and monitoring, also on Township level	Medium	2018-2019	NGOs/ INGOs, Local Government	FFI, Private Sector

4. Communication, education and participation and awareness (CEPA)				
4d.1 Awareness raising (CEPA) in local communities in all three sites	High	2017-2018	NGOs, Regional Government, Local village heads and villagers, Local religious leaders, KNU	FFI, MFF, foundations, Private Sector
4d.2 Environmental education and awareness raising	High	2017-2020	FFI, BANCA, Myeik University	FFI, Private Sector
5. Establishing and building capacity of local conservation groups				
5d.1 Forming of LCGs, capacity building	Medium	2018-2020	INGOs/ NGOs, FD, DOF, Myeik University	FFI, Private Sector
6. Addressing local livelihoods				
6d.1 Alternative livelihoods	Medium	2018-2019	FFI	FFI, Private Sector
7. Local stakeholder engagement				
7d.1 Consultation with communities in all three sites	High/ Medium	2017-2019	NGOs, Regional Government, Local village heads and villagers, Local religious leaders, KNU	FFI, MFF, foundations, Private Sector
7d.2 Improved communication between Local Government and LCG	Medium	2018-2019	NGOs/ INGOs, LGC, Local Government	FFI, Private Sector

9. National coordination of this action plan by BANCA

Key action	Supported by	Funding
Collection data on all Spoon-billed Sandpiper records in Myanmar	BECAR, FFI	RSPB
Monitoring action plan implementation	Main partners to this action plan	RSPB
Identifying and reporting emerging issues for Spoon-billed Sandpiper Conservation	All partners to this action plan	RSPB
Informing Union and State governments about implementation of the action plan	BANCA and implementation partners	RSPB
Reporting achievements, threats, Spoon-billed Sandpiper records to the Spoon-billed Sandpiper Task Force	BANCA	RSPB
Presenting the results and activities of the action plan in national and international meetings.	SBS TF, RSPB	RSPB
National and international communications to promote the cause of Spoon-billed Sandpiper conservation in Myanmar and globally	SBS TF, BirdLife International, RSPB	RSPB

Annex 1. Spoon-billed sandpiper in Myanmar – work to date

The importance of Myanmar as a wintering site for the Spoon-billed Sandpiper was not known until 2008. The key milestones for conservation of this species since then are highlighted in the following table:

Date	Milestones
2008	
January	Surveys recorded 48 Spoon-billed Sandpipers in the Gulf of Mottama and 36 on Nan Thar Island
January	First international Spoon-billed Sandpiper workshop in Yangon
2009	
January	Follow up surveys in the Gulf of Mottama and Nan Thar identified hunting as a serious issue and first consultation was conducted with local communities on Nan Thar
January	Surveys in Nan Thar and south of Nan Thar on the Rakhine coast located one Spoon-billed Sandpiper
January	Second international Spoon-billed Sandpiper workshop in Yangon
2010	
January	Joint international-national surveys in the Gulf of Mottama estimate about 200 Spoon-billed Sandpipers and revealed the broader significance of the inter-tidal habitats for shorebirds, with between 150,000-200,000 birds counted
January	Socio-economic surveys initiated and local hunters identified
January	Surveys in the Ayeyarwaddy Delta recorded one Spoon-billed Sandpiper
January	First eco-birdwatching tour to Nan Thar Island
March	Grants offered to hunters on the east coast of Gulf of Mottama to support alternative livelihoods
2011	
January	Further surveys in the Gulf of Mottama and Nan Thar Island
January	Spoon-billed Sandpiper workshop in Yangon
January	Further surveys in the Dawei Estuary and livelihood support offered to hunters to stop hunting activities
February	Monitoring and evaluation of the alternative livelihoods support undertaken
April	Grants offered to hunters on the west coast of Gulf of Mottama to support alternative livelihoods
April	Education and awareness raising programme started in the Gulf of Mottama
April	Socio-economic surveys identified no shorebird hunting

