

# Report on Spoon-billed Sandpiper (*Calidris pygmeus*) surveys January/February 2010 Myanmar

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Photo: Rob Robinson/BTO



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## **Summary**

Between January 18<sup>th</sup> and February 3<sup>rd</sup> 2010 the third Spoon-billed Sandpiper survey in Myanmar and the fifth in the Bay of Bengal was conducted on behalf of BirdLife International with support of its Species Champion Programme. A total of 16 ornithologists consisting of 8 international and 8 local ornithologists participated in that survey. For the last two days the Martaban group was supported by two American scientists. The team was divided into three groups; two teams surveyed the Gulf of Martaban and one team operated on the islands off the Irrawaddy Delta. It was a continuation of the surveys of 2008 and 2009. This year the minimum number of Spoon-billed Sandpiper recorded was 75: 3 in the southern part of the Gulf of Martaban at the Salween River mouth, one on the islands in the Irrawaddy Delta and at least 71 in the upper Bay of Martaban near Kyaihto, corresponding with sites of high counts in 2008 and 2009. Together with 14 Spoon-billed Sandpiper previously observed in Nan Thar Island the total of birds is at least 89! The Bay of Martaban is likely hosting 150-200 birds and thus could host 50% of the global population. Two colour-marked birds have been found, one bird ringed as juvenile and one individually marked adult at least 9 years old, both from South Chukotka. It is not possible to conclude any trend information, as the upper estuary of the Bay of Martaban is very difficult to survey completely. However, all along the survey route we encountered evidence of significant hunting and trapping pressure that includes high numbers of Spoon-billed Sandpiper. Urgent action is required to safeguard the species and to collaborate with the local communities to establish alternative forms of income.

## **Background history**

A remarkable destruction of wetlands and decline of shorebird population has been noticed on the Pacific Coast of the Eurasian Continent since the 5th Conference of Parties to the Ramsar Convention held in Kushiro Japan in 1995. Since then, government organisations and non-governmental organisations have been working co-operatively through various tools and institutions like the East Asia-Australasia Flyway Partnership. It is not only a crisis for endangered species but also for their habitats with important implications for the livelihoods of human beings.

In 2000, Russian Academy of Sciences started a survey of Spoon-billed Sandpiper in the breeding grounds in the eastern end of Siberia as a flagship species for conservation of wetlands. This small bird has been continued to be loved by shorebird people with its enigmatic spoon-shaped bill and its limited habitat in the eastern coast of the Eurasian Continent. The surveys on the breeding ground revealed that in 2005 the population has decreased from about 6000 in 1970s to less than 1000. The survey in recent years suggests a continued rapid decline of the population. By 2009 the total population is estimated at 120-250 pairs only. Surveys of the wintering grounds started in 2005 in India under the lead of the Spoon-billed Sandpiper Recovery Team (SBS RT) that was established in 2004 and also tasked with the International Species Action Plan on request of the Convention on Migratory Species. Regular surveys and monitoring were conducted in both breeding and wintering grounds. At the end of 2006, people from flyway range

countries of the species gathered in a workshop to finalize the draft. The result of the workshop was that information is especially lacking in the non-breeding ground and that international co-operation is necessary to assist conservation activities in each habitat country. The activity for the species is not only for the species but also for the shorebirds in general and for the wetlands that is important for the global biodiversity.

The Spoon-billed Sandpiper surveys in 2008 and 2009 revealed the significance of coastal habitats for the wintering sites in the Union of Myanmar. The coast of Arakhan together with eastern Bangladesh and the Bay of Martaban are the most important sites in the country. Evidence of bird trapping near high counts alerted the SBS RT to conduct a more precise survey to estimate the scale of trapping and also the socio-economic background for the species. Parallel to the expedition a socio-economic survey took place in January and February 2010 in the Bay of Martaban.

