Chapter 1

Introduction and Objectives

Introduction

Thailand is a country with high genetic, species, and ecosystem diversity (Boontawee *et al*, 1995). It is situated within two major biogeographical regions, the Indochina in the north and the Sundaic in the south. Situated in such a geographical region, Thailand's natural forests have been categorized into more than 10 types being habitats for a diverse flora and fauna. Approximately 2,000 flora and fauna species are found particularly in Thailand, which has been estimated to have 7% of all species found in the world (Ministry of Natural Resource and Environment, 2003). Apart from the effects of these two regions in the Indomalayan realm, some elements of Thailand's flora and fauna are also influenced by biogeographical characteristics of the Indian and Palaearctic regions (OCPP, 2000). According to ROUND (1988), Thailand supports an extremely diverse fauna and flora situated in the Indo-Chinese peninsula. Thailand has been described as a "zoogeographic crossroads". Thailand's flora has been roughly estimated as not less than 15,000 species, which includes 633 bryophytes, more than 1,000 ferns, more than 1,000 medicinal plants (especially herbs), and more than 3,000 fungus species. Additionally, Thai fauna includes 292 mammal species, 318 amphibians, 606 species of fresh water fish, 1,672 species of mangrove and marine fish, and many species of invertebrates (Ministry of Natural Resource and Environment, 2003).

Subsequent development by disregarding the concepts of conservation and sustainable natural resource management, and lack of consideration for biodiversity values, has put much pressure on the country's biodiversity richness. At present, Thailand has the second highest biodiversity loss in Asia (Ministry of Natural Resource and Environment, 2003). This situation has been caused by the interaction of many problems, both at local community and governmental policy and administration levels. There is very low awareness and knowledge of biodiversity values and conservation among communities, thus most communities are not capable of carrying out sustainable natural resource management. The country's developmental policies do not conform with national natural resource management in a sustainable way. Also, little public participation and primitive conservation concepts based on Thai culture and traditions are major problems.

Besides a long history with the Lanna empire and its monarchy, northern Thailand has a mountainous terrain and forests containing high biodiversity. Over 150 years of logging concessions to western companies in the lowland forests, coupled with the extension of hill tribe communities and agricultural areas in the uplands, have decreased northern forest cover dramatically. Although logging concessions were banned for the whole country in 1989 through careless misuse of natural resources and the greed of profiteers, illegal log poaching has continued. Loss of forest areas also means the loss of habitats for wildlife, which eventually brings about the destruction of the biota of forest ecosystems and finally causes serious consequences for humans. The National Park, Wildlife and Plant Conservation Department, is the government agency responsible for conservation, which has designated many

areas as national parks and wildlife sanctuaries so that a long term sustainable development plan can be established for natural resources and biodiversity protection. This responsibility was formerly under the responsibility of the Royal Forestry Department which failed to protect these forest resources adequately.

Despite the fact that forest logging is now banned in Thailand, forested areas are still being destroyed illegally. Although the Salween Wildlife Sanctuary can be counted as one of the typically undegraded forested areas, between 1995 and 1998, many habitats in this area were damaged, mostly by illegal logging. The damages caused by log poachers resulted in destruction of some areas along the Salween riverbanks. There is an urgent need to gather as much information as possible about forest habitats and their flora and fauna in this area. Such information must be carefully compiled, recorded, and published in order to assess the status of biodiversity there. This will be needed to implement effective management plans for the area.

Within the field of wildlife conservation, bird watching has become very popular and has become a traditional activity with a long history in Thailand. This popularity is partly because birds are conspicuous and often brightly coloured. Conservation organizations are becoming more numerous and more effective in using ornithological evaluation as one component of wildlife assessment, partly as a result of the great interest in birds and also in recognition of the fact that some sites with interesting bird populations have otherwise limited wildlife interest. Birds are also valued for reasons other than aesthetics and culture. They are high in the food chain,

are primary distributers of seeds and are particularly susceptible to environmental changes (Baillie, 1991). Therefore, they can provide a valuable indication of the state of their habitats. Certain bird species may act as significant indicators of environmental pollution when heavy metals and pesticide residues can be measured from their tissues (Fuller and Langslow, 1986).

My research was carried out to study the ornithological diversity of the sanctuary and its interdependence with all ecosystems. At the same time, I established information about the forest habitats in Salween Wildlife Sanctuary. I also wanted to provide information and develop survey techniques for forestry officers and researchers working in other protected areas.

Research Objectives

1. To record and evaluate the distribution and numbers of bird species in four sampling areas in the Salween Wildlife Sanctuary.
2. To study the relationship between bird occurrence and selected environmental factors (air temperature, humidity and rainfall).

This research will be useful for the National Park, Wildlife, and Plants Department and for the officers of the Salween Wildlife Sanctuary for the improved management of the area and for ensuring effective protection of the natural resources. The collection and interpretation of data from this research can be used for area management in the Salween Wildlife Sanctuary and also be a model for research in other protected areas in Thailand.