	Lease island at Nan Thar for the rights to protect birds. A local conservation group (Sittwe Nature Conservation Association) established and information materials distributed
2012	
January & February	Further surveys undertaken in Gulf of Mottama and Nan Thar Island
January & February	Study of feeding ecology undertaken on Nan Thar Island
January	Monitoring and evaluation of the alternative livelihoods support on the west coast of the Gulf of Mottama
February	World Wetlands Day workshop held in Naypidaw to promote the Gulf of Mottama as a future Ramsar site
February-May	Education and awareness raising programme undertaken on the Gulf of Mottama west coast
May	Workshop and site visit for the development of the Gulf of Mottama as a Ramsar site
October	Training for BANCA staff in Community-based natural resource management (CBNRM) in the Gulf of Mottama
October	Surveys on the east coast record oneSpoon-billed Sandpiper
November	National species action plan workshop for the Spoon-billed Sandpiper
December	Training of BANCA staff in social surveys for “most significant change”
2013	
January	Most significant change survey in two villages of the Gulf of Mottama and monitoring and evaluation of alternative livelihoods
February	World Wetlands Day workshop held in Naypyitaw and Mawlamyine to promote the Gulf of Mottama as a future Ramsar site Advocacy workshop in Mon State Day
March-April	Demarcation of the boundary of the Gulf of Mottama Ramsar site conducted jointly by BANCA and MOECF
May	Local conservation group established on the east coast of the Gulf of Mottama
May	Ramsar site boundary map drafted for the east coast of the Gulf of Mottama, i.e. Mon State, is accepted by MOECF
June	More local conservation groups established in the east and west of the Gulf of Mottama bringing the total to four
August	Training for local conservation groups in the Gulf of Mottama
September	Boats and equipment provided to the local conservation groups in the Gulf of Mottama
October	Survey of Spoon-billed Sandpipers in the Gulf of Mottama
November	Survey of waterbird population status in the eastern Ayeyarwaddy delta

December	<p>Preliminary survey of Spoon-billed Sandpipers in the southern Gulf of Mottama (Thanphyuzayat Township Mon State)</p> <p>Population status survey of Spoon-billed Sandpiper wintering grounds in Gulf of Mottama and Nanthar Island</p> <p>First survey of the Eastern Ayeyarwaddy Delta region finds 1-2 SBS</p> <p>Training on bird watching for the local conservation groups in the Gulf of Mottama</p> <p>Discussion with Minister of Forest & Mining Department on the proposed Ramsar Site boundary plan (Mon State)</p>
2014	
January	<p>Evaluation and monitoring of support to on ex-bird hunters</p> <p>Population surveys of the Spoon-billed Sandpiper in the Gulf of Mottama</p>
February	Population surveys of the Spoon-billed Sandpiper in Nanthar Island, Gulf of Mottama and Southern Gulf of Mottama (Thanphyuzayat Township Mon State)
March	<p>Sustainable Resource Use Development Plan prepared for the Gulf of Mottama (East coast)</p> <p>Population surveys of Spoon-billed Sandpiper in the Gulf of Mottama</p>
April	<p>Sustainable Resources Use Development Plan in Gulf of Mottama (East coast)</p> <p>Completion of first phase of providing freshwater ponds to 5 villages on the east coast of the Gulf of Mottama.</p> <p>Discussions with Mon State Government on proposed Ramsar Site boundary</p>
May	Wetlands Management Training in Kyaikhto Township, Mon State
	Local conservation groups are established in seven villages in the Gulf of Mottama.
June	Micro-grants for alternative livelihoods provided to 48 members of local conservation groups.
July	Villages Ramsar Site consultations in 14 villages in Mon State.
September	Completion of awareness programme on Ramsar sites and ecological value of wetlands in 29 villages of the Gulf of Mottama
October	Twelve information boards erected around the proposed Ramsar Site in villages of Mon State.
2015	
January	A joint international-national survey team estimates over 150 Spoon-billed Sandpiper in the Gulf of Mottama within confidence interval of the results from 2010; the first indication of a possible stabilisation of the population, or at least a slowing down of the rate of decline. Similar overall numbers of shorebirds to 2010 were also recorded.
February	Multi-stakeholder Ramsar Site consultation workshop in Mawlamyine reaches general agreement within Mon State of establishing a Ramsar site.

	Further freshwater ponds provided to 3 more villages, bringing total number of people benefitting to over 8,000 in 8 villages.
	Lunched Community-Led Coastal Management Gulf of Mottama Project funded by Swiss Agency for Development and Cooperation.
March	By the end of the 2014/15 shorebird season, monthly monitoring of markets around the Gulf of Mottama do not record any shorebirds being sold.
2016	
	A joint international-national survey team records 100 Spoon-billed Sandpiper in the Gulf of Mottama.
	Joint patrolling activities in collaboration with local conservation groups for monitoring bird hunting in Gulf of Mottama by using SMART software.
	CEPA activities in Gulf of Mottama and Nanthar Island.
	Second endorsement consultation with community to designate Gulf of Mottama as Ramsar site.
	Improve conservation activities of nanthar island to promote as a protected area.
	Officially formed Mon State Wetlands Management Committee.

Annex 2: Participants at the National Workshop on the Spoon-billed Sandpiper Conservation Action Plan for Myanmar.