The international survey team that conducted the survey in Myanmar in January 2010 was part of the SBS RT with members of ArcCona Consulting, Cambridge and the BTO, UK, from Birds Russia, and participants from Germany, Canada and US, teamed with and well looked after in Myanmar by local BirdLife partner Biodiversity and Nature Conservation Association (BANCA).

All three survey teams operated the first part of the expedition in previously unknown territories. This created some logistical challenges that were only partly overcome. The local administration near Moulmein, but also in the Irrawaddy delta was not favourable to camping in the field which created huge problems. In addition the boats supplied were mostly unsuitable to reach the chosen destinations. In some cases smaller boats could be hired and used to access potentially suitable habitats. But often tide, boat condition, boatmen and wind conditions had all to be all favourable for access some areas. Many suitable habitats, especially on Bilugyun had to be omitted. The second part that was also familiar from previous expedition was easier to navigate and the smaller boats in use proved to be ideal for our survey purposes.

## **Results**

In total at least 75 Spoon-billed Sandpiper were observed at three different sites (see map).

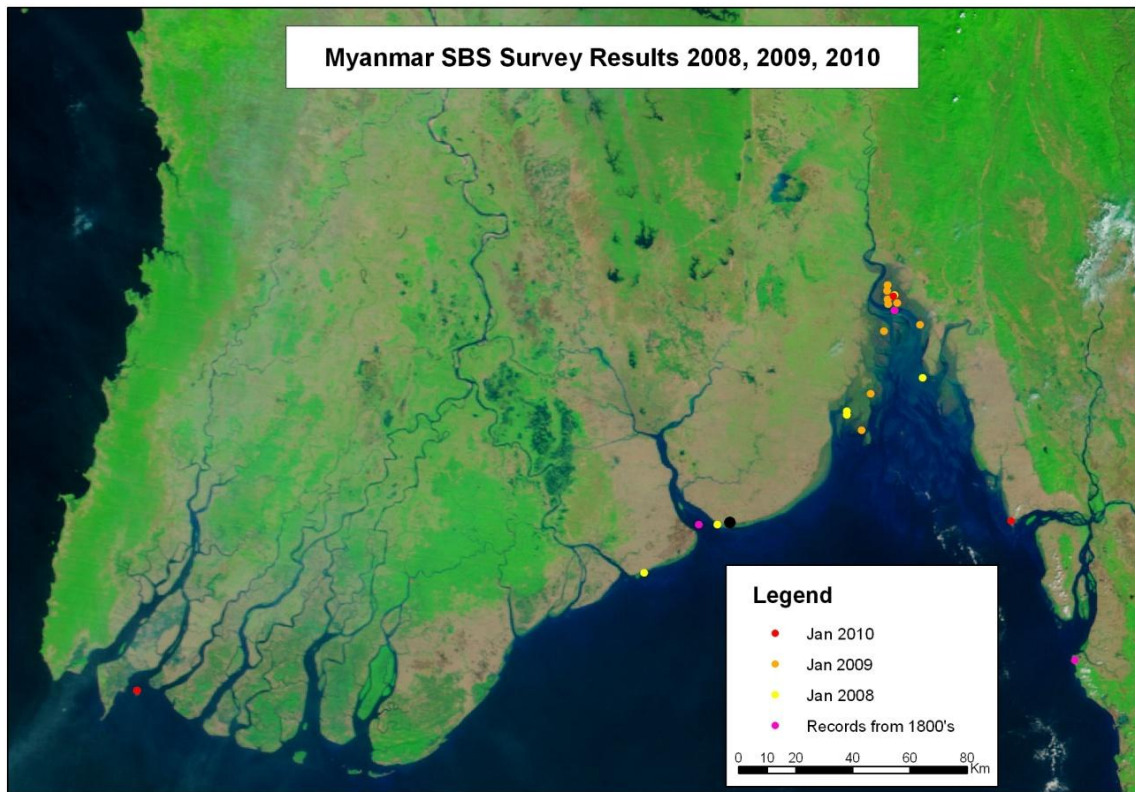


Figure 1 Preliminary results of Spoon-billed Sandpiper sightings in the Bay of Martaban and Irrawaddy Delta between 2008-2010 Map Gillian Bunting, ArcCona

