

## **Project Update: July 2023**

### **Project summary**

#### Introduction

The yellow-breasted bunting was once one of the most abundant birds in the world but has become a Critically Endangered species within only 17 years (2000-2017) due to very rapid declines of approximately 82-90%. Most of the research into yellow-breasted bunting has been undertaken on their breeding grounds whereas very little is known of their movements and behavior during the non-breeding season or on their wintering grounds. The reasons that yellow-breasted bunting has been re-classified from Least Concern to Critically Endangered, are mainly due to excessive trapping at migration, habitat loss and the intensive agricultural practices that affect the habitats and food available for birds. However, the stronghold populations in their wintering ground have limited research. To fill this gap, we investigated population trends and habitat selection related to the ongoing and expected impacts of landscape change in one of the most important non-breeding sites, Kaeng Lawa wetland, in northeast Thailand. This study will be an important baseline for long-term population monitoring and facilitate future research for the conservation of this population.

#### Population size

In this season, the first group of the yellow-breasted bunting was found in November 2022. The numbers of wintering yellow-breasted bunting rapidly increased in January 2023 and then rapidly dropped down from April to May 2023 (Picture 1). From November 2022 to May 2023, we observed 408 study points in the feeding field and detected a maximum of 1591, 2662, 5454, 6534, 7207, 5185, and 1353 individuals, respectively, in each month observed. We found one of the roost sites at Kong Kaew reservoir (Picture 2), where the roosting area is located inside the wetland. The number of yellow-breasted bunting in the roost site has increased since we found it in the middle of February 2023, from approximately 7500 to 11900 in March 2023, 12300 in April 2023, and then rapidly dropped to 108 in May 2023.

#### Habitat use

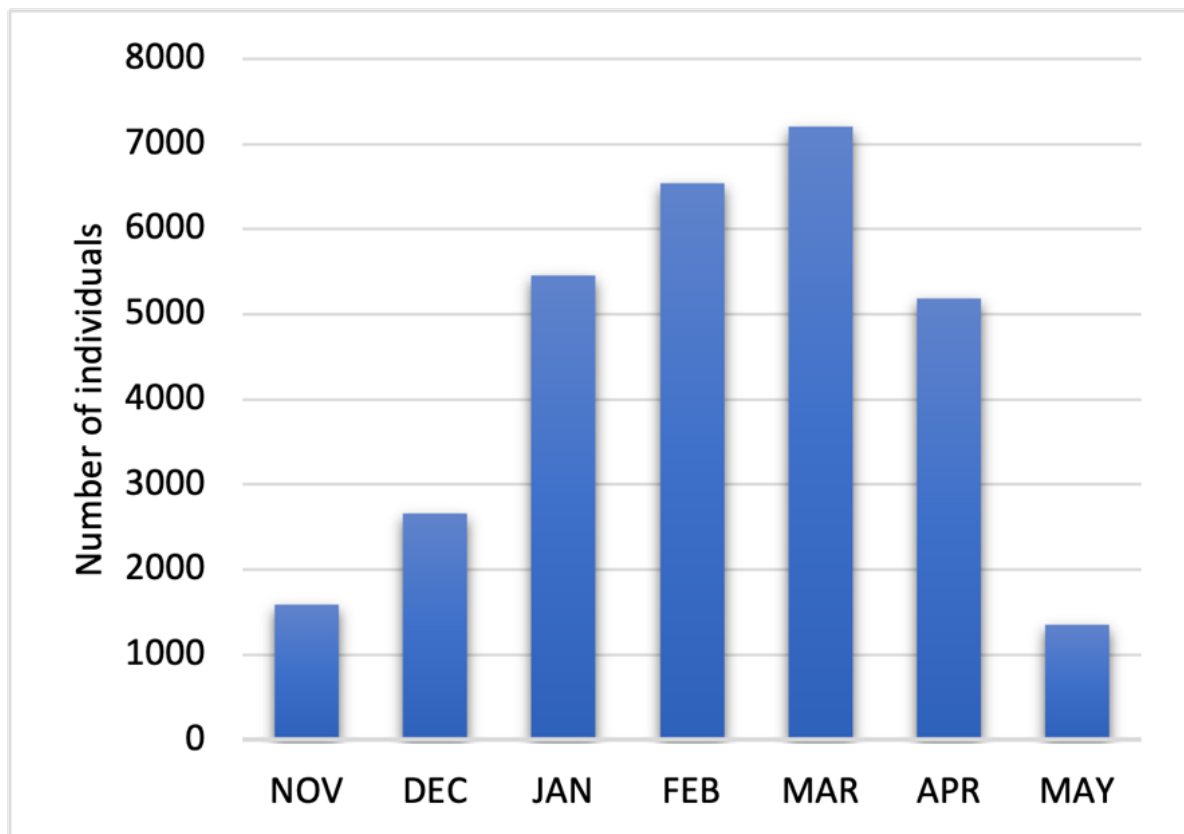
The habitat uses in wintering site occurred in vary landscape types including rice field, scrub area, plantation, and wetland (Picture 3). While the roost site is a large herbaceous wetland (Picture 4). The majority habitat of the feeding sites is the rice field, with 70.2%, followed by the combination habitat of rice field and scrub area (23.5%). We found that movement of the yellow-breasted bunting population during the wintering period depends on food available which is related to the stage of rice field. In the study region, rice is planted two growing seasons a year with several growing stages in one season. The yellow-breasted bunting arrived in our study site in the first harvesting season, which takes place from November to December. They spent the first 2 months foraging in the field, where the rice was almost ready for harvest, and spread throughout every rice field after harvest and then relocate to freshly harvested areas. In addition, field burning is usually practised in this region. We found that the huge group of yellow-breasted bunting was primarily feeding in the areas of burnt rice fields. As the burnt field facilitates an open area for foraging, it tends to influence their abundance and feeding habitat preference.