17 January 2017, Mawlamyine, Mon State, Myanmar

No	Name	Position	State/Region Country	Department/ Organisation
1	Dr. Min Kyi Win	Minister (MONREC)	Mon	MONREC
2	U Tun Htay	Minister (MOLAI)	Mon	MOLAI
3	U Min Thein Myint	Director	Mon	Forest Department
4	U Than Naing	Director	Mon	Irrigation Department
5	Dr. Me Me Sein	Pro-Rector	Mon	Mawlamyine University
6	Dr. San Thar Tun	Professor (Marine Science)	Mon	Mawlamyine University
7	Dr. Cherry Aung	Professor (Marine Science)	Ayawaddy	Pathaein University
8	Dr. Phyu Phyu Sein	Professor (Zoology)	Mon	Mawlamyine University
9	Dr. Nan Mya Han	Professor (Marine Science)	Tanintharyi	Myeik University
10	U Soe Naing	Lecturer	Tanintharyi	Zoology Dept, Myeik University
11	U Soe Naing	Deputy Director	Mon	ECD
12	U Soe Tint	Deputy Director	Naypyidaw	Forest Research Institute
13	U Hou Kyin Moe	Deputy Director	Mon	Hotel and Tourism
14	U Kyaw Zin Tun	Assistant Director	NWCD	Forest Department
15	U San Myint Tun	Assistant Director	Bago	Forest Department
16	U Myint Kyaw	Assistant Director	Rakhine	Forest Department
17	U Myint Aung	Assistant Director	Mon	Forest Department
18	U Zaw Moe Aung	Assistant Director	Mon	General Administrative Dept
19	U Aung Thein Tun	Assistant Officer	Mon	Fishery Department
20	U Thein Ko	Staff Officer	Mon	Forest Department
21	U Than Hteik	Staff Officer	Mon	Forest Department
22	U Than Win	Staff Officer	Mon	Forest Department
23	U Myo Aung	Staff Officer	Mon	Forest Department
24	Mr. Nay Myo Tun	Staff Officer	Mon	Forest Department
25	Daw Hla Hla Soe	Staff Officer	Mon	Agriculture Department
26	U Hla Htwe	Staff Officer	Mon	Agriculture Department

27	Mr. Min Min Hteik	Staff Officer	Mon	Forest Department
28	Dr. Christoph Zockler	Coordinator	UK	SBS TF
29	Mr. Sayam U Chowdhury	Assistant Coordinator	Bangladesh	SBS TF
30	U Pyae Phyo Aung	Program Manager	Yangon	BANCA
31	Dr. Thiri Daewei Aung	Program Manager	Yangon	BANCA
32	U Min Thiha Zaw	Project Assistant	Yangon	BANCA
33	U Thaw Phyo Shwe	Senior Program Officer	Yangon	BANCA
34	Daw Zun Khine Thin	Finance Officer	Yangon	BANCA
35	Daw Chit Su Wai	Administrative Assistant	Yangon	BANCA
36	Miss Teresa Stehle	Volunteer	Yangon	BANCA
37	U Tin Tun Aung	Volunteer	Yangon	BANCA
38	U Ran Naung Soe	Secretary	Rakhine	BECAR
39	U Thant Zin Tun	Assistant Field Coordinator	Yangon	FFI
40	Mr. Jake Brunner	Head	Vietnam	Indo Burma Group (IUCN)
41	U Tint Wai	Outreach Coordinator	CLCMGOMP	IUCN
42	U Kyaw Tin Soe		Mon	
43	U Aung Thet Htay	General Manager	Mon	Mawlamyine Holding Ltd
44	Dr. Tara Sayuri Whitty	Post Doctoral Fellowship	California	Scripps Institution
45	U Khin Maung Oo	EC Member	Yangon	Myanmar Forest Association
46	Mr. Dong Koo Yun	Deputy Executive	Korea	EAAFP
47	Miss Tomoko Ichikawa	Communication Officer	Korea	EAAFP
48	Mr. Eugene Cheah	Photographer	Korea	EAAFP
49	Mr. Ju Yung Ki	Researcher	Korea	Chonbuk University
50	Mr. Paul Insua Cao	Partner Development Officer	UK	RSPB
51	Mr. Jonathan Slaght	Russia and NE Asia Coordinator	USA	WCS
52	Dr. S. Balachandran	Deputy Director	India	BNHS
53	Mr. Aung Kyaw Kyaw	National Program Officer	Yangon	SDC
54	U Thein Han	Team Leader	Mon	LCG
55	Miss Karin Eberhardt	Consultant	YGN	
56	Dr. Tint Swe	Vice Chairman	YGN	MSAM
57	Daw Khin Nilar Thein	Reporter	Mon	The Voice
58	U Thaung Tun	Journalist	Mon	Eleven media
59	Daw Cho Mar Aung	Journalist	Mon	Eleven media
60	Yin Sanaing	Journalist	Mon	Dawei Watch
61	Ba Htoo	Reporter	Mon	Sky Net Media
62	Mr. Thwin Mg Mg	Video Journalist	Yangon	Kamaryut Media

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