- 1) For the first time a Spoon-billed Sandpiper was recorded in the outer islands of the Irrawaddy Delta. The area is difficult to survey and could host a few more Spoon-billed Sandpiper. We believe that it is unlikely that the Irrawaddy Delta now holds many Spoon-billed Sandpipers although it is possible that it was an important site before Cyclone Nargis in 2008 when there were many more waders according to local hunters. Among more than 600 Great Knot was one colour-marked individual from the Shanghai region.
- 2) At least three, and potentially more, Spoon-billed Sandpiper were recorded in the southern part of the Bay of Martaban in Ahlat at the mouth of the Salween River (see map). One bird was found ringed with a light green flag from South Chukotka. One bird was trapped by a local bird hunter and later released after been treated and colour-marked with red flag. This hunter said that he had last caught a Spoon-billed Sandpiper the previous August. According to several local hunters the species has been regularly trapped further south and around the southern island Bilugyun, where plenty of suitable habitat exist, of which however, only a few selected areas had been visited.



Figure 2 Spoon-billed Sandpiper released by local youth after captured by bird trappers the night before  
Photo Rob Robinson/BTO

- 3) The majority (71) of at least 75 birds recorded in our surveys have been observed simultaneously by six different teams in the northern end of the Bay of Martaban. This area was already known to host high numbers from the 2008 and 2009 surveys. In 2010 we managed to cover a larger area and survey at least a large proportion of the huge flocks that congregate at the top of the estuary. The figure is based on the minimum of simultaneously counted birds in the flocks present on the falling tide before they dispersed to feed. There were many more sightings of Spoon-billed Sandpipers amongst the feeding flocks. A substantial number of these flocks were scanned for the proportions of each species and will be analysed to make an assessment of the likely number of Spoon-billed Sandpipers among the 35,000 small waders that were present on the falling tide. Until these analyses are complete we feel that an estimate of 150-200 Spoon-billed Sandpipers in the upper estuary is realistic. This equals almost half of the estimated global population.
- 4) Among the 71 birds was one individually marked bird, also from South Chukotka, ringed in the moraine hills near Meinopylgino on 3<sup>rd</sup> July 2003 as an adult suspected female on the nest, which is at least nine years old. The bird has not been seen on the breeding grounds as the ringing site is quite remote and not accessible on routine monitoring schemes. The bird has been tested with stable isotopes and its wintering site can be used for calibration of isotopic values. The Carbon and Nitrogen values fall in the middle of the densest cluster of results from the feathers of 29 birds that were sampled on the breeding grounds. Two

Red-necked Stints with coloured flags have been found as well, again from Shanghai and Australia,

- 5) An additional number of rare and unusual birds included six Nordmann's Greenshank *Tringa guttifer* on the islands in the Irrawaddy Delta and one in the Upper Bay near Kyaihto. Other birds included the extreme southern record of a Bar-headed Goose *Anser indicus* in an estuary in the southern Bay of Martaban.
- 6) A survey on Nan Thar island (Arakhan) prior to the expedition revealed another 11-14 Spoon-billed Sandpiper, confirming the 14 birds recorded on a previous visit in December 2009, so that the minimum total in the country stands at 89 individuals.



