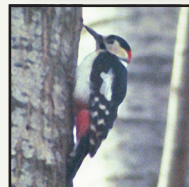
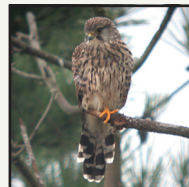


Avian Survey and Field Guide

*for
Osan Air Base
Korea*



Environmental Flight
51st Civil Engineer Squadron
Osan Air Base
Republic of Korea

October 2006

Acknowledgements

Prepared by James B. Levenson, Environmental Science Division, Argonne National Laboratory, Argonne, Ill. Work supported under Military Interdepartmental Purchase Request (N0000000306524, N0000000406248, and F3J3CE5146G001) from the U.S. Department of Defense, Department of the Air Force, 51st Civil Engineer Squadron, through U.S. Department of Energy contract W-31-109-Eng-38.

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Avian Survey and Field Guide for Osan Air Base, Korea

by

J. Levenson

Environmental Science Division, Argonne National Laboratory

October 2006



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List of Abbreviations and Acronyms

A	abundant
AB	Air Base
BASH	Bird Aircraft Strike Hazard
BHWG	Bird Hazard Working Group
Bldg	building
C	common
CE	Civil Engineer
CES	Civil Engineer Squadron
cm	centimeter(s)
COMFLEACT	Commander Fleet Activities
C-wire	concertina wire
EGS	Environmental Governing Standards
FR	<i>Federal Register</i>
FW	Fighter Wing
ha	hectare(s)
hrs	hours
INRMP	Integrated Natural Resources Management Plan
KACN	Korean Association for Conservation of Nature
km	kilometer(s)
m	meter(s)
mi	mile(s)
NRMU	Natural Resource Management Unit
OPLAN	Operations Plan
POL	petroleum oil and lubricants
R	rare
RNWX	runway
RRR	Rapid Runway Repair
ROK	Republic of Korea
ROKAF	Republic of Korea Air Force
U	uncommon
U.S.	United States
USAF	United States Air Force

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AVIAN SURVEY AND FIELD GUIDE

for

Osan Air Base, Korea

James B. Levenson, Ph.D.
Environmental Science Division
Argonne National Laboratory

Executive Summary

This report summarizes the results of the avian surveys conducted at Osan Air Base (AB). This ongoing survey is conducted to comply with requirements of the *Environmental Governing Standards* (EGS) for the Republic of Korea, the *Integrated Natural Resources Management Plan* (INRMP) for Osan AB, and the 51st Fighter Wing's Bird Aircraft Strike Hazard (BASH) Plan. One hundred ten bird species representing 35 families were identified and recorded. Seven species are designated as Natural Monuments, and their protection is accorded by the Korean Ministry of Culture and Tourism. Three species appear on the Korean Association for Conservation of Nature's (KACN's) list of Reserved Wild Species and are protected by the Korean Ministry of Environment. Combined, ten different species are Republic of Korea (ROK)-protected.

1 Purpose and Authority

The primary objective of the avian survey at Osan AB was to determine what species of birds are present on the airfield and their respective habitat requirements during the critical seasons of the year. This requirement is specified in Annex J.14.c of the 51st Fighter BASH Plan 91-212 (51 FW OPLAN 91-212). The second objective was to initiate surveys to determine what bird species are present on Osan AB throughout the year and from the survey results, determine if threatened, endangered, or other Korean-listed bird species are present on Osan AB. This overall census satisfies Criterion 13-3.e of the EGS for Korea. The final objective was to formulate management strategies within Osan AB's operational requirements to protect and enhance habitats of known threatened, endangered, and ROK-protected species in accordance with EGS Criterion 13-3.a that are also favorable for the reproduction of indigenous species in accordance with the EGS Criterion 13-3.h.

2 Study Area

Osan AB is located in the Republic of Korea (ROK), approximately 38 miles (61 km) south of Seoul, and adjacent to Songtan City. Osan AB covers an area of approximately 1,565 acres. The installation is located immediately south of the Jinwi River and is located entirely within the Jinwi River watershed. The river flows from east to west across the northern boundary of Osan AB, discharging into Asan Bay, an arm of the Yellow Sea, approximately 10 miles (16 km) southwest of the installation. There are no naturally occurring streams on installation property. The south and southeast margins of the installation are upland areas.

For the purposes of this study, Osan AB can be described as having four major habitat types: cantonment area, airfield, forested areas, and drainage ditches (wetlands). On Osan AB, each of these habitat types is actively managed to meet United States Air Force (USAF) grounds maintenance standards and mission requirements. Detailed descriptions of each habitat type including plant species composition can be found in Osan AB's INRMP (2003). No areas are actively managed for wildlife.

2.1 Cantonment Area

The cantonment area can be defined as the improved grounds of the base. Improved grounds are the developed areas of an installation that have lawns and landscape plantings. They usually include the cantonment, parade grounds, drill fields, athletic areas, golf courses, cemeteries, and housing areas. By definition, improved grounds are those for which personnel annually plan and perform intensive maintenance activities.



Example of cantonment habitat on Osan AB

2.2 Airfield Area

The northern half of Osan AB, which includes the runway, taxiways, and most of the aircraft maintenance facilities, is relatively flat. When the water level in the river is high (typically from July through December), the western margin of the runway becomes periodically inundated. The airfield area is classified as semi-improved grounds and includes all unpaved open grassy areas from the taxiways north to boundary fence. All trees have been removed from the airfield. Grounds maintenance consists mainly of grass mowing and weed control. Airfield grounds maintenance is conducted by Pavement and Grounds (51 CES/CEORH). Mowing follows a regular cycle, with mowing beginning at the western end of the airfield and moving eastward to the end of the airfield. Each cycle lasts 5 to 7 days. Mowing occurs constantly during the growing season, since the western end needs mowing by the time the eastern end is completed.



Example of shortly cropped airfield habitat

2.3 Forested Areas

The upland wooded areas covering the Hills 170, 180, and the Beta Site of Osan AB are the remains of pitch pine (*Pinus rigida*) and black locust (*Robinia pseudo-acacia*) plantation stands. In this region of Korea, tree plantations were established for reasons other than timber production following the Korean Conflict. Pitch pine was introduced from North America and planted to prevent soil erosion on the denuded slopes resulting from many years of deforestation. Pitch pine plantations were typically established near cultivated ground and residential areas. Black locust and two species of alder (*Alnus hirsuta* and *A. firma*) were also introduced to enhance soil fertility. Black locust and the alders are “nitrogen fixers.” Through a symbiotic relationship with bacteria in their roots, the locusts and alders are able to fix atmospheric nitrogen into the soils as useable nitrate.



Example of a typical pitch pine plantation

In many locations, nearly pure stands of these plantations remain. Nevertheless, a gradual reversion to natural ecosystems is occurring. This is especially true with pitch pine, which has exceeded its age span for maximum vigor, only 30 years, and is declining on the relatively poor soils of Osan AB. Even on the best sites, pitch pine vigor declines between 50 and 60 years. Black locust matures at an even earlier age. Under normal circumstances, black locust only requires 15 to 20 years to mature. On Osan AB and the Beta Site, black locust plantings also appear to have surpassed their most vigorous stage. After 30 or 40 years, they typically become crooked and “limby” requiring considerable maintenance and trimming. On Osan AB, their age and tall growth form, coupled with the somewhat unstable soils, has resulted in the toppling of the larger individuals. Recent removal and clean-up of the downed locusts has left several stump cross-sections with clear growth rings. The green pins evident in the photo at the right denote 10-year intervals. Counting the growth rings on several stumps confirms that these locusts were established in 1956 or 1957.



Black locust growth rings

Neither pitch pine nor black locust are tolerant of shady conditions and do not persist under dense canopies. In most pine and locust stands on Osan AB and the Beta Site, young native oak (*Quercus* spp.) trees are present in the understory and shrub layers. In some cases, oaks have emerged into the canopy, decreasing the availability of light and thus increasing the rate of decline of the shade-intolerant pine and locusts. As a result, oak-pine and oak-locust mixed forests occur. In a relatively short time, 10-20 years in the future,

the native oaks will be the dominant forest species. These self-sustaining forests will appear significantly different than the pine and locust stands of today. Regardless of whether the forest remnant is black locust



Example of a typical black locust plantation

or pitch pine, the subordinate vegetation in the understory and shrub layers can be attributed to birds. The presence of young native oaks throughout both forest types is likely the result of the Jays (*Garrulus glandarius*). Like other jays, they have a tendency to stash excess tree seeds and nuts for consumption later in the season. Many of the nuts, like the acorns from oaks, are never recovered and germinate during the next growing season. The Jay is probably responsible for establishing the native oaks on Hills 170 and 180 by transporting acorns onto the base. The wide variety of brambles, wild roses, briars, and sweat-leaf that occur in the unimproved areas of the base similarly owe their presence to birds. These plant species all bear fleshy fruits. When consumed by birds, the fleshy portion is digested but the seeds pass through the birds' digestive tract unharmed. In fact in many instances, germination is enhanced by the scarification of the seed coat that occurs in the birds' crops and is further eroded by digestive chemicals. When passed by the bird, the seed is somewhat better prepared to rapidly imbibe water and germinate.

2.4 Drainage Ditches

A system of ditches divert and drain storm and flood waters from the airfield and hangar areas. According to the *Final Rule for Regulatory Programs of the Corps of Engineers* (51 *Federal Register* (FR) 41206) in the U.S., non-tidal drainage and irrigation ditches excavated on dry land are generally not considered as wetlands. Extending that interpretation to Osan AB, these storm water drainage ditches are not treated as wetlands and should be actively managed to reduce their attractiveness to wildlife.

These drainage ditches typically retain surface water for much of the year and support a diverse emergent aquatic herbaceous flora. Emergent aquatic species are those rooted in the ditch bottom and grow to "emerge" above the water level. Collectively, these areas are referred to as "marshes" when the dominant species are herbaceous (i.e., not woody). When the dominant species are woody plants, the areas are referred to as "swamps."

Wetland habitat on Osan AB is confined to the golf course and the airfield. Thirteen ponds are located on the golf course and contain permanent surface water. Some of these ponds support extensive areas of emergent vegetation and large areas of open water. Because of the close proximity of the airfield, the margins of the ponds have been edged with masonry walls to discourage the presence of wading birds.

Common cattail (*Typha latifolia*) is the dominant species in the ponds and becomes quite dense in the shallow areas around the periphery. Other plant species of the ponds include greater duckweed (*Spirodela polyrrhiza*), Water chestnut (*Trapa japonica*), and grasses.



Example of a typical drainage ditch

Storm water drainage ditches border the golf course along the northern side of the west course, along West Perimeter Road, along South Perimeter Road, and near the western end of Nevada Road. These ditches serve to drain storm waters from the airfield and hangar areas. The ditches typically retain surface water for long periods during the growing season and support a diverse herbaceous flora.

The ditches along West and the South Perimeter Road contain variable stretches of open water and support floating aquatic vegetation such as pondweed (*Potamogeton* sp.) and greater duckweed. Emergent vegetation grows in the shallow areas along the banks and marshy areas just north and east of the Republic of Korea Air Force (ROKAF) compound and includes common cattail, arrowhead (*Sagittaria trifolia*), buttercup (*Ranunculus* sp.), sedge (*Carex incisa*), and American slough grass (*Beckmannia syzigachne*). A small saturated area extends along the western side of Bldg 1516 and supports White willow (*Salix alba*), sedge (*Carex* sp.), and Reed (*Phragmites communis*).

The airfield storm drainage system includes a series of drainage ditches along the northern side of the runway, southeast of the east overrun and Taxiway F, and west and southwest of the west overrun (Fig. 1). Typical emergent aquatic plant species growing in the airfield drainage ditches are spike rush (*Eleocharis kuroguwai*), bitter cress (*Cardamine flexuosa*), yellow cress (*Rorippa indica*), smartweed (*Persicaria* sp.), and Water plantain. The drainage ditch north of the runway was historically vegetated with a variety of emergent and submerged aquatic plants. In recent years, this ditch has been effectively cleared and provides little habitat.

3 Methods

Birds were recorded during the formal avian surveys conducted between 1999 and 2002. Subsequent and ongoing ecological monitoring surveys were conducted in 2002 (June), 2003 (February, June, October), 2004 (February, June, November), 2005 (May, August), and 2006 (April). Each survey was conducted over a three-day period.

Two survey techniques were used to accomplish the objectives of these surveys. Point surveys were employed to investigate the birds of the forested areas. Instead of using the standard 10 or 15 minutes at each

point (Ralph *et al.*, 1993), a 1-hour period of observation was employed. Birds in these woodlots are extremely wary and to observe them, one must wait patiently at a single location with minimal activity. Two points were established on Hill 170. Although both points are forested, they represent two different habitat types: pitch pine and black locust stands, respectively. Two points were also established on Hill 180. Both of these points are forested with black locust. However, one is partially managed whereas the other is natural vegetation. A single survey point was established in the former munitions area (Beta Site-North) along the northern edge of the base.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Formal Monthly Surveys	2000	2002	2003	2000	2002	2000	2001	2002	1999	2001	1999	2000
Ecological Monitoring		2003 2004		2006	2005	2002 2003 2004	2006	2005		2003	2004	

For the airfield, a modified strip transect was used by following the perimeter road around the runway. The transect began at the intersection of Nevada Road with South Perimeter Road near the southeast corner of the base. From there, the transect followed Perimeter Road around the airfield to the intersection with Malloy Road, where it ended just inside the Doolittle Gate, near the northern end of the base. The length of the strip-transect is 4.3 miles (6.96 km). Driving surveys were complemented with at least two observational stops to overlook the Jinwi River. When appropriate, short walks were taken into the airfield infield to flush ground birds from the grassy cover. Each “lap” of the strip-transect was paced to take no less than 1 hour and no more than 1.5 hours.

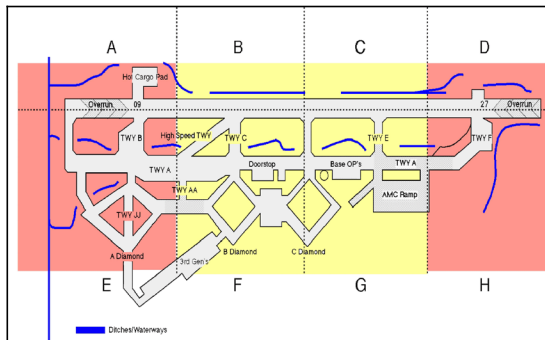


Figure 1. General layout of the airfield and associated drainage ditches.

