

Wiyada Jamjumroon 2014: Density of Birds at Bung Borapet Non-hunting Area, Nakhon Sawan Province. Master of Science (Forest Biological Science), Major Field: Forest Biological Science, Department of Forest Biology. Thesis Advisor: Mr. Prateep Duengkae, Ph.D. 152 pages.

The objectives of this research were to study bird species diversity and to estimate bird density in the Bung Boraphet Non-hunting Area, Nakhon Sawan Province. Data collection was based on the distance sampling method of direct sightings. Surveys were conducted during June 2011 to May 2012. Two survey routes were set up, an aquatic routes of 45.5 kilometer and a terrestrial routes 42 kilometer. The surveys was conducted monthly for 12 consecutive months. Total distance of the routes survey was 1,050 kilometer.

Species diversity of birds for the year 10 Orders, 43 families, 111 genera and 166 species. The aquatic routes recorded the highest number of species and had the highest Shannon's Index (H') in March, with 145 species of birds found and Shannon's Index (H') 3.29. Agricultural and village habitats also recorded the highest species count in March, with 129 species and swamp forests had the highest Shannon's Index (H') in March, 3.35. Five species *Ploceus hypoxanthus*, *Pelecanus philippensis*, *Limosa limosa*, *Threskiornis melanocephalus* and *Anhinga melanogaster* was listed as global bird conservation status of Near Threatened (NT) The country status of Endangered (EN) applied to 4 species and Vulnerable (VU) applied to 9 species.

The density of birds estimated by the DISTANCE program were as follows: Bird density ($D \pm SE$) for the aquatic route was highest in April, 961.29 ± 47.81 individuals/km² and lowest in November, 123.39 ± 6.89 individuals/km². Birds density for the terrestrial route was highest in April, 639.71 ± 42.20 individuals/km² and lowest in October, 248.99 ± 15.59 individuals/km². The density of birds from 3 habitats were as follows: floating weed and emergent weed zone was highest in April, 861.79 ± 33.16 individuals/km² and lowest in November, 107.41 ± 8.66 individuals/km². Bird density in the swamp forest zone was highest in March, 411.87 ± 54.82 individuals/km² and lowest in October, 22.95 ± 3.65 individuals/km². Density in the agricultural and village zone was highest in April, 639.71 ± 42.20 individuals/km² and lowest in October, 248.99 ± 15.59 individuals/km². These data imply that bird diversity and density can be influenced by seasons and habitat types. This being the case, a long-term monitoring program of bird population is necessary to develop an effective action plan for bird conservation in the Bung Boraphet Non-hunting Area and other protected areas.

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Thesis Advisor's signature

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