Figure 3 Spoon-billed Sandpiper feeding habitat in the Upper Estuary of the Bay of Martaban, Myanmar 31st January Photo Christoph Zöckler

The 2010 survey of the Bay of Martaban not only highlights the importance of this dynamic intertidal system for birds, fish and local people's livelihoods, but also in our view means that Myanmar hosts the majority of wintering birds of this critically endangered shorebird. The colour-marked birds indicate a link between South Chukotka and the Bay of Martaban, supported by a colour-marked bird observed in neighboring Thailand in November 2005. Light blue flags have only been observed at stop-over sites and in Nan Thar in 2008. Although it is a very small sample it suggests that birds from the Northern population might have different flyways, supported by the only ring observation in neighboring Bangladesh, which originated from North Chukotka. Segregation of wintering areas in relation to the breeding range has been observed

before in a number of bird species (including waders) and could have considerable significance in assessing how best to turn round the rapid decline of the species.

### **Threats**

The hunting and trapping of waders, including Spoon-billed Sandpiper, has been identified and confirmed at a large scale across the entire Bay of Martaban. A specifically set survey, aiming to obtain detailed information from the hunters is still under way. However, our teams were able to obtain sufficient information and evidence (e.g. in form of trapped Spoon-billed Sandpiper!) to conclude that the trapping is a major threat to Spoon-billed Sandpiper and other waders in the Bay. It is important to understand that this hunting is for food in an area where the only other major source of protein is fish which at some times of year are very difficult to catch in an estuary with exceptional tidal currents. In particular small waders are hunted and trapped more easily. Other than at the Arakhan coast small waders are caught and consumed and not necessarily released if still alive. These differences might be a reflection of a much lower economic status of the local communities in the Bay of Martaban, which appears to be also impoverished due to over-fishing in many parts. Several local fishermen, who displayed a profound knowledge of water birds, their plumages, moult and departure for distant breeding areas are catching regularly Spoon-billed Sandpiper in small numbers. Most of these hunters are professional hunters. Each village or community has one or two. In addition to those there are occasional or opportunistic trappers that particular catch birds either on migration, when there are plenty or more around than usual, or at times, when fishing is less profitable as in the rainy season. At least two different hunters mentioned trapping Spoon-billed Sandpiper in August or July. These birds cannot be part of the wintering population, but could refer to the juvenile component that remain in the wintering area for at least one season before joining the adult population to migrate north. Survey results from the socio-economic survey team are not yet analysed and not included in this report. We believe that hunting on this scale is not sustainable and so a summary of the techniques is given below;

1. Mist netting with large mesh monofilament nets is used by many hunters. They are used mainly at high tide roosts where they are hoping to catch larger species of waders such as Pacific Golden Plover and Curlew. Small waders are caught in large numbers and are also killed for the pot. From our observations of the inshore fishermen's catches even a 20 gram Red-necked Stint is larger than most of the catch. From one of the authors' experiences (NAC) mist netting waders in many countries around the world for ringing studies, it is clear that catching large numbers of small waders is unavoidable. In theory a large mesh net (ca 150mm mesh) would allow many of the small waders to escape but in practice many get very badly tangled and in combination with the fact that the hunters will not be visiting the nets regularly will mean that many of the caught stints would not survive even if they were released.
2. Use of poison baits are mainly aimed at catching herons and egrets. On one day we saw a hunter who had caught about 10 pond herons that afternoon showing that it can be very effective. These poison baits do also catch small waders as we

observed in 2009 when a hunter had caught two Lesser Sand Plovers using this technique.

3. Use of fishing nets to catch waders is common among the fishermen when the fishing is bad or the weather means that they can not go out to the main fishing areas. Many of the nets used for fishing can just as easily be used as mist nets and will catch many birds especially stints in the smaller nets.
4. The final way that birds will be caught is incidentally when fish nets are set on stakes to catch fish. Some fishermen put small nets across bays and creek mouths to catch fish swimming up channels. These look just like mist nets set very low and will be very effective at catching waders on the rising tide as the mudflats cover. Although most fishermen denied that this will catch a lot of waders, we have good reasons to assume that this will also catch waders accidentally, often released, as observed in Bangladesh, but less likely among the poor communities in the Bay of Martaban

All of these methods together will mean that there is a very large take of waders each year. At present it is difficult to say what proportion are taken but one (NAC) of us marked 40% of the dunlin wintering in some parts of the Severn in a 3-year period just using mist netting. This took less effort than is used by the hunters at present and so we feel that it is likely that the hunters are having a major depressive effect on the wader populations of waders in the estuary.