### Threats

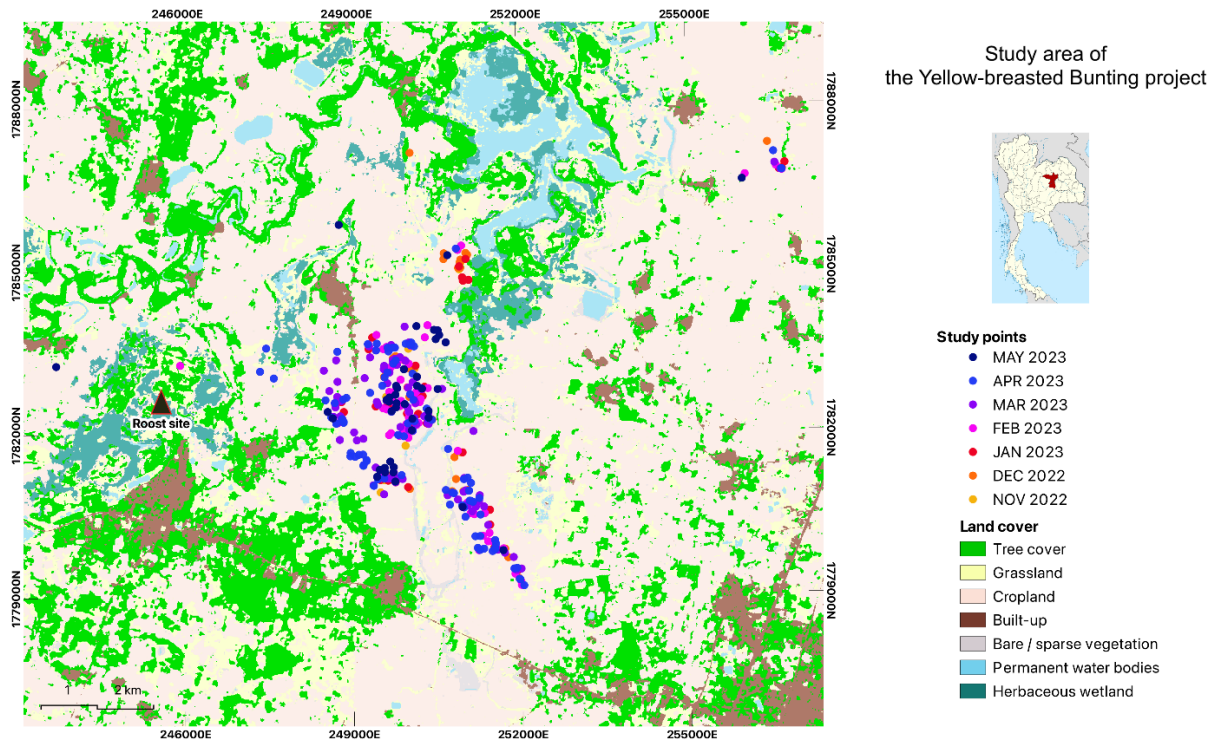
Bird hunting was found in the area surrounding Kaeng Lawa wetland using guns and local nets. During the observation we found 11 local nets set in rice fields to protect crops and more than ten bird species were caught such as greater coucal (*Centropus sinensis*), lesser coucal (*Centropus bengalensis*), house sparrow (*Passer domesticus*), scaly-breasted munia (*Lonchura punctulata*), chestnut munia (*Lonchura atricapilla*), streak-eared bulbul (*Pycnonotus conradi*), Asian green bee-eater (*Merops orientalis*) and Baya weaver (*Ploceus philippinus*). In addition, we also discovered harmless items, including colored banners, kites, ribbons, and trash cans that were used to scare birds away from the rice fields (Picture 5).

### Future plan

The primary field survey has been completed for this migration season. For the next step, we will work on the analysis of habitat use in relation to the agricultural and habitat map classifications for the spatio-temporal movement of the yellow-breasted bunting. The next season of observation will start in October 2023. We will keep monitoring the population size of yellow-breasted bunting in this region and also follow and search for the roost site. We are planning to set up the outreach programme in local schools and local community. The outreach programme will be conducted in the collaboration with the Bird Conservation Society Thailand (BCST) and local organisations or local government departments.



**Picture 1.** Total number of the Yellow-breasted Bunting in the feeding sites in each month observed.



**Picture 2.** Map of the study area and land cover types. The triangle figure indicates the location of the roost site, and the points show where Yellow-breasted Bunting occurrences were seen during each observation month.



**Picture 3.** Example of feeding habitats: Top left) pre-harvest rice field, Top middle) pre-and post-harvest rice fields, Top right) small pond and scrub area, Bottom left) post-harvest rice field, Bottom middle) rice field and plantation (drone photo), and Bottom right) burnt rice field. © Pattraporn Simla.



**Picture 4.** The herbaceous wetland where the roosting site is located (drone photo).



**Picture 5.** Example of the threats Left) local net, Middle) ribbons, Right) kite (© Pattraporn Simla).