Data recorded during each survey included the bird species observed, the number of individuals, the time of day, and weather conditions (temperature, cloud cover, visibility, wind direction and speed, and precipitation). When a bird species not observed during the formal surveys was sighted anywhere on Osan AB, it was recorded as an “incidental sighting” by species, number of individuals, date, and location. Most areas within Osan’s cantonment area were surveyed, including the billeting areas, golf course, organizational compounds, and other common areas. When possible, birds were photographed for inclusion in this document.

The best time to conduct avian surveys is usually between 0500 and 0900 hours, in most temperate latitudes during the breeding season, according to Ralph *et al.* (1993). They indicated that under most circumstances, no counts should be done after 1000 hours. For our objectives, this restriction was ignored because bird activity in the vicinity of the airfield is an issue throughout the day. The survey protocol used was to start within 15 minutes of the local sunrise and continue through the ensuing four hours. This survey protocol was strictly followed. Bird activity, especially for woodpeckers, ducks, rooks, night herons, and owls, was observed to increase again about two hours before the local sunset. During this period, the survey effort was limited to the airfield transect, disregarding the cantonment and wooded areas.

Ralph *et al.* (1993) also recommend that birds should not be surveyed when rain or wind interferes with the audibility of bird calls, when fog and drizzle interfere with visibility, or when cold weather dampens overall activity. However, many bird species, specifically wading and shore birds, ducks, and magpies, are quite active even during these periods at Osan AB. As a result, surveys were performed under all weather conditions. Morning fog during the spring and fall surveys restricted visibility. Nonetheless, important information regarding the activity of birds in the vicinity of the airfield was recorded.

4 Species Accounts

This handbook summarizes the avian survey results for Osan AB. A total of 110 species representing 35 families were recorded during the formal surveys on Osan AB and the adjoining shoreline of the Yellow Sea. The order of presentation follows Lee *et al.* (2000), *A Field Guide to the Birds of Korea*.

For each species encountered, an individual species account provides the English common name, the genus and species, and the Korean common name in accordance with Lee *et al.* (2000). English common names also follow Lee *et al.* (2000). However, I have adopted Kaufman's (1997) convention of capitalizing common names. He and other ornithologists find that capitalizing the common names clarifies discussions of the nearly 10,000 species of birds in the world. For example, several species of kingfishers are common around the world, but there is only one Common Kingfisher (*Alcedo atthis*). Many flycatchers are grey spotted, but there is only one Grey-spotted Flycatcher (*Muscicapa griseisticta*).

Following the names, a photograph of each bird species is provided for all but 8 species. At the outset of this survey, the intent was to document the presence of each species with a photograph when possible. In many cases, the quality of the photographs suffers from the less than optimum photographic conditions. In many situations, especially on the mudflats, birds were too distant to capture a quality photograph. This was especially true when attempting to take photographs through the chain-link perimeter fence or across a few hundred meters of mudflats distorted by the shimmer of heat currents. Invariably it seemed that the lighting or direction of exposure was less than desirable. In many areas of Osan AB, the opportunity for photographic documentation was either prohibited or not appropriate, and not attempted. This was true for restricted areas, around ROKAF facilities, and along the flightline. And it was with regularity that base personnel would challenge the authorization of the photographer equipped with cameras, binoculars, and spotting scope in the field. Finally, the general human activity level on base discourages birds from loafing and tends to keep them moving. Despite these impediments, photographs sufficient for identification were acquired for approximately 90% of the species recorded on base.

Beneath each photograph is an underlined statement of the status of each bird in Korea according to Lee *et al.* (2000). Following that statement is a second statement of the species' status on Osan AB based on the results of the monthly avian surveys and the follow-on ecological monitoring effort.

Next is a matrix indicating the month(s) of the year, relative abundance, and habitat type for each species encountered. Abbreviations for terms of relative abundance follow the terminology of Massey *et al.* (1982) *A Field Guide to the Birds of Japan*. The terms include:

- A - (Abundant) An abundant bird may be seen in large numbers every time one visits the proper habitat during the proper season.
- C - (Common) A common bird will probably be found most of the time in the right habitat and season, but perhaps in smaller numbers.
- U - (Uncommon) An uncommon bird will likely be found only in small numbers, although it may occur regularly.
- R - (Rare) A rare bird is, by definition, hard to find. It may occur in highly specific or very limited habitats.

This section also incorporates an independent survey of birds conducted by KACN (2000). Apparently they conducted 1-day surveys in October 1997 and March, May, and June 1998. They also used a combination of walking and driving line-census techniques, but specific details are not available. Only the Meadow Bunting (*Emberiza cioides*) and the Dunlin (*Calidris alpina*) were observed by KACN and not corroborated with the primary survey. Accordingly, those two species are not presented in the individual species accounts.

Twelve (12) species are protected by law in the Republic of Korea. They are members of five families: (1) swans, geese, and ducks (Anatidae); (2) hawks (Accipitridae); (3) sandpipers (Scolopacidae); (4) owls (Strigidae); and (5) barn owls (Tytonidae).



If the species is listed by the Korean Ministry of Environment as “Rare,” “Threatened,” or “Reserved,” or listed by the Ministry of Culture and Tourism as a “Natural Monument,” the Korean flag and the designation(s) are provided.

Anatidae: Several Baikal Teal (*Anas formosa*) males were observed on the Jinwi River during the February 2002 survey. They are a common winter resident in the ROK. The Bean Goose (*Anser fabalis*) and Brant (*Branta bernicla*) were observed and photographed by 51 Fighter Wing Flight Safety on February 16, 2001. A single Whooper Swan (*Cygnus cygnus*) was observed in flight over the east end of the runway on June 22, 2000. A second sighting was at dusk on the evening of February 11, 2003, from the window of the Young Chon Hotel. The single swan was observed flying directly over the Beta Site northwards towards the Jinwi River. In both cases, the swan was in flight and could not be positively identified. It is possible that the swan(s) is semi-domesticated and resides in a nearby park lagoon or reservoir.

Accipitridae: The Eurasian Kestrel (*Falco tinnunculus*) is a common, year-round resident of Osan AB and was sighted during each survey period. The less common Eurasian Sparrowhawk (*Accipiter nisus*) was observed in July (2001) and February (2002) along the edge of the Jinwi River. The Chinese Sparrowhawk (*Accipiter soloensis*) was documented by KACN in May 1998 and on June 19, 2002, in the Beta Site. A single Eurasian Hobby (*Falco subbuteo*) was observed September 22-24, 1999, and another on June 28, 2004. Both were observed around the golf course’s back nine and over the airfield. Since then, the Eurasian Hobby has been recorded in May and August on base. It is likely that they nest

in the vicinity of the base. A single Common Buzzard (*Buteo buteo*) was sighted along the shores of the Jinwi River on February 11, 2003, and several times in February 2004.

Scolopacidae: A single Far Eastern Curlew (*Numenius madagascariensis*) was observed in the early morning of June 30, 2004. The bird was foraging in the rice paddies along Osan's north edge at approximately airfield sector C. It is unlikely that this species will occur commonly near Osan AB as it is a species of the tidal flats along the Yellow Sea.

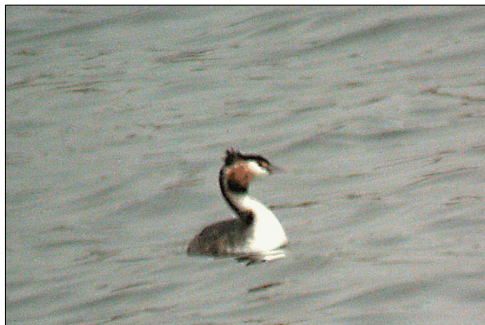
Strigidae: A single Short-eared Owl (*Asio flammeus*) was observed at dusk on January 10, 2000, on a rice paddy berm on the southwest corner of the base. Another individual was spotted near the Hot Pad on the afternoon of February 20, 2004.

Tytonidae: Brown Hawk Owl (*Ninox scutulata*) pairs have been observed on numerous occasions over the years on Hill 180. A Brown Hawk Owl was seen being mobbed by a flock of Black-naped Orioles in the Beta South Site on June 19, 2002. It is likely they are breeding and residing on or near Osan AB during the summer months. More obvious in the spring, they also appear in the fall. They have been sighted in most months during the nesting season including April through June, August, and October. It is likely that they nest on or near Osan AB.

Great Crested Grebe

Podiceps cristatus

Ppullonbyeongari



Status - Common winter visitor. Observed to be an uncommon and sporadic winter visitor.

Great Crested Grebe												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River			U									C
Airfield												
Cantonment												



Grebes are diving and swimming birds that are seldom seen on land or in flight. When threatened, they prefer to dive rather than take flight. The Great Crested Grebe occurs primarily along coastlines and in shallow bays, estuaries, and lakes. Occasionally they can be observed in rivers and in this case on the Jinwi River. Great Crested Grebes breed throughout most of central Asia including northern China. They overwinter in Korea, Japan, and most of southern China.

Great Crested Grebes are the largest grebes to occur in Korea and attain a length of 50 to 55 cm. During the breeding season, the male can be identified by his black crest and black-tipped chestnut colored facial plumes surrounding an otherwise white face. In the winter, he loses the facial plumes and closely resembles the female with the characteristic black cap, white face, and a long neck with an unmarked white throat.

Little Grebe
Tachybaptus ruficollis

Nonbyeongari



Status - Common winter visitor/common resident. Confirmed to be a common winter visitor and uncommon summer resident on the Jinwi River.

Little Grebe												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands										U		
Jinwi River	C	C	C	U		U				C	C	U
Airfield												
Cantonment												

Little Grebes are also diving and swimming birds that prefer to dive rather than take flight. Their preferred habitats are lakes, rivers, and freshwater marshes. They are present all year-round in Korea and likely nest and breed along the Jinwi River. During the winter, several pairs can be observed on the river at any given time. It is also not uncommon to see Little Grebes in the golf course ponds on the back nine during the winter months.

Little Grebes are the smallest grebes found in Korea and reach a length of only 26 cm. Overall they have short rounded bodies and relatively short necks and bills for grebes. The males in breeding plumage appear dark brown with a rufous brown neck and cheeks. Their bright yellow iris is a obvious field mark. Non-breeding plumage retains the dark brown back and crown but the face, neck, and breast are a duller, lighter brown.

Chinese Little Bittern

Ixobrychus sinensis

Deombulhae



Status - Common summer visitor. Observed to be a rare summer visitor on August 11, 2002.

Chinese Little Bittern												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands								R				
Jinwi River												
Airfield												
Cantonment												

Bitterns are medium to large wading birds. Typically they are very shy and avoid open areas where the other herons and egrets tend to congregate. Instead, they stay well-hidden along the water line in reed and cattail marshes. When threatened, bitterns freeze into their characteristically concealing posture with bills pointed upwards.

At Osan, the Chinese Little Bittern was observed only once along the golf course ponds of the front nine. At these locations, it is uncharacteristic to encounter a bittern. Chinese Little Bitterns breed and nest throughout Korea, but it is unlikely that they reside on Osan AB. They are migratory and spend the non-breeding season in southeastern Asia and the Philippine Islands.

Chinese Little Bitterns reach 37 cm in length and are typically brown in color. The males have a black cap and a somewhat creamy neck and breast with a distinct black and white collar on the upper breast. In flight, black primary feathers are a diagnostic identifying field mark.

Black-crowned Night Heron*Nycticorax nycticorax***Haoragi**

Status - Common resident. Confirmed to be a common resident except during the coldest months of winter.

Black-crowned Night Heron												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests					U	U				U		
Wetlands				C	U	U		U		U		U
Jinwi River					C	C	C	C	C		U	U
Airfield				U		U	C	C	U			
Cantonment					U		U					

Night herons are so named because of their tendency to be most active between the darkness hours and crepuscular periods of dawn and dusk. The Black-crowned Night Herons commonly visit the drainage ditches on the airfield and the golf course. But they are also commonly perched along the irrigation ditches on the southern and western base perimeters. At those locations, they stalk their primary prey: fish, insects, and amphibians. During much of the year, they roost in the trees that line the Jinwi River behind the Patriot batteries. They nest and perhaps overwinter in the Beta Site complex.

Black-crowned Night Herons are stocky, medium-sized birds reaching about 58 cm in length. Their head, bill, and back are black. The wings are grey, the underparts are white, and the legs are yellow. Field marks are long white plumes on the head in the summer and their large red eyes that turn from yellow during their first winter.

Striated Heron
Butorides striatus

Geomeudaengghaeoragi



Status - Common summer visitor. Observed to be a rare summer visitor at Osan AB.

Striated Heron												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands						R		R				
Jimwi River												
Airfield												
Cantonment												

Striated Herons can be found in a variety of wetland habitats, but prefer streams, ponds, and marshes with nearby woodland cover. They often perch in trees. On Osan AB, they were encountered along the edges of the golf course ponds on the front nine.

The Striated Heron is a chunky, medium-sized bird reaching approximately 52 cm in length and is smaller than the Black-crowned Night Heron. The head and bill are black and the upper parts and wings are greenish-grey. The wing feathers are bordered with white. The underparts are generally grey and the legs are yellow. Striated Herons lack the plumes and red eye typical of the Black-crowned Night Heron. The individual pictured above is an immature bird and does not display the adult plumage.

Cattle Egret
Bubulcus ibis

Hwangno



Status - Common summer visitor. Confirmed to be an abundant summer visitor.

Cattle Egret												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jimwi River												
Airfield					C	A	A	A	A	U		
Cantonment					C	C	A	C	C			

From the mid-fall until spring, the Cattle Egret is absent from the Osan area. In the spring, they return to nest and raise young. The Cattle Egret is a common summer visitor. From June through September, large flocks of 60 to 100 birds commonly forage on the airfield, golf course, and around the A-10 hangar area. Sometimes the flocks exceed 400 individuals just prior to migration in late summer.