There is a wide range of species that winter in the Bay of Martaban, but most except Spoon-billed Sandpiper have a broad wintering distribution and so hunting on this scale will only affect part of the population of most other species and so is likely to have less effect on the populations as a whole.

However, we noticed a large proportion of Broad-billed Sandpiper not only in the Bay of Martaban, but all along Myanmar's west coast and in Eastern Bangladesh. The Bay of Martaban holds internationally important numbers of around 4,500 birds, which equals 7,5% of the global population. Considering that significant numbers of Broad-billed Sandpiper have been also observed along the coast of Arakhan and Eastern Bangladesh, areas all subject to bird trapping, we could conclude that this species is equally threatened by the trapping activities and already in decline. Another species of concern is the Lesser Sandplover with also significant numbers of over 18,000 birds in Martaban only that could exhibit severe losses while subjected to continued bird trapping.

### **Training and Capacity Building**

In total eight Burmese participants were trained in bird identification and survey skills. In addition to the training, binoculars and telescopes, delivered through the RSPB second hand scheme were provided to support the training efforts. The Burmese scientists have learned where the Spoon-billed Sandpiper lives and an awareness of its significance. Some of the trainees will be able to convey short monitoring surveys at selected sites. This should be encouraged in future activities.

## **Conclusion**

The Bay of Martaban is of paramount significance for the species of concern and other waders and needs urgent protection. In addition, careful management schemes have to be developed jointly with the local communities to achieve full protection not only of the Spoon-billed Sandpiper but also many other declining wader populations. A three-tier approach is proposed that will comprise

- a) The designation of the Gulf of Martaban, the Salween River Mouth and Bilugyun Island and Nan Thar Island and the Kaladan River Mouth in Arakhan region as three separate protected areas or conservation areas. Potentially these sites can be listed also as Ramsar sites and the Bay of Martaban certainly fulfils several criteria for the UNESCO Man & Biosphere site nomination.
- b) In order to stop the trapping of birds it is very important to engage with the local communities in order to establish a common understanding and a plan of collaboration to stop the hunting and to find economic alternatives.
- c) An immediate program of contacting all local hunters and asking them to release any Spoon-billed Sandpiper that they catch alive would have immediate benefits. Given that Spoon-billed Sandpipers are an insignificant part of their catch it should not noticeably reduce their take.
- d) All conservation measures require extensive environmental education and awareness raising. The links with sustainable use of fisheries and other marine resources and the livelihoods of local people are essential in succeeding.

All these measures can and should be an integral part of a joint strategy, developed by BANCA with support of the SBS RT. It is important that a local partner, such as BANCA is able to commit to this task and is adequately supported with finances and international advice. Over the last three years BANCA has been involved in the international surveys and is capable to provide the necessary support and manpower to take on this huge conservation task. Continued international support remains necessary, but should focus more on the implementation of conservation activities rather than the continuation of the monitoring that could be done by BANCA and Burmese partners themselves.

It is proposed that BANCA establishes a National SBS conservation action plan and composes an implementation team which may also involve international experts as deemed necessary.

BANCA has been recognized as Species Guardian of the wintering critically endangered Spoon-billed Sandpiper in the 2008 BirdLife International global conference held in Argentina. The non-Myanmar authors feel that the focal person from BANCA responsible for Spoon-billed Sandpiper in the wintering grounds is Dr Tony Htin Hla, joint secretary and director of research and field operations. BANCA has been in collaboration with other international organisations and is a central part of the SBS RT.

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#### Attachments

- Checklist of birds from the 2010 survey
  - Gulf of Martaban and the
  - Irrawaddy Delta
  
- Flock size analyses and population estimate
- Map of survey area