Cattle Egrets tend to flock, whereas the other white egrets (Great, Intermediate, and Little Egrets) do not. Also, Cattle Egrets prefer open grassy areas, while the other egrets prefer wetland habitats. Field marks of the Cattle Egret include a small (50 cm) stature, short yellow bill, and pale yellow facial skin. During the breeding season, the males display a bright chestnut-colored plumage on their heads, necks, and backs. By fall, the males have lost much of the chestnut breeding coloration and appear totally white, like the females.

Great Egret
Ardea alba (formerly *Egretta alba*)

Jungdaebaengno



Status - Common summer visitor; uncommon winter visitor. Observed to be a common year-round resident.

Great Egret												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands		C		C	U	U	U	U	U		U	
Jinwi River	C	U	C	C	C	C	C	C	C	C	C	C
Airfield	U		U	C	C	U	C	U	U	C	U	
Cantonment												

Although a year-round resident, the Great Egret spends much time near the rookery sites during the spring. When the young are fledged, they prefer rice paddies and irrigation ditches through mid-summer. One or two widely separated Great Egrets are sometimes present in the airfield drainage ditches. But by fall and continuing through early spring, several Great Egrets at a time can be observed along the edges of the Jinwi River.

The Great Egret is very similar to the Intermediate Egret in appearance, except larger. The Great Egret reaches approximately 90 cm in length with a wing span of 1.6 m. During the breeding season, the Great Egret's bill is black (turning yellow during the non-breeding season) and the facial skin is a bright blue-green. Other distinguishing field marks include (1) a longer bill, (2) a gape extending beyond the eye, (3) plumes on the lower back, and (4) greyish tibia.

Intermediate Egret
Egretta intermedia

Jungbaengno



Status - Common summer visitor. Confirmed to be a common summer visitor.

Intermediate Egret												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands					U	U	C	U		R		
Jimwi River			U	U	U	C	C	U				
Airfield						U	C					
Cantonment												

Intermediate Egrets prefer freshwater ecosystems and reside near rice paddies and rivers. Although present in the Osan area from early spring, they are never numerous and do not become apparent on the airfield until summer when the young are fledged. By the end of August, most have migrated to their winter ranges in Taiwan, extreme southern China, and the Philippine Islands.

The Intermediate Egret is very similar to the Great Egret in appearance, except smaller. The Intermediate Egret reaches approximately 68 cm in length. During the breeding season, the Intermediate Egret's bill is also black turning to mostly yellow with a black tip during the non-breeding season. Other distinguishing field marks include (1) a shorter bill, (2) a gape not extending beyond the eye giving it a "puffy-cheeked" appearance, (3) plumes on the upper breast and lower back, and (4) black tibia.

Little Egret
Egretta garzetta

Soebaengno



Status - Summer visitor and locally common resident. Confirmed to be a common year-round resident.

Little Egret												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands	U		U	U	C	C			U		U	
Jinwi River	C	U	C	C	C	C	C	C		C	C	U
Airfield	U			C	U	U	C				U	
Cantonment												

The Little Egret occupies all kinds of wetlands but generally prefers freshwater systems including rice paddies and drainage ditches. They are very territorial and do not appear in groups. Occasionally, family units can be observed below the dam on the Jinwi River. Little Egrets tend to be solitary feeders preying on crustaceans, fish, and insects. Solitary individuals are common in the airfield drainage ditches. In the vicinity of Osan AB, Little Egrets breed and nest in the communal rookery at the Alpha Site with other species of egrets, herons, and night herons.

The Little Egret stands approximately 60 cm tall. They are readily differentiated from the other egrets by their long black bill and conspicuous yellow feet. Their solitary behavior and black bill distinguish them from the Cattle Egret.

Grey Heron
Ardea cinerea

Waegari



Status - Summer visitor and locally common resident. Confirmed to be a common year-round resident.

Grey Heron												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands	U	C	C	C	U	U		U	U	U	U	
Jinwi River	C	C	C	C	C	A	C	C	C	C	C	C
Airfield		U	C	C	C	C	U	U	C	U	U	U
Cantonment												

The Grey Heron also occupies all types of wetland habitats. They can be observed in both salt and freshwater marshes, tidal flats, and along rivers. The Grey Heron can be a common inhabitant of the airfield drainage ditches, but usually only a few widely separated individuals can be observed at any point in time. They are most common along the Jinwi River. They feed primarily on fish and frogs. They do not migrate, and they breed and nest in the vicinity of the base.

The Grey Heron is one of the largest birds in the Osan area, standing approximately 95 cm tall. They are readily recognized by their tall stature, huge yellow bill, and long yellow legs. The adult male in the photograph above displays the typical grey wings and back with white neck and the characteristic black crown stripe and shoulder patch. Females have similar markings but are duller than males.

Brent Goose
Branta bernicla

Heukgireogi



Status - Rare winter visitor. A mixed flock of Brent geese and Bean geese was observed and photographed by 51 FW/SEF on February 16, 2001.



Rare and Threatened species



Natural Monument No. 323

Brent Goose												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River												
Airfield		R										
Cantonment												

The Brant Goose (alternatively called the Brent Goose) is primarily a sea goose preferring intertidal flats and shallow saltwater bays. Its preferred diet are the marine green algae found in intertidal zones, specifically eelgrass and *Enteromorpha* spp. Only seldom does the Brant occur on fields. In the vicinity of Osan AB, its occurrence was unusual, since the base is approximately 40 km from the Yellow Sea coastline. The Pyongtaek estuary is only slightly closer.

The Brant is a small goose attaining a length of 25 cm - or barely larger than a Mallard. They are stocky geese with a blackish head, neck, breast, wings and back. They have a whitish patch on either side of the throat. The ventral underparts and tail are conspicuously white (KACN photo).

Bean Goose
Anser fabalis

Keungireogi



Status - Common winter visitor. A mixed flock of Brent and Bean geese was observed and photographed by 51 FW/SEF on February 16, 2001. Observed to be a rare winter visitor on February 11, 2003, and February 20, 2004.



Rare and Threatened species



Natural Monument No. 323

Bean Goose												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jimwi River		R										
Airfield												
Cantonment												

The Bean Goose overwinters in Korea, Japan, and eastern China. They breed throughout the taiga and tundra of Russia and Alaska. Two subspecies populations, one occupying the taiga and the other occupying the tundra, *A. f. middendorffii* and *A. f. serrirostris*, respectively, have diverged in appearance and behavior. The former is larger with a longer neck and prefers to feed in shallow lakes and ponds when overwintering in Korea. The latter (pictured above) typically feeds in rice stubble fields.

The Bean Goose is a large goose reaching 85 cm in length. They have dark brown heads and necks grading into paler greyish-brown upperparts, breast, and belly. The vent area is white. Their legs are orange, and the best field mark is their black bill with a conspicuous orange band.

Whooper Swan

Cygnus cygnus

Keungoni



Status - Uncommon winter visitor. Observed in the vicinity of Osan AB with two incidental sightings. The first record was made from Beta Site-South on June 22, 2000, when a swan was seen flying eastward over the Jinwi River. The second record was at dusk on February 11, 2003, from the window of the Young Chon Hotel when a single swan was observed flying over the Beta Site northward towards the Jinwi River.



Rare and Threatened species



Natural Monument No. 323

Whooper Swan												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River												
Airfield		R				R						
Cantonment												

Whooper Swans nest and breed throughout the taiga and tundra of Russia. They overwinter across eastern China, Korea, and much of Japan. It is possible that the sighted swans are semi-domesticated and reside nearby in a park lagoon or reservoir. The swan above was photographed on the Geum River in Gunsan.

Whooper Swans are very large birds attaining a length of 1.4 m. The sexes are similar, being entirely white with black legs. The head and bill combine to form a wedge-shaped profile without a discernable forehead. The field mark to distinguish them from other swans is the yellow area from the base of the bill extending beyond the nostrils where it comes to a point meeting the black tip.

Northern Pintail*Anas acuta***Gobang-ori**

Status - Common winter visitor. Observed to be a rare winter visitor on February 22, 2002.

Northern Pintail												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River		R										
Airfield												
Cantonment												

The Northern Pintail prefers freshwater lakes, marshes, and rivers, although it is commonly observed in estuaries and bays. Around Osan AB, they occasionally occur on the Jinwi River or feeding in the stubble of rice paddies. The Pintail breeds throughout the taiga and tundra of northern Asian and North America. They overwinter from southern Korea and Japan, southward. The Northern Pintail is the same species that occurs in the United States.

A large duck, the male Northern Pintail is about 75 cm long and the female about 53 cm long. Pintails are distinctive in appearance with their long graceful neck, black bills, and characteristically long “pin-shaped” tails. The male has a dark brown head and backside of the neck. The belly, breast, and throat are white with a thin white line extending up onto the head. The back and sides are grey. The female resembles other female marsh ducks - generally brown with dark brown markings.

Common Teal

Anas crecca

Soe-ori



Status - Common winter visitor. Confirmed to be a common winter visitor.

Common Teal													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Forests													
Wetlands													
Jinwi River		C	C	C						C			
Airfield													
Cantonment													

Common Teal prefer freshwater habitats with dense shoreline vegetation. As shown in the photograph above, they use dense shoreline vegetation to provide cover and screen them from detection. They overwinter in Korea and Japan, southward. In late winter and early spring, they can be regularly observed on the Jinwi River. They migrate to breed throughout the taiga and tundra of Russia.

Common Teal are small ducks reaching only 37.5 cm in length. They are the same species as the Green-winged Teal found in the United States. They are similar in appearance, but the Asian male population has a white wing bar that the North American male population lacks. Both have chestnut-brown colored heads with a dark green eye and ear patch. The bodies are generally greyish-brown. The females are mottled brown and well-camouflaged. In flight, both sexes display a green speculum bordered with white bars.

Northern Shoveler*Anas clypeata***Neopjeokburi**

Status - Common winter visitor. Observed to be a rare winter visitor on January 10, 2000. Six (3 pairs) individuals were observed in association with Spot-billed Ducks below the dam on the Jinwi River.

Northern Shoveler												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River	R											
Airfield												
Cantonment												

Northern Shovelers overwinter in Korea, Japan, and southeastern China. During the winter season, they prefer inland freshwater lakes, reservoirs, and rivers but can sometimes be observed in coastal wetlands and even at sea. Their diet includes a higher proportion of invertebrates and small fish than other dabbling ducks. Their large shovel-shaped bills are a special adaptation to facilitate their dietary preferences. They nest and breed throughout much of the Russian, Alaskan, and Canadian taiga.

They are small, short-necked ducks reaching only 50 cm in length with uniquely large, shovel-shaped bills. The male has a glossy green head and neck over a white breast. The back is greyish and the belly and sides are chestnut brown. The female is mottled brown with a dark stripe through the eye. In flight, field marks include a bright green speculum and white underwing linings.

Baikal Teal
Anas formosa

Gachanfori



Status - Common winter visitor. Observed to be a rare winter visitor on February 22, 2002, and April 26, 2006.



Rare and Threatened species



Natural Monument No. 323

Baikal Teal												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River		R		R								
Airfield												
Cantonment												

The Baikal Teal breeds and nests across Siberia westward to Lake Baikal. They do not breed in Korea and are only present during the winter months. Most of the world's population of Baikal Teal winters in Korea. Flocks number in the tens of thousands on the Geum River in Gunsan and in the vicinity of Seosan. They are only present near Osan AB when the Jinwi River is ice-free. Their habit is to roost on open water during the daylight hours and then move into the rice fields at night to feed.

Baikal Teal are relatively small ducks reaching 40 cm in length. The male is unmistakable with his metallic green-cream-black facial markings. The female appears as most brown-patterned female ducks except for a white spot at the base of the bill and a white crescent beneath the chin extending upward to the eye.

Mallard
Anas platyrhynchos

Cheongdungori



Status - Abundant winter visitor and uncommon resident. Confirmed to be a common to abundant winter visitor.

Mallard												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands		U										
Jinwi River	U	A	C									
Airfield		U										
Cantonment												

Worldwide, the Mallard is probably the most abundant duck species. The Mallard is the same species as found in the United States. Around Osan, the Mallard first becomes evident in early fall and becomes more common during the winter months in association with flocks of Spot-billed Ducks. By the end of March, only a few isolated individuals and pairs remain to breed. The majority migrate to north-central and northeastern Asia to breed.

The Mallard is a relatively large dabbling duck reaching approximately 60 cm in length. The males are recognized by their iridescent green heads, bright yellow bills, thin white collar, and deep brown breast. The back and wings are grey and the underparts are white. The female is a mottled brown. Both sexes have orange legs and in flight display a blue speculum bordered with white.

Spot-billed Duck
Anas poecilorhyncha

Huinppyamgeodungori



Status - Common resident and abundant winter visitor. Observed to be a common to abundant year-round resident.

Spot-billed Duck												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands			C		C			U				
Jinwi River	A	A	A	C	C	C	C	C		A	A	U
Airfield			C	U	C	U	C	U	U			
Cantonment												

The Spot-billed Duck is the most common duck in the vicinity of the base, year-round. They form flocks numbering into the hundreds on the Jinwi River during the winter months. As spring approaches, they can be common in the airfield's drainage ditches. Then they disperse and appear only in pairs or as family units by early summer. They occupy almost any aquatic habitat. In the spring and again in the fall, they are numerous in the fallow rice paddies on the southwestern and western edges of the base. During the monsoon season, they dabble in water-filled low spots and drainage ways of the airfield.

Slightly larger and heavier-bodied than Mallards, the males and females share similar mottled brown plumage. The diagnostic field marks include a bold whitish eyebrow above a dark stripe through the eye. Both sexes have a yellow-tipped black bill, orange legs, and display a blue speculum when in flight.

Garganey
Anas querquedula

Balguji



Status - Uncommon passage migrant. Observed to be a rare passage migrant.

Garganey												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River				R								
Airfield												
Cantonment												

Garganey typically overwinter throughout China and southward. They breed over most of eastern and northern Russia. A single pair of migrating Garganey were observed on the Jinwi River on April 25 and 26, 2006. Their preferred habitats are freshwater lakes, rivers, marshes, and reservoirs. But during migration, they frequent Korea's coastline and associated rice fields.

Garganey are small ducks averaging only about 38 cm in length. The males appear generally brown in color. But two conspicuous field marks differentiate them from any other duck: (1) a broad white eyebrow extends back and curves down the nape of their deep reddish brown head and neck, and (2) they have long, drooping white and black scapular feathers on the back. They also have a deep brown breast that contrast somewhat with pale greyish sides and belly. The female resembles other brown-dappled female dabbling ducks except for a prominent grey eyebrow and spot at the base of the bill.

Gadwall
Anas strepera

Allagori



Status - Common winter visitor. Confirmed to be a common winter visitor.

Gadwall												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River		C	U	C	R							
Airfield												
Cantonment												



The Gadwall spends the winter season in Korea, Japan, and southern China. They prefer freshwater lakes, marshes, and rivers where they feed on submerged plants. The Jinwi River is a good example of the habitat preferred by Gadwall. Although never numerous, a few individuals commonly occur in mixed flocks with Mallards and Spot-billed Ducks. By late spring, they have migrated northward from the Osan area to north-central Russia where they breed and nest.

The Gadwall is smaller than a Mallard, reaching about 50 cm in length. The male is predominantly grey with a white belly. He has a black bill and a black rump and tail coverts. The female has mottled brown plumage, as shown at left. She also has a blackish bill with orange sides. At rest, a small white patch may be visible on the wings of both sexes, as shown on the male above. In flight, field marks for both sexes include the white belly and white speculum.

Pochard
Aythya ferina

Huinjukji



Status - Common winter visitor. Observed to be an passage migrant on April 24, 2006.

Pochard												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River				U								
Airfield												
Cantonment												

The Pochard is considered a bay duck that feeds by diving from the surface and swimming underwater in search of food. They feed on aquatic plants and animals including fish, mollusks, and crustaceans. They breed and nest across north central Asia but winter in Korea, Japan, and across southern China. They can be found on freshwater lakes, large rivers, bays, and estuaries. Their preferred winter habitats are marshes and lakes. Near Osan AB, they are an uncommon passage migrant along the Jinwi River.

The Pochard is a medium-sized duck attaining a length of 45 cm. The males are striking with their bright reddish brown head that contrast with their black breasts and light grey backs and flanks. Their rumps are black. The bill is light grey with a black base and tip. The females have a brown head and breast with a pale spot at the base of the bill and a pale eye ring. The back, flanks, and underparts are brown mottled with grey. Good field marks for either sex include a noticeably round head, steep forehead, and a bright red iris. In flight, a pale grey band runs the length of the wings.

Eurasian Sparrowhawk

Accipiter nisus

Saemae



Status - Uncommon resident. Observed to be a rare winter visitor on February 21, 2002, and February 20, 2004.



Natural Monument No. 323

Eurasian Sparrowhawk													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Forests													
Wetlands													
Jinwi River													
Airfield		R											
Cantonment													

The Eurasian Sparrowhawk is seldom sighted on Osan AB. They typically breed in mountain forests above 600 m in elevation. They descend to the lowlands during the fall and winter non-breeding seasons. The Eurasian Sparrowhawk's diet consists mainly of small woodland birds, insects, and rodents. At Osan, they are most often encountered on the north perimeter in the riparian vegetation along the Jinwi River.

The Eurasian Sparrowhawk is slightly larger (~30-33 cm) than the Chinese Sparrowhawk. Males are slaty-blue above with a finely barred rufous breast. Rufous-colored cheeks are diagnostic field marks for the males. Females are grey-brown above with close brown bars on an otherwise white breast. The most notable field marks are a narrow white line above their eye and fine brown underwing lines.

Chinese Sparrowhawk*Accipiter soloensis***Bulgeunbaesaemae**

Status - Common summer visitor. Observed to be an uncommon summer visitor.



Natural Monument No. 323

Chinese Sparrowhawk												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests					R	U	U	R				
Wetlands												
Jimwi River												
Airfield												
Cantonment							R					

The Chinese Sparrowhawk favors wooded hillsides. At Osan, they are often observed hunting along the edges of Hills 170 and 180 in search of small birds, grasshoppers, and cicadas. A pair was observed on Hill 180 on June 20, 2003. They may nest on the hillsides but no nest sites have been discovered to date. During the winter months, Chinese Sparrowhawks migrate southward to Taiwan, the Philippines, and Malaysia.

The Chinese Sparrowhawk is a small (~30 cm) hawk. Plumage is slaty grey above with a diagnostic pale orangish wash on breast and belly. Immature birds are more brown with heavy breast streaking and flank barring. Difficult field marks include the male's red iris and the female's yellow iris. In flight, they have white underwings with black tips.

Common Buzzard

Buteo buteo

Malttonggari



Status - Common winter visitor. Observed to be an uncommon winter visitor during February 20, 2002, February 11, 2003, February 19-21, 2004, and in a kettle over Hill 180 on May 19, 2002.



Reserved Species

Common Buzzard												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River												
Airfield		U			R							
Cantonment												

The Common Buzzard hunts the open grasslands, agricultural fields, and foothills in the vicinity of the base. They are known to take mammals as large as hares, birds as large as pheasants, as well as reptiles, amphibians, and insects. On Osan, they are most frequently encountered in the area between the northern perimeter fence line and the Jinwi River. The deep grassy depression between the land farm and the Civil Engineer (CE) landfill is a common perching site.

Common Buzzards are large raptors ranging from 52 to 56 cm in length with a wingspan of 1.2 to 1.4 m. Their plumage is variable. Most display a brown head and back with a dark-streaked pale breast. In flight, the best field marks include black wingtips and wrist patches, a short neck, and a rounded, unbarred tail. When soaring, the wings are held in a slight “V” with the tips slightly forward.

Eurasian Hobby*Falco subbuteo***Saeholligi**

Status - Uncommon summer visitor. Confirmed to be an uncommon to common summer visitor.



Reserved species

Eurasian Hobby													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Forests													
Wetlands													
Jimwi River													
Airfield						U	R	C	U				
Cantonment					R			R	U				

The Hobby is a relentless hunter preying on other birds and dragonflies in flight. Although they prefer forest edges and sea cliffs, they have been recorded around Osan’s airfield demonstrating spectacular aerobatic prowess in pursuit of Barn Swallows and Skylarks. The remains of an Eurasian Hobby were personally examined following a BASH incident with an F-16 on August 25, 2005.

The Eurasian Hobby is only 30 cm in length. The Hobby has uniformly dark grey-brown upper parts and contrasting white underparts. The breast is heavily streaked. The Hobby’s diagnostic field marks are its orange-red thighs and vent and bold black “teardrop.”

Common Kestrel

Falco tinnunculus

Hwangjorongi



Status - Common resident. Confirmed to be a common year-round resident.



Natural Monument No. 323

Common Kestrel												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests		U			U			C				
Wetlands												
Jinwi River												
Airfield	U	U	U		C	C	C	C		C	C	U
Cantonment			R	R	R				C	U		



Common Kestrels are the most common raptors on Osan AB. They do not migrate and likely nest on base. They occupy all of the upland habitats on base, including the built-up areas. This falcon preys on small mammals, small birds, and insects. Unlike the Hobby, kestrels generally do not become involved in lengthy pursuits. Instead, they characteristically hover suspended over the airfield with tail spread searching for prey and then diving to capture it.

Field marks include rufous upper parts, an evident but not bold teardrop, and black pointed wingtips. Males have grey heads and tails. Females have brown upper parts, heads and tails, as shown above.

Ring-necked Pheasant
Phasianus colchicus

Kkwong



Status - Abundant resident. Observed to be a common year-round resident.

Ring-necked Pheasant												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests		C	U	C	C	C	C	R		U	C	U
Wetlands												
Jimwi River												
Airfield		C	C	C	C	C	C	R		C		
Cantonment							U	C		U		

Native to Korea, Ring-necked Pheasants have been introduced worldwide, including the U.S., as a game bird. They are ground dwelling birds preferring overgrown fence and razor-wire rows as well as woodland edges. They occupy the forested areas of Hills 170 and 180, the grassy airfield infield, and even the cantonment areas of the base. Common all year-round, they do not migrate. They breed and nest on base, and their numbers appear to have increased in recent years. Dominant roosters may have harems of several hens. Their varied diets include seeds, insects, and lizards. Ring-necked Pheasants should be considered a serious BASH hazard.

A large bird, the Ring-necked Pheasant reaches about 85 cm in length. Male plumage is an iridescent bronze mottled with brown, green, and black. His head varies from a glossy purple to glossy green. He has bright crimson fleshy eye patches and ear tufts. A broad white neck ring gives rise to his common name. Females are a mottled buff-brown overall and well-camouflaged.

Moorhen
Gallinula chloropus

Soemuldak



Status - Common summer visitor. Confirmed to be a common summer visitor.

Moorhen												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands							C					
Jinwi River				U	C	U						
Airfield												
Cantonment												

Moorhens are summer residents throughout most of central and northern China, Korea, and eastern Russia. They prefer heavily vegetated ponds and wetlands like those found on the golf course back nine. In July 2006, a hen with two chicks was observed foraging in the golf course rough between two ponds. It is also likely that they nest along the shorelines of the Jinwi River.

Specially adapted to over vegetated ponds, their feet are very large with long toes. This adaptation distributes their weight and allows them to walk on floating aquatic vegetation. They swim well and jerk their heads and necks back and forth while swimming. Migratory, they overwinter in southern China, southeastern Asia, Malaysia, and the Philippines.

Fairly large (32.5 cm long), the Moorhen is a duck-like bird. The sexes are similar. Overall they are dark grey with deep brown wings. Their outer tail coverts are white, the inner, black. Field marks include a bright red facial shield, a yellow-tipped red bill, and a white flank stripe.

Coot
Fulica atra

Muldak



Status - Uncommon resident. Observed to be a rare resident on May 26, 2005.

Coot												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jimwi River					R							
Airfield												
Cantonment												

The Eurasian Coot is also a duck-like bird typically seen in open water but preferring freshwater marsh habitats. Coots prefer to escape from potential danger by diving rather than flying. Although considered year-round residents of Korea, the majority of the population breeds throughout central and northern Asia. They build platform nests of reed in the shallows of reed-fringed lakes and ponds. They overwinter in Japan and most of central China, southward.

The Coot averages 40 cm in length, somewhat larger than the Moorhen. They appear almost entirely black, but on close inspection the throat and upper breast are somewhat brownish. The diagnostic field marks are their entirely white forehead shield and bill. In flight, they display a very thin white trailing edge on their secondary flight feathers.

Little Ringed Plover

Charadrius dubius

Kkomamulttesae



Status - Common summer visitor. Confirmed to be a common summer visitor.

Little Ringed Plover												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jimwi River												
Airfield			C	C	C	C	C				R	
Cantonment			U	C	C	C						



Little Ringed Plovers spend the breeding season in Korea, Japan, and much of northern Asia. They occupy and nest in gravelly habitats. At Osan, such areas include the CE landfill and bulk storage areas, roadside shoulders, and the Patriot Batteries. When approached, they call loudly and prefer to flee on foot rather than fly away. When nests or young birds are nearby, they feign a broken wing and hobble just beyond reach to lure potential predators away. When safely away from the nest or young, they take flight. The young birds are precocious and appear in late May through June at Osan AB. By August, their numbers decline as they begin migration to southern China and beyond.

Little Ringed Plovers are small (15 cm) with brown upper parts, white underparts, and a single black neck band. The diagnostic field mark is the bright, distinct yellow eye ring. In flight, they lack the wing bars typical of other plovers.

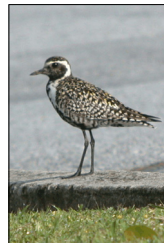
Pacific Golden Plover*Pluvialis fulva***Geomeun-gaseummulttesae**

Status - Uncommon passage migrant. Observed to be a rare passage migrant near the Rapid Runway Repair (RRR) exercise area on August 23, 2005, during the fall migration.

Pacific Golden Plover												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jimwi River												
Airfield								R				
Cantonment												

The Pacific Golden Plover breeds in the Arctic tundra. Typically they migrate along the coasts. They prefer mudflats and rice paddies, but they are often encountered in grassland habitats during migration and on their winter ranges.

The Pacific Golden Plover is a relatively large plover averaging 25 cm in length. In breeding plumage, the males have a finely patterned, golden-yellow and black back. The underparts are black. A diagnostic white band across the forehead and down the breast sides separates the patterned crown and back from the black underparts and face. Non-breeding male plumage closely resembles the females and lacks the diagnostic white band and black underparts. In flight, field marks are dark underwings, a dark rump, and a faint wing bar.



Northern Lapwing

Vanellus vanellus

Daeng-gimulttesae



Status - Common winter visitor. Confirmed to be a common winter visitor.

Northern Lapwing												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River		C	C									
Airfield	U	C	A								C	
Cantonment												

The Northern Lapwing is a common winter visitor to many portions of Korea, Japan, and southern Asia. They occur in cultivated fields, wet rice fields, and open grassy areas like airfields. At Osan AB, they are most frequently encountered in airfield sectors A and E during the day. At night, they seek cover and protection on the small islands in the Jinwi River below the dam. They breed throughout central Asia and northeastern China.

The Northern Lapwing is a distinctive, large plover reaching 32 cm in length. They have a black crest, bill, and facial marks. Their winter plumage is dark glossy green above with a white belly and vent. The breast is black. They have distinctive orange legs and feet.

Their tendency to form relatively large flocks on the airfield and flush erratically and unpredictably indicates that they may present a moderate BASH risk during the winter months.

Common Sandpiper*Actitis hypoleucos***Kkapjakdoyo**

Status - Common summer visitor. Observed to be a common late summer passage migrant.

Common Sandpiper												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands								C				
Jimwi River												
Airfield								C				
Cantonment												

Common Sandpipers frequent most wetland habitats including the drainage ditches of Osan's airfield. They nest and breed throughout most of northern Asia and overwinter throughout most of southern Asia. They are year-round residents of Japan, and it is likely they are year-round residents in the vicinity of Osan, also.

Common Sandpipers are relatively small sandpipers reaching only 20 cm in length. They have a deep brown crown and back with a distinct white eyebrow and unmarked white undersides. Their faces and breasts are brown-streaked. The diagnostic field mark is the white wedge that separates the streaked breast from the curved bend of the wing. On the ground, they constantly bob their tails and appear to teeter. In flight, they show a distinct white wing bar and a dark rump.

Wood Sandpiper

Tringa glareola

Allakdoyo



Status - Common passage migrant. Observed to be a common breeding visitor in April 2006.

Wood Sandpiper												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands							C					
Jinwi River												
Airfield							C					
Cantonment												

Wood Sandpipers prefer freshwater wetlands. Several families of Wood Sandpipers were observed foraging in standing pools of water and in water-filled tire ruts on the airfield and the exercise area near the northeastern end of the runway. In those locations, adults and young-of-the-year were observed to be stalking and feeding on invertebrates. Although they typically nest and breed in the taiga and steppe latitudes of Asia, some apparently also remain in the Osan area to nest and breed. They overwinter in southern Asia.

Well-camouflaged, they tend to freeze in place when they sense danger. Small, graceful wading birds, they reach only about 20 cm in length. Their dark upper parts are heavily spotted with buff. The breast and undersides are whitish. Field marks include a prominent whitish eyebrow, and in flight, they display pale wing liners, a small white rump patch, and a densely barred tail.

Green Sandpiper
Tringa ochropus

Ppikppikdoyo



Status - Uncommon passage migrant and winter visitor. Confirmed to be an uncommon passage migrant.

Green Sandpiper												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands				R				U			U	
Jinwi River												
Airfield				R				U			R	
Cantonment												

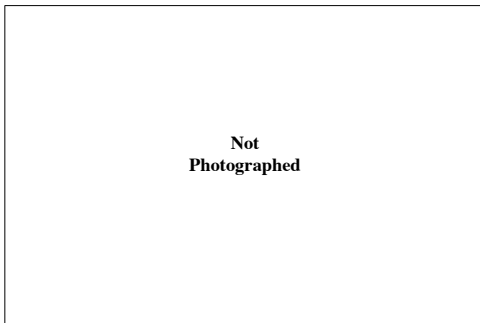
The Green Sandpiper prefers freshwater marshes and river edges. At Osan, they can be found in water-filled depressions on the airfield. Not gregarious, they are generally solitary or in small, mixed flocks with Common (*Actitis hypoleucos*) and Wood (*T. glareola*) Sandpipers. They breed throughout the taiga of Siberia and overwinter across much of China, Japan, and southern South Korea.

A medium-sized sandpiper, the Green Sandpiper reaches 24 cm in length. Overall, they are dark brown above with many small white spots. The undersides are unmarked white. The white breast is heavily streaked during the breeding season but fades to a brownish wash during the winter months. Field marks include a distinct whitish eye ring with a faint whitish eyebrow, and in flight, dark underwings, a white rump, and a white tail with dark bars near the tip.

Marsh Sandpiper

Tringa stagnatilis

Soecheongdarido

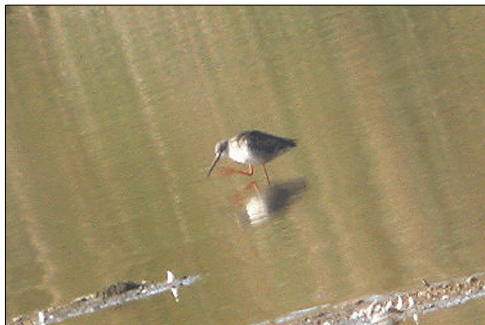


Status - Uncommon passage migrant. Observed to be a rare passage migrant.

Marsh Sandpiper												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River					R					U		
Airfield												
Cantonment												

The Marsh Sandpiper is non-specific and can be found in estuaries, mudflats, freshwater ponds, marshes, rivers, and even rice fields. At Osan AB, it was recorded wading along the sandbars of the Jinwi River adjacent to the CE bulk material storage yard. A shy and wary bird, it was not possible to observe them for an extended duration.

The Marsh Sandpiper is an average-sized sandpiper attaining approximately 24 cm in length. Although the plumage is like several other sandpipers, its general shape is much different. The body appears to be delicate with a long neck and long greenish legs. It has a long, slender black bill. During the spring migration, the back appears to be brownish mottled with grey and black. Blackish-brown spots cover the head, neck, and upper breast. In the fall, the back is pale grey and the blackish-brown spots have faded to a clear white throat and breast. Underparts are white in all seasons. In flight, field marks include a mostly white tail and rump extending up the back in a distinct wedge. Also, the legs extend well past the tail when in flight.

Common Redshank*Tringa totanus***Bulgeunbaldoyo**

Status - Common passage migrant. Observed to be a rare passage migrant on October 27, 2003, on the Jinwi River.

Common Redshank												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River										R		
Airfield												
Cantonment												

Common Redshanks prefer brackish marshes and mudflats and may be occasionally found in rice paddies. At Osan AB, it was recorded wading along the sandbars and shorelines of the Jinwi River adjacent to the CE bulk material storage yard. They breed throughout central Asia and overwinter in southern China and southeastern Asia.

Common Redshanks are medium-sized, long-legged wading birds averaging 27.5 cm in length. They have uniformly grey-brown upper parts with dark brown streaks on a white throat and breast. Diagnostic field marks are the reddish-orange legs and long, straight orange bill that is dark near the tip. In flight, they display white under wings, lower back, rump, and trailing edge of the wings.



Common Snipe
Gallinago gallinago

Kkakdoyo



Status - Common passage migrant and uncommon winter visitor. Observed to be an uncommon passage migrant.

Common Snipe												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands								U		R		
Jinwi River												
Airfield												
Cantonment												



Common Snipe prefer freshwater wetland habitats. On base, they occur in the airfield's ditches and water-filled low spots. It is likely that they are more common than reported on the airfield during migration. They are usually not seen until flushed from cover. They characteristically explode from cover with a harsh call and fly rapidly in a zig-zag pattern. Common Snipe nest and breed throughout northern Asia and overwinter southward from southern South Korea.

The Common Snipe is relatively small, reaching only about 26 cm in length. There are at least three other species of snipe that migrate through Korea. They are all very similar in appearance and nearly impossible to separate in the field. For the Common Snipe, the best field mark is the white trailing edge of the wing along with a dark-and-white underwing pattern only visible in flight.

Eurasian Woodcock
Scolopax rusticola

Metdoyo



Status - Uncommon passage migrant. Observed to be a rare passage migrant on April 27, 2006, in the woods of Hill 180.

Eurasian Woodcock												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests				R								
Wetlands												
Jimwi River												
Airfield												
Cantonment												

A Eurasian Woodcock was flushed from the northeastern-facing slope of Hill 180. This is an unusual record because Eurasian Woodcocks prefer forested wetlands with stream sides. They are primarily nocturnal and stay on the ground during the day. Migration occurs at night. They overwinter very close to the persistent frost line. Winter movements appear to be tied to fluctuations in the frost line. They nest and breed throughout the northern, broad-leaved deciduous forests of northern Japan and Siberia.

Eurasian Woodcocks average 34 cm in length and are larger than snipes. They are well camouflaged and are only seen when flushed from cover. They are reddish-brown in overall coloration with distinct, black transverse bars on the back of the head. (Eurasian Woodcock photographed by Peter Nebel at Kunsan AB.)

Black-tailed Godwit

Limosa limosa

Heuk-kkoridooyo



Status - Common passage migrant. Observed to be a rare passage migrant on May 19, 2002.

Black-tailed Godwit												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands					R							
Jinwi River												
Airfield												
Cantonment												



Black-tailed Godwits were recorded in the rice fields adjacent to Osan AB. Gregarious, they often occur in flocks numbering into the thousands during migration. They nest and breed in the lowland grasslands and tundra of Siberia and overwinter in the southern hemisphere of Australasia.

Black-tailed Godwits are large waders often exceeding 40 cm in length. They have long, straight flesh-colored bills with dark tips. Their breeding plumage is a rich coppery head, neck, and breast over a white belly with black barring on the sides of the breast and belly. In flight, they have a distinct black-and-white pattern with a broad white wing bar and a white tail with a black band at the tip, evident on the stretching bird at right.

Far Eastern Curlew
Numenius madagascariensis

Allak-kkorimadoyo



Status - Common passage migrant. Observed to be a rare passage migrant on June 30, 2004.



Reserved species

Far Eastern Curlew												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands						R						
Jimwi River												
Airfield												
Cantonment												

The individual recorded was apparently lost and was foraging in the wet rice field adjacent to the northern perimeter fence. It was observed only once, and no others have been seen in this inland location. Flocks of Far Eastern Curlews commonly occur with Eurasian Curlews on the mudflats and shell bars of the Yellow Sea. Long-distance migrants, most Far Eastern Curlews overwinter in Australia, migrating through the Philippines and New Guinea. Mature adults breed in bogs and marshes of Siberia. Many non-breeders spend the northern summer on the mudflats of the Yellow Sea.

Far Eastern Curlews are large wading birds (63 cm in length) and have a wingspan of 2 m. They have huge, down-curved bills. Their plumage is buff-brown streaked with a warm brown. A brown lower back, rump, and tail are the field marks to distinguish it from the similar but white-rumped Eurasian Curlew.

Whimbrel
Numenius phaeopus

Jungburidoyo



Status - Common passage migrant. Confirmed to be a common passage migrant.

Whimbrel													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Forests													
Wetlands													
Jinwi River													
Airfield				C	U								
Cantonment					U								

Whimbrels are only present on Osan AB for short periods during the spring and likely the fall migrations. Whimbrels normally forage in the closely cropped grasslands of the airfield, golf course, and the POL storage area. The Asian populations nest and breed in the Siberian tundra and overwinter in southeastern Asia and Australasia.

Whimbrels are small curlews averaging 43 cm in length. They are dark brown with patterns of streaks on their upperparts and barring underneath. They have a long, decurved bill, a conspicuous white eyebrow, and a dark cap with a medial white stripe. In flight, the Whimbrel displays a light or whitish rump patch.

Herring Gull
Larus argentatus

Jaegalmaegi



Status - Common winter visitor. Confirmed to be an uncommon to common winter visitor.

Herring Gull												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jimwi River	U	U	C							C		U
Airfield		U										
Cantonment												

The Herring Gull is the same species that is common to much of North America. At Osan, the Herring Gull replaces the Black-tailed Gull during the winter months. Then in the summer, the Herring Gulls migrate to the Arctic tundra to nest and breed and the Black-tailed Gulls become the predominant gull species.

Herring Gulls are large gulls averaging 62 cm in length with a wingspan of 1.4 m. Adults have a medium grey back with a brown-streaked white head and breast, and an unmarked white belly and vent. Field marks include a yellow bill with a red spot on the lower mandible, pink legs, yellow iris, and a white tail and rump. First- and second-year juveniles have different plumage than the adults - generally brown-streaked with pink legs and a black bill.



Black-tailed Gull

Larus crassirostris

Gwaengigalmaegi



Status - Abundant resident. Observed to be an uncommon summer visitor.

Black-tailed Gull												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River			R			R	U	U			U	
Airfield												
Cantonment												



Black-tailed Gulls are year-round residents along Korea's coasts. But at Osan AB, they are usually only found near the dam on the Jinwi River during the frost-free season. In April and May, they spend most of their time in large communal rookeries on islands that dot the Yellow Sea coast. Although not migratory, there is a notable reduction in local numbers during the winter when they are displaced by Herring Gulls.

Black-tailed Gulls are medium-sized gulls averaging 47 cm in length with a wingspan of 1.2 m. Adults have a medium grey back with an unmarked white breast and undersides. Field marks include a red-tipped yellow bill with a subterminal black band. Their legs and iris are yellow. In flight, a black subterminal band is apparent on an otherwise white tail and rump.

Black-headed Gull
Larus ridibundus

Bulgeunburigalmaegi



Status - Common winter visitor. Confirmed to be a common winter visitor.

Black-headed Gull												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River		A	A								U	C
Airfield												
Cantonment												

Black-headed Gulls prefer the estuarine and marine coasts of Korea during the winter months. But at Osan, they can be observed cruising the Jinwi River and loafing on the dam. They migrate north to Siberia and the Kamchatka Peninsula during the breeding season.

Black-headed Gulls are small- to medium-sized gulls attaining 41 cm in length. As their name suggests, they have black heads during the breeding season. When at Osan in the winter, they appear as in the photographs with white heads and only a black “ear patch.” Better field marks in the winter are a black-tipped red bill and red legs. In flight, their grey upper wings display a white leading edge and black wing tips.



Rock Dove
Columba livia



Status - Not described by Lee *et al.* (2000). Observed to be a rare visitor to Osan AB's golf course on November 17, 2004.

Rock Dove												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River												
Airfield												
Cantonment											R	

Rock Doves are common worldwide. Rock Doves are commonly referred to as city pigeons. They feed during the day in city parks and open fields. They roost and nest on window ledges, bridges, barns, and other out buildings. They do not migrate. Only one individual has been observed on base, to date, in the antenna array located on the golf course's back nine.

They are highly variable in coloration as a result of centuries of near domestication. Individual birds most closely resembling their wild ancestors have a neck and head darker than their backs with black bars on the inner wing, like the individual pictured above. Their legs and eyes are typically red.

Rufous Turtle Dove
Streptopelia orientalis

Metbidulgi



Status - Common resident. Confirmed to be a common resident.

Rufous Turtle Dove												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests	C	C	C	C	C	C	C	C	C	C	C	C
Wetlands												
Jimwi River												
Airfield	C	C	C	C	C	C	C	C	C	C	C	C
Cantonment	C	C	C	C	C	C	C	C	C	C	C	C

The Rufous Turtle Dove is probably the most common bird on Osan AB. They are common in parks, gardens, residential areas, and forest edges. On Osan, the local populations are present all year-round and occupy all but the wetland habitats. However, during the winter months, population sizes appear to swell with an influx of birds that nest and breed in northern Asia. They prefer conifers for nesting. Nests sites are numerous in the Beta-North Site and on Hill 170.

Their heads, necks, and underparts are brownish to pinkish grey with an obvious black-and-grey striped patch on the side of the neck. The back and scapulars are blackish brown with rufous edges. The legs and iris are dark red.

Common Cuckoo

Cuculus canorus

Ppeokkugi



Status - Common summer visitor. Confirmed to be a common summer visitor.

Common Cuckoo												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests					C	C	C	C				
Wetlands												
Jimwi River												
Airfield					U	C		U				
Cantonment							U					

The Common Cuckoo prefers the edges of woodlands, open lands with scattered trees including wetlands, and cultivated fields. At Osan, they are most frequently encountered at the Beta Site and on Hill 180. They often perch in the open to declare their territory with the unmistakable and distinctive “Cuc-koo” call. Cuckoos are nest parasites. They lay their eggs in the nests of other, usually smaller bird species. The young cuckoos are raised by the host species, often at the expense of their own chicks.

Three other species of cuckoos are almost indistinguishable from the Common Cuckoo in the field. The diagnostic characteristic is the unique call - and no other cuckoos have a similar call. The Common Cuckoo is about 35 cm in length with a grey head, back, scapulars, breast, and tail. The belly and vent are whitish with fine grey barring. They have a bright yellow eye ring and iris.

Short-eared Owl*Asio flammeus***Seobucongi**

Status - Uncommon winter visitor. Observed to be a rare winter visitor on January 10, 2000, and February 20, 2004.



Natural Monument No. 324

Short-eared Owl												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jimwi River												
Airfield	R	R										
Cantonment												

The Short-eared Owl is known as an “open country” owl because it hunts open grasslands, especially near rivers and marshes. Even though it is primarily nocturnal, it often hunts during the daylight hours. Being a predator of open country, it is not unusual to see them roosting on the ground, as shown above. At Osan, the two sightings of Short-eared Owls were in the vicinity of the Hot Cargo ad and also just beyond the perimeter fence on a paddy berm the west edge of the base. Short-eared Owls are migratory and only spend the winter months in Korea. They breed and nest throughout northern Asia and into Alaska.

Short-eared Owls are medium-sized owls attaining a length of about 39 cm. They are generally reddish-brown above with conspicuous white spots and streaks. Underparts are paler, but heavily streaked with brown. The facial disk is grey with black around the eyes. Their ear tufts, not really ears, are barely visible.

Brown Hawk Owl

Ninox scutulata

Solbueongi



Status - Uncommon summer visitor. Observed to be a rare but regular summer visitor.



Natural Monument No. 324

Brown Hawk Owl												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests				R	R	R		R		R		
Wetlands												
Jinwi River												
Airfield												
Cantonment												

Brown Hawk Owls prefer coastal conifer belts, lowland wooded areas with tall trees, and wooded parks or gardens. It is not surprising to find them in the mature forested areas of Beta-South, Hill 170, and Hill 180. It is likely that they nest and breed in the Beta-South area. Their breeding season is from late May through late July. They nest in naturally occurring tree cavities. Although they migrate through the Osan area, they are year-round residents along the southern tip of the Korean Peninsula.

Brown Hawk Owls reach 29 cm in length and differ greatly in appearance from other owls. They do not have facial disks or ear tufts so typical of other owls. They have chocolate-brown heads, backs, wings, and tails. The underparts are white with bold brown streaks. The underside of the tail is also white with black bars. Other field marks include a white wedge between their intense yellow eyes.

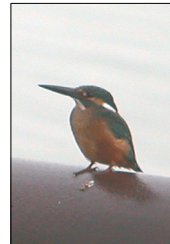
Common Kingfisher*Alcedo atthis***Mulchongsae**

Status - Common summer visitor. Confirmed to be a common summer visitor.

Common Kingfisher												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands				U	U	C	C	C				
Jimwi River												
Airfield								C				
Cantonment												

The Common Kingfisher is common throughout Korea near quiet freshwater streams, rivers, or ponds. There they perch above the water to detect the small fish on which they prey. On Osan AB, suitable habitats are limited to the golf course ponds and the airfield drainage ditches. They may nest on base, because young individuals (at right) were recorded during the August 2005 survey. Korean populations of the Common Kingfisher are migratory. They spend the non-breeding season in Japan, China, and Southeast Asia.

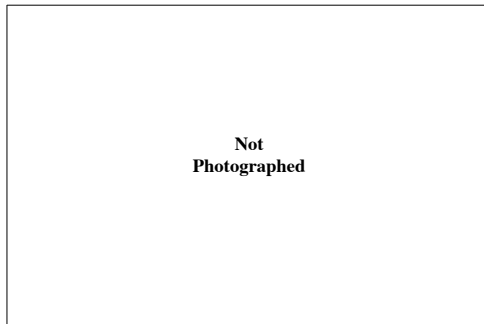
The Common Kingfisher is a brilliantly colored, small bird reaching only 17 cm in length. Their upperparts are an iridescent green-blue with bright aqua blue spots. Most striking is the brilliant aqua-blue back and rump, especially visible during flight. Their lores, cheeks, and underparts are a bright orange, which contrast with a white throat and neck patch. The legs are red and the bill is black.



Black-capped Kingfisher

Halcyon pileata

Cheonghobansae



Status - Common summer visitor. Observed to be a rare passage migrant on July 12, 2001.

Black-capped Kingfisher												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jimwi River												
Airfield												
Cantonment							R					

Black-capped Kingfishers prefer wooded streams, rice paddies, and coastal areas. At Osan AB, only one individual has been recorded at the former impoundment located near the former Bldg 2138. The bird was seen only once. Since it was sighted in mid-July, it is presumed that the bird was a summer resident and not on migration. Korea and northern China are the northern extent of their breeding range. They are present all year-round in southern China, but the majority overwinter in southeastern Asia and Malaysia.

Black-capped Kingfishers are medium-sized kingfishers (~29 cm in length) with striking plumage. They are unmistakable with their black cap, white throat, collar, and upper breast. Their backs, wings, and tail are a brilliant purplish-blue. Their underparts are rufous. Additional field marks include bright red legs and an oversized red bills. In flight, large white wing patches contrasting with black wing tips are reliable field marks.

Broad-billed Roller
Eurystomas orientalis

Parangsac

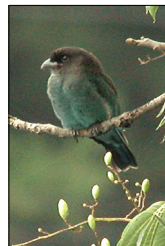


Status - Common summer visitor. Confirmed to be a common summer visitor.

Broad-billed Roller												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests					U	C	C	C				
Wetlands												
Jimwi River												
Airfield												
Cantonment					U							

Broad-billed Rollers prefer forest edges, and on Osan AB, they are most commonly observed along the electrical right-of-way on Hill 180. From high perches on the electric poles and overhead wires, they pursue and capture large flying insects like long-horned beetles and cicadas. Their courtship includes spectacular in-flight displays of turning, swooping, and rolling, which has led to their common name “roller.” They probably nest on base. During the non-breeding season, they migrate to southern China, Southeast Asia, Malaysia, and the Philippines.

Broad-billed Rollers are stocky birds reaching nearly 30 cm in length. Their large flat heads are grey and their bodies are blue-green. Their throats and the edges of their wings are blue. Field marks include a prominent red bill and red feet. In flight, they have large white patches near the base of the wing tips. Immature individuals lack the red bill and feet (shown at right).



Hoopoe
Upopa epops

Hututi



Status - Common summer visitors. Confirmed to be a common summer visitor.

Hoopoe												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests			R		R							
Wetlands												
Jinwi River												
Airfield				R	C	C	C					
Cantonment			R			C						



Hoopoes are native to much of Europe, Africa, and Asia. In eastern Asia, they are year-round residents from central China, southward. However some, including those of Korea, migrate as far north as southern Siberia to nest and breed. They prefer upland habitats like cultivated fields, lawns, and open woodlands where they forage for insects.

Hoopoes are the only species in the family Upupidae. Hoopoes attain a length of 28 cm. No other bird resembles them. The sexes are similar, each having pinkish-brown plumage with boldly barred black-and-white wings and tail and a long decurved black bill. Most unusual is their black-tipped, erectile crest that resembles a large fan, but it is often held flat.

Japanese Pygmy Woodpecker
Dendrocopos kizuki

Soettakttaguri



Status - Common resident. Observed to be a rare resident on August 23, 2005.

Japanese Pygmy Woodpecker												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests								R				
Wetlands												
Jimwi River												
Airfield												
Cantonment												

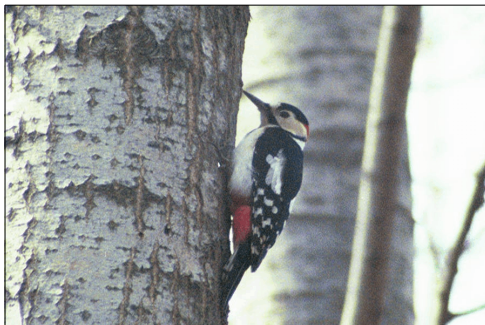
The Japanese Pygmy Woodpecker is common throughout Korea, and is a year-round resident in all wooded habitats, including urban settings. However, on Osan AB it is rarely seen. Perhaps the non-native Black Locusts and Pitch Pines that cover the hills do not support the insects these woodpeckers prefer.

The Japanese Pygmy Woodpecker is the smallest woodpecker in Korea attaining a length of only 15 cm. Well-camouflaged, their upperparts are brownish but accented with white eyebrows, moustachial stripes, and neck sides. Their brown backs are barred with white, making them difficult to distinguish from the pine cones within which they frequently forage. Their undersides are whitish with brown streaks on the breast and flanks.

Great Spotted Woodpecker

Dendrocopos major

Osaecktakttaguri



Status - Common resident. Confirmed to be a common resident.

Great Spotted Woodpecker												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests	U	C	C	C	C	U	U	C	U	U		
Wetlands												
Jinwi River												
Airfield	U			R		R	U				U	
Cantonment		U			U							



Great Spotted Woodpeckers are the most common woodpecker in Korea. They do not migrate. Although they are sometimes difficult to locate, they are present on and around Osan all year-round. They prefer deciduous wooded areas like the Black Locust (*Robinia pseudo-acacia*) woods found on Hills 170, 180, and the Beta Site. They nest in cavities they excavate in living trees, most often in Black Locusts.

Both sexes have black-and-white plumage with white bars on black wings. The breast is white but the lower belly and vent area are bright red. They have a black cap, neck ring, and moustache line surrounding a buff-colored face. Males sport a red crown - females do not. The diagnostic field marks are the large white patches on the scapulars of both sexes in flight and at rest.

Wryneck
Jynx torquilla

Gaemijabi

**Not
Photographed**

Status - Rare winter visitor. Observed to be a rare passage migrant on April 27, 1998, and September 23, 1999.

Wryneck												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests				R					R			
Wetlands												
Jimwi River												
Airfield												
Cantonment												

Wrynecks are rare in Korea and are only observed during migration. On Osan AB, both sightings were made near the base of Hill 180 directly behind Bldg 1004. This is curious because the sightings were separated by more than a year and during different seasons. Wrynecks breed throughout much of Europe and Russia. They prefer open deciduous or mixed forests, especially along the edges. They forage on the ground where they feed on ants and ant eggs. They overwinter from southern Japan and central China, southward.

The sexes are alike, with their upperparts mottled and barred in shades of brown and grey. They have a bold black stripe extending from the forehead across their crown and down their back. Their underparts are an off-white with brown bars. Spotting a Wryneck is difficult because they generally freeze and appear to be a branch. Similar to other woodpeckers, Wrynecks have the ability to climb a tree vertically with the aid of a stiff tail and two forward-facing and two rear-facing toes. Unlike other woodpeckers, they perch like passerines.

Grey-headed Woodpecker

Picus canus

Cheongttaktaguri



Status - Common resident. Confirmed to be a common, year-round resident.

Grey-headed Woodpecker												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests		U	C	U	U		U			U	U	U
Wetlands												
Jimwi River												
Airfield									U			
Cantonment		U				U		U		U		

Grey-headed Woodpeckers prefer deciduous wooded mountain slopes during the breeding season. They typically descend to deciduous lowland areas during the non-breeding season. Although they have seasonal changes in habitat, they are non-migratory. On Osan AB, they are commonly found on Hill 180 and, to a lesser extent, on Hill 170. During the summer months, they frequent the built-up cantonment area. Unlike most other woodpeckers, Grey-headed Woodpeckers often feed on the ground. They also forage over the surfaces of tree trunks and glean insects and spiders from branches and leaves.

The sexes of the Grey-headed Woodpecker are very similar. Both have olive-green backs and scapulars over pale greenish-grey, unmarked underparts. As their name implies, both have a grey head and nape with some dark streaking. The male has a crimson red forehead and dark moustachial stripe; the female lacks the red forehead and has only a pale moustache. In flight, the upper primary wing feathers are dark with white spots and the rump appears golden.

Eurasian Skylark*Alauda arvensis***Jongdari**

Status - Abundant resident. Observed to be a common resident year-round.

Eurasian Skylark												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jimwi River												
Airfield		C	C	C	C	C	C	U	C		C	
Cantonment					R				U			

Eurasian Skylarks occur in a narrow range of habitats ranging from cultivated fields to grasslands. The short-cropped vegetation of the airfield satisfies their habitat requirements. Well-camouflaged, they are seldom visible except when flushed from the ground or when singing from an elevated post or dirt pile. Skylarks are one of only a few birds to perform flight songs and are most frequently observed singing continuously whether hovering or circling in flight. The flight song is a diagnostic characteristic for their identification.

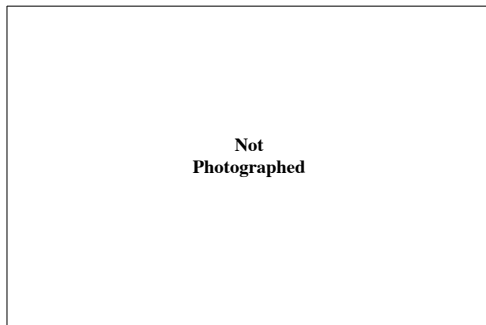
Eurasian Skylarks, about 17 cm in length, are plain brown birds with heavily streaked upperparts. Underparts are tan with streaking on the throat and breast. They have a noticeable crest that they raise when agitated. Field marks in flight are white outer tail feathers and an indistinct white rear edge on their wings.



Asian House Martin

Delichon urbica

Huinteolbaljebi



Status - Rare passage migrant. Confirmed to be a rare passage migrant on September 24, 1999, and in April 2001.

Asian House Martin												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River												
Airfield				R			R		R			
Cantonment												

The Asian House Martin is a year-round resident of southern China and southern Japan. However, large portions of the population migrate northward to breed through northern Asia. At Osan AB, we see the Asian House Martin only during migration, and then only briefly. Both records were made when small flocks were observed feeding along the airfield drainage ditch in airfield sectors A and E and over the Jinwi River.

Asian House Martins are medium-sized swallows approximately 14 cm in length. They are striking with their glossy blue-black upperparts contrasting sharply with the unmarked white underparts. They are easily identified in flight by their conspicuous white rump. No other swallow in Asia shares that field mark. However, some caution is required to not confuse them with the White-rumped Swift.

Red-rumped Swallow*Hirundo daurica***Gwijebi**

Status - Common summer visitor. Confirmed to be an uncommon to locally common summer visitor.

Red-rumped Swallow												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jimwi River									U			
Airfield								U	C			
Cantonment												

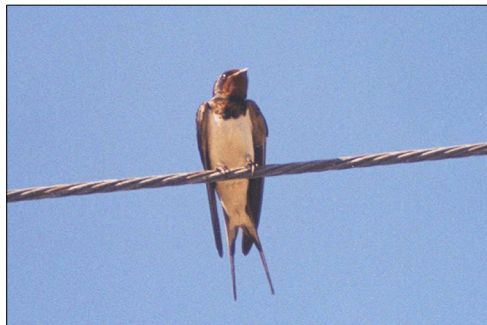
Red-rumped Swallows can be locally common, but at Osan AB, they occur in relatively small numbers and with flocks of Barn Swallows. They most commonly occur in open lowland areas like rice paddies and broad river valleys. Red-rumped Swallows nest in small colonies under the eaves of buildings and bridge superstructures. They also build mud nests. But the nests have an extended entry tube rather than being open-topped like the Barn Swallow's nest. Their breeding range is restricted to eastern Asia. Their winter range is in southeastern Asia.

Red-rumped Swallows also have glossy blue-black upperparts. Underparts are buff-colored with fine black streaks. The face is darkly streaked, and there is an orange eyebrow cap on the nape of the neck. In flight, the brick red-colored rump is visible, giving the bird its common name. They have a dark, deeply-forked tail.

Barn Swallow

Hirundo rustica

Jebi



Status - Abundant summer visitor. Confirmed to be a common summer visitor becoming abundant just prior to the fall migration.

Barn Swallow												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests				C		C	C	U				
Wetlands												
Jinwi River									C			
Airfield				C	C	C	C	C	C			
Cantonment				C	C	C	C	C				

The Barn Swallow is the same species as is common throughout much of North America. They prefer open country, particularly near wet rice paddies, ponds, fish farms, and tidal flats. At Osan, they are most often seen in small flocks feeding on insects in flight over the airfield and Jinwi River. They breed throughout much of Asia, and nest under the eaves of buildings, under bridges, and on cliffs. The nests are constructed of mud and are open-topped. They migrate to southern Asia and Malaysia for the winter months.

Barn Swallows have glossy blue-black upperparts. Underparts are unmarked white except for a dark, deeply forked tail with a band of white spots near the end. They have a deep orange forehead and throat. The throat is separated from the upper breast by a black band.

Sand Martin (Bank Swallow)*Riparia riparia***Galsaekjebi**

Status - Uncommon passage migrant. Indirectly Observed to be a rare summer visitor in June 2000.

Sand Martin												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jimwi River												
Airfield												
Cantonment						R						

In addition to a population that spends the entire year in central China, most Sand Martins spend the non-breeding season in southern China. In the spring, the majority migrate northward to breed and nest throughout northern Asia, with the exception of Korea. They nest colonially from June through August in holes excavated in banks usually near water. At Osan AB, a small colony of nest holes was discovered in the Beta Site-South in June 2000. They generally prefer a nest site near open fields and a lake or river. No birds were recorded, but the excavations (center of photograph) were unmistakable. Because this site is less than optimum for Sand Martins, it is likely that the birds abandoned their effort and continued their migration northward.

The Sand Martin is the only small (12.5 cm), brown swallow-like bird to occur in Korea. Their upperparts are brown and underparts are white with a narrow “T-shaped” breast band.

Red-throated Pipit

Anthus cervinus

Bulgeungaseumbatjongdari



Status - Scarce passage migrant. Observed to be a rare passage migrant on April 27, 2006.

Red-throated Pipit												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Intertidal Zone												
Airfield				R								
Cantonment												

Migrating Red-throated Pipits are most often encountered along the sea coast, in rice paddies, or wetlands. A single bird was sighted and photographed on the edge of an airfield drainage ditch, Sector D. This migrating individual was likely on his way to the Kamchatka Peninsula or beyond to the Aleutian Islands or Arctic tundra to breed. During the non-breeding seasons, they can be found in the Ryukyu Islands, Taiwan, and southern China.

Generally ground dwelling birds, they forage along the berms of rice paddies and the edges of wetlands. Similar in behavior to the Buff-bellied Pipit, they stay hidden in the vegetation until flushed. Then they fly somewhat erratically in a large oval pattern to return to a point near where they were flushed.

Like most pipits, the Red-throated attains a length of about 15 cm. The plumage of mature birds of both sexes is similar. They exhibit a reddish-brown or cinnamon throat, upper breast, face, and eyebrows. The extent and intensity of the reddish area is variable depending upon the individual and season of the year. The upperparts are a sandy tan with distinct black streaks and two pale lines down the center of the back.

Olive-backed Pipit*Anthus hodgsoni***Hingdungsae**

Status - Uncommon winter visitor. Confirmed to be an uncommon winter visitor.

Olive-backed Pipit												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests	U		U	R								
Wetlands												
Jimwi River												
Airfield												
Cantonment												

Olive-backed Pipits prefer edges of pine woods and thickets with adjacent grasslands. They can usually be seen on the lawns adjacent to shrubby or wooded areas in the cantonment area and along the wooded edges of the Beta Site. Southern Korea appears to be the northern edge of their winter range, as they are more common throughout southern China during the winter. They nest and breed throughout much of Siberia.

The Olive-backed Pipit is probably the easiest pipit to identify in winter plumage. The back is an olive-yellow with indistinct black streaks. The underside is a creamy white with bold black streaks and spots on the breast and sides. The best field marks are a distinct whitish eyebrow and a smaller, less-distinct white "ear spot." Behavior characteristics can also be reliable field marks. For example, the Olive-backed Pipit has a preference for dry, wooded or shrub habitats and also has a tendency to perch (and sing) in trees or on fences. These behaviors differentiate them from their grassland-dwelling relatives.

Buff-bellied Pipit

Anthus rubescens

Batjongdari



Status - Common passage migrant. Observed to be an uncommon passage migrant.

Buff-bellied Pipit												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River												
Airfield		C								U		
Cantonment												

The Buff-bellied Pipit is the same species known as the “American Pipit” in North and Central America. They are obviously common and widespread. They typically nest on the tundra in the north and alpine tundra farther south. Winter flocks congregate in damp, grassy fields and on the beaches of southern Korea, Japan, and along the China coast. At Osan, they are most commonly encountered during migration on the airfield.

At least seven species of pipits occur in Korea. As a group, pipits are relatively small (15 to 18 cm in length), plain, brownish birds with varying degrees of breast striping between species. Like wagtails, pipits bob their tails up-and-down when walking or standing. Non-breeding plumage of the Buff-bellied Pipit is brown on the head, back, and tail. The underparts are generally a creamy buff with heavy streaking and spotting on the lower throat, breast, and sides. A good field mark is the bold, black whisker mark that joins the streaking and spotting on the upper breast.

White Wagtail
Motacilla alba

Allakhalmisae



Status - Common summer visitor. Observed to be a common year-round resident.

White Wagtail												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands			U	U	C	C		C				
Jimwi River	U											
Airfield		U	U	C	C	C	C	C		U	U	
Cantonment					C	U	U	C	U		U	

White Wagtails prefer habitats containing water, especially drainage ditches, stream banks, and paddy field edges. They breed and nest throughout Korea, China, and much of Siberia. They are year-round residents along the extreme southern edge of Korea, but the majority overwinter in China and southeastern Asia.

White Wagtails are approximately 18 cm in length. Their crown, nape, and back are black. Their undersides are white. They have a prominent black bib on their breast. The two most obvious field marks are an unmarked white face and a black-and-white primary wing feather pattern over the lower back. They also bob their tails up-and-down when walking or standing.



Ashy Minivet
Pericrocotus divaricatus

Halmisaesachon



Status - Uncommon passage migrant. Observed to be a rare passage migrant on September 26, 1999, following in the aftermath of typhoon Bart passing through the Korean Straits.

Ashy Minivet												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests									R			
Wetlands												
Jinwi River												
Airfield												
Cantonment												

Ashy Minivets breed and nest in the forests of North Korea and northeastward into extreme eastern Russia as well as on the island of Honshu, Japan. Most populations overwinter in Southeast Asia and the Philippines. There is an endemic subspecies that is a year-round resident of the Ryukyu Islands. On Osan AB, a single Ashy Minivet was observed in the treetops near the base of Hill 180. It is their habit to stay in the treetops, and they seldom descend to the lower branches or the ground.

Ashy Minivets are grey above and off-white below. Males display a white forehead with a black crown, eyeline, and nape. Females have a grey-streaked crown and grey nape instead and a short black eyeline from the bill to the eye. The individual in the photograph above is a female. White wing bars are a good field mark visible during their characteristically undulating flight.

Brown-eared Bulbul*Hypsipetes amaurotis***Jikbakguri**

Status - Common resident. Confirmed to be a common year-round resident.

Brown-eared Bulbul												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests		C	C	C	C	C	C	C		U	U	C
Wetlands												
Jimwi River												
Airfield				U								
Cantonment		C		C			C	C		C	C	

Brown-eared Bulbuls are common, noisy, and conspicuous residents of low mountain forests, city parks, and gardens. They are indigenous only to the Korean Peninsula and southern Japan. Not numerous on base, small flocks occupy the woodlots of the Beta Site and Hills 170 and 180. It is likely that they also breed and nest there. They feed on insects, garden vegetables, and ripening fruits. They can become a pest for local gardeners. They are aggressive towards other feeding birds and are vocal and often squawk loudly in flight from location to location.

Brown-eared Bulbuls are medium-sized birds with long tails reaching approximately 28 cm in total length. They are grey with silvery streaking on their heads and light grey streaking on their underparts. Their primary and secondary wing feathers and tail often have a warm chocolate brown tint to them. Their conspicuous chestnut-brown ear crescent is a reliable field mark.

Bull-headed Shrike

Lanius bucephalus

Ttaeckkachi



Status - Common year-round resident. Confirmed to be a common resident.

Bull-headed Shrike												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests			U							C		
Wetlands												
Jinwi River												
Airfield	C	C	C	U			R	R		U	U	U
Cantonment							R				U	



Bull-headed Shrikes inhabit open areas with perches. At Osan AB, they frequently perch along the northern perimeter fence searching for prey. Their prey is varied and includes insects, worms, small birds and mammals, frogs, fish, and crustaceans. Shrikes have the unusual habit of impaling their captured prey on sharp twigs or even razor-wire spikes. From April through June, they are absent from Osan AB. Presumably, they move to higher elevations where they nest in open scrub forests.

Bull-headed Shrikes are medium-sized birds reaching 20 cm in length. Males are brightly colored with a brown crown and nape, a bold black eye stripe, grey back, and black wing primaries. Underparts vary depending season from pale tan to whitish. A field mark for males is a small, conspicuous white spot on the wing. Females (at left) lack the white wing patch and black eye strip, but have fine, wavy bars on their underparts.

Great Grey Shrike
Lanius excubitor

Keunjaegaegumari



Status Rare winter visitor. Observed to be a vagrant at Osan AB.

Great Grey Shrike												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Chinwi River												
Airfield								R				
Cantonment												

Great Grey Shrikes are circumboreal spending the breeding season throughout much of Europe, the northern latitudes of Asia, and North America. In Asia, they spend the non-breeding season throughout northern China and eastern Russia extending southward to include Hokkaido Japan and just reaching the northern border of North Korea. They prefer open grasslands or heaths with scattered shrubs.

In the vicinity of Osan AB, the Great Grey Shrike is considered a vagrant bird. A vagrant bird is one that has wandered far from its normal range. Such wanderings are most commonly attributed to individuals becoming disoriented during migration, becoming caught up and transported in a typhoon, or joining flocks of other birds.

Great Grey Shrikes are averaged-sized shrikes attaining a length of 24 cm. Typically they are light grey above and whitish below. Overall, their wings are black with a small white patch. Tails are black with white outer feathers. Immature individuals will exhibit a light brown coloration to the flanks, as shown above. The Great Grey Shrike has a broad, black eye-line with a thin, white eyebrow.

Thick-billed Shrike (Tiger Shrike)

Lanius tigrinus

Norang-ttaekkachi



Status - Uncommon summer visitor. Confirmed to be a rare to uncommon summer visitor.

Thick-billed Shrike												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jimwi River												
Airfield					R	R		U				
Cantonment												

Thick-billed Shrikes were once common and widespread in Korea during the breeding season. But their populations have declined throughout their historic range in recent years. At Osan, they are only recorded during the breeding season along the northern perimeter of the base. They overwinter from the southern half of China, southward. Thick-billed Shrikes prefer open country, shrubby roadsides, and lowland forests. They perch in shrubs watching for prey including insects, small birds, and small mammals. Like other shrikes, they have the unusual habit of impaling their victims on sharp twigs.

The Thick-billed Shrike is an average-sized bird reaching a length of 18.5 cm. The sexes have similar plumage, but the female is duller. Both have blue-grey crowns extending down the nape of the neck. Characteristic field marks include a bold, black eye mask without the white eyebrow so typical of other shrike species. Their back, wings, and tails are a warm reddish brown with very fine black scaling. The undersides are generally white, but the female may have some black scaling along the flanks.

Red-flanked Bluetail*Tarsiger cyanurus***Yurittaksae**

Status - Uncommon winter visitor. Observed to be a rare passage migrant on Hill 180.

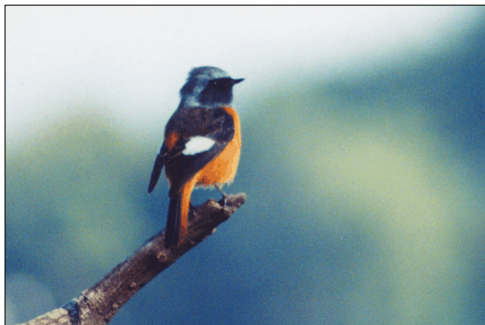
Red-flanked Bluetail												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests				R						R		
Wetlands												
Jimwi River												
Airfield												
Cantonment												

Red-flanked Bluetails winter in Korea, southern Japan, and southern China. They prefer coniferous hillside forests near streams, but also occupy urban parks. On Osan AB, scattered individuals have been recorded in the edge communities found on Hill 180. Red-flanked Bluetails nest and breed in northern Japan and throughout eastern Russia. Their preferred breeding habitats are subalpine mixed forests with dense undergrowth.

The male Red-flanked Bluetail has a bright blue head, breast, back, wings, and tail. A white throat leads to whitish underparts that are flanked with bright orange. Females have an olive-brown head, back, and wings. The tail is blue like the male's. Females also have a triangular-shaped white throat and a faint white eye ring. The undersides are off-white edged with dull orange flanks.

Daurian Redstart
Phoenicurus auroreus

Ttaksae



Status - Common resident. Confirmed to be a common resident except during the height of summer.

Daurian Redstart												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests	U	C	U	U		U					C	C
Wetlands												
Jimwi River												
Airfield		U								U	U	C
Cantonment	C				C					C	C	C



Male Daurian Redstarts are conspicuous because they often perch on the highest bare branch or wire around while singing their unique song. They are year-round residents of Korea, but seem to be absent from the Osan area during the height of summer. During that time, they may either move to higher elevations to raise their young and escape the heat of summer.

Male Daurian Redstarts are striking birds with a silvery-white crown and nape, black face, back, wings, and tail center. The breast, belly, vent, and outer tail feathers are bright orange. Females are brown overall except for a light orange rump, vent, and outer tail feathers. The best field mark for both sexes is the bold white wing patch evident in both photographs.

White's Thrush (Scaly Thrush)*Turdus dauma***Horangjippagwi**

Status - Common summer visitor and scarce resident in the south. Observed to be an uncommon passage migrant.

White's Thrush												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests				U								
Wetlands												
Hija River												
Airfield												
Cantonment				U								

White's Thrush is a forest bird that forages on the forest floor. They are migratory, overwintering in southern China and moving northward into Korea, Japan, and eastern Russia to breed and nest. On Osan AB, they only appear briefly in April during the spring migration. Small flocks of a dozen individuals or fewer were recorded on Hill 180. A dead individual was also found entwined in the security fence at the Alpha Site.

White's Thrush is a large, well-camouflaged thrush reaching 29.5 cm in length. The sexes have similar plumage. Overall, the plumage appears scaly and is yellowish-brown above but somewhat paler below. The scaly appearance is the result of crescent-shaped black marks. White tail corners when flushed and a conspicuous white underwing with a black bar in flight are good field marks.

Grey-backed Thrush

Turdus hortulorum

Doejippawgwi



Status - Uncommon summer visitor. Observed to be a rare summer visitor.

Grey-backed Thrush												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests							R					
Wetlands												
Jinwi River												
Airfield												
Cantonment												

The Grey-backed Thrush's distribution during the breeding season includes Korea and eastern Russia. On Osan AB, a single female individual was observed on July 20, 2006, on Hill 170. They appear to be secretive summer residents foraging within the dense undergrowth of local forests in the vicinity of Osan. During their migration, they prefer lowland habitats of open woodlands, thickets, and park lands. During the non-breeding season, their range includes most of southern China.

Grey-backed Thrushes are robin-sized birds reaching a length of 23 cm. As their common name suggests, their heads and upperparts are grey - so too are their throats and breasts. Their flanks are orange contrasting with a white belly and vent. Although the sexes are similar, the females are somewhat browner with a white throat and upper breast. They will also display black spots on their breast and flanks. Both sexes have yellow bills.

Dusky Thrush
Turdus naumanni

Gaettongjipagwi

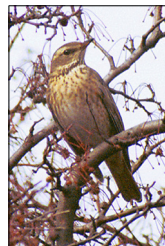


Status - Common winter visitor. Confirmed to be a common winter visitor.

Dusky Thrush												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests	C	C		U						C	C	
Wetlands												
Jimwi River												
Airfield		C	C	C							C	
Cantonment		C		U								C

In Korea, the Dusky Thrush is the most common thrush in the winter. They are birds of open cultivated fields, open woods, river banks, and city parks. On Osan AB, they often appear in small flocks on the golf course, throughout the cantonment area, and in the open grassy areas of the POL storage area. Typically they nest and breed in Siberia.

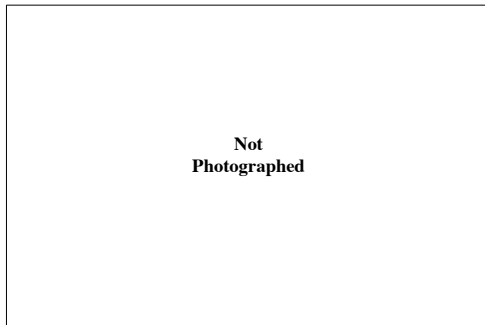
The Dusky Thrush is a Robin-sized thrush reaching about 24 cm in length. The plumage of the Dusky Thrush is highly variable. Two subspecies have been described with a continuous plumage gradient from one subspecies to the other. But in all cases, they have brown upper parts, rufous-red on the wings, creamy white eyebrows, and dark malar areas. The underparts are generally white with varying degrees of blotching, either black or orange.



Eye-browed Thrush

Turdus obscurus

Huinnusseopbulgeunbaejippagwi



Status - Scarce passage migrant. Observed to be a rare passage migrant on April 30, 2000.

Eye-browed Thrush												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River												
Airfield				R								
Cantonment												

The Eye-browed Thrush is more common in Korea during the fall migration than in the spring. They breed in the forested regions of Siberia and spend the non-breeding season in southern China, although a few winter in southern Japan. During migration, they are most often encountered along forest edges and in urban parks. However, at Osan AB, a few individuals were recorded on the airfield traveling with a flock of Dusky Thrushes.

The Eye-browed Thrush, also known as the Grey-headed Thrush, reaches about 21.5 cm in length. The male typically has a greyish head with a distinct white eyebrow above a black eyeline. The back, wings, rump, and tail are brown. The breast and flanks are russet or orangish contrasting with a white belly and vent. The female lacks the grey head and has a white throat with prominent black streaks.

Oriental Great Reed Warbler
Acrocephalus orientalis

Gaegaebi



Status - Common summer visitor. Confirmed to be a common summer visitor.

Oriental Great Reed Warbler												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands					C	C	C					
Jinwi River					C	C			C			
Airfield												
Cantonment												

The Oriental Great Reed Warbler inhabits coastal and inland reedbeds. On Osan AB, they are especially abundant in the cattail marshes of the golf course ponds. And their reedy habitats exist beyond the western perimeter fence along the irrigation ditch, adjacent to the Hot Cargo Pad, and all along the northern boundary adjacent to the Jinwi River. In those locations, the noisy Oriental Great Reed Warbler commonly nests. During the non-breeding season, they migrate to southeastern Asia and Malaysia.

The Oriental Great Reed Warbler is a relatively large warbler reaching 18.5 cm in length. Above, they are a dull brown. They have a distinct grey eyebrow and a thin black eyeline. The underside is dull grey. When singing, their bright orange gape is clearly visible.



Japanese Bush Warbler

Cettia diphone

Hwiparamsae



Status - Common summer visitor. Observed to be an uncommon summer visitor by its distinctive call.

Japanese Bush Warbler												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests					U	U						
Wetlands												
Jinwi River												
Airfield												
Cantonment												

The Japanese Bush Warbler breeds and nests in Korea and northeastern China. It is a year-round resident of the main islands of Japan. On Osan AB, they have been recorded on Hill 180 and at the Beta Site. It is likely that they nest on base. During the non-breeding season, they overwinter in southern China, the Ryukyu Islands, and Taiwan.

The Japanese Bush Warbler is relatively large for a warbler, ranging from 14 to 16 cm in length. Extremely well-camouflaged, their plumage is generally olive brown above and whitish beneath. They have an indistinct off-white eyebrow and a relatively long tail. Extremely secretive, it is very difficult to get more than a fleeting of glimpse of them skulking beneath the leaves of shrubs. However, their call is distinctive, unmistakable, and gives away their presence.

Yellow-browed Warbler*Phylloscopus inornatus***Norangnusseopsalae**

Status - Common passage migrant. Observed to be an uncommon passage migrant.

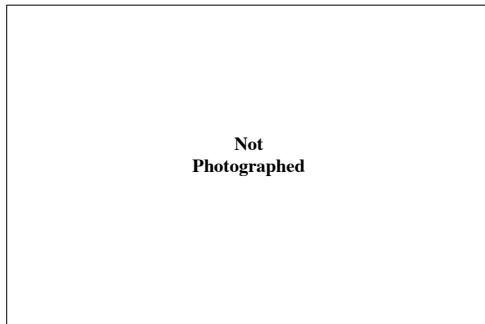
Yellow-browed Warbler												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests				U					U	C		
Wetlands												
Jinwi River												
Airfield												
Cantonment				R					R			

The Yellow-browed Warbler breeds in the forested areas of northern China and Siberia. During the non-breeding season, they inhabit the forests of southern China. On base, a few individuals were observed during migration in mixed flocks with Great Tits (*P. major*) and Goldcrests (*Regulus regulus*) in the riparian vegetation along the Jinwi River, the pines on Hill 170, and near the top of Hill 180.

The tiny Yellow-browed Warbler reaches only about 10.5 cm in length. They are generally brownish above with olive-green highlights. Below, underparts are greyish and unmarked. They have a creamy-white eyebrow that contrasts with a darker cap above and a distinct dark eye-line. They generally have one to one-and-a-half whitish wing bars.

Eastern Crowned Willow Warbler
Phylloscopus coronatus

Sansolsae



Status - Common summer visitor. Observed to be a rare to uncommon passage migrant.

Eastern Crowned Willow Warbler												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests				R					R	U		
Wetlands												
Jinwi River												
Airfield									U			
Cantonment												

Eastern Crowned Willow Warblers are reported to nest and breed throughout Korea, Japan, and northeastern China. They prefer deciduous and mixed forests but can be common in parks and gardens, as well. However, on Osan AB, they appear to be only uncommon passage migrants.

Eastern Crowned Willow Warblers are small warblers reaching about 12.5 cm in length. They are olive-green above and greyish beneath with a yellow vent area. They have a single, indistinct whitish wing bar and a distinct white eyebrow that is outlined with black above and below. Their lower mandible is orange, like many warblers, but more obvious than most.

Goldcrest
Regulus regulus

Sangmosolsac



Status - Common winter visitor. Observed to be a rare passage migrant.

Goldcrest												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests										R		
Wetlands												
Jimwi River												
Airfield												
Cantonment												

Goldcrests prefer the coniferous forests found at higher elevations during the summer months. During the winter, they descend to lower elevations where they still prefer coniferous forests and plantations. At Osan AB, they were recorded in the woods adjoining the new Mustang Village. They characteristically hover in flight while they glean small insects from the conifer branches.

The Goldcrest is the smallest bird to occur on Osan, reaching only about 9 cm in length. Overall, they are a deep olive-green above and somewhat lighter beneath. They have a faint grey eye ring. Their wings are black with white feather edges and an apparent white wing bar. They get their common name from a bright yellow crown stripe bordered in black. On occasion one can see a reddish-orange center in the yellow crown stripe. They are very similar in size and appearance to the Golden-crowned Kinglet (*R. satrapa*) found throughout most of North America.

Blue-and-White Flycatcher

Cyanoptila cyanomelana

Keunnyurisae



Status - Common summer visitor. Observed to be a rare passage migrant.

Blue-and-White Flycatcher												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests				R								
Wetlands												
Jinwi River												
Airfield												
Cantonment												



Blue-and-White Flycatchers nest and breed throughout Korea, Japan, and northeastern China. They inhabit deciduous and mixed forests at higher elevations. They prefer shady, mature forests with streams. Such habitat is not available on Osan AB, consequently, they are only present during migration. On migration, they visit open woodlands such as those that occur on the east side of Hill 180.

Blue-and-White Flycatchers attain a length of about 16.5 cm. Male upperparts are an iridescent, glossy blue in contrast with their white lower breast, belly, and vent. The crown is an even brighter iridescent blue above a black face and upper breast. Females are a dull brown with a white throat, belly, and vent. Her wings and tail are darker brown.

Tricolor Flycatcher*Ficedula zanthopygia***Huinnunseophwangeumsae**

Status - Uncommon summer visitor. Observed to be a rare summer visitor.

Tricolor Flycatcher												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests				R	R		R	R				
Wetlands												
Hija River												
Airfield												
Cantonment												

Tricolor Flycatchers prefer open deciduous forests, conifer forests, parks, and gardens. They are reported to nest and breed throughout Korea, northeastern China, and eastern Russia. At Osan AB, single individuals were recorded in April 2000 in the 1400 Area and again on Hill 180. These individuals were likely on migration and do not nest locally. They overwinter in southeastern Asia.

Tricolor Flycatchers are small (13 cm in length) and brilliantly colored. The male's head, upper back, wings, and tail are black. His throat, breast, and belly are bright yellow. They have large white wing patches and yellow lower backs and rumps. The diagnostic field mark is the bold white eyebrow. The female is olive-brown above and greyish beneath. The female shares the yellow rump and white wing patches of the male. Both sexes are quite similar in appearance to the Narcissus Flycatcher (*F. narcissina*). The specimen above was photographed at Kunsan AB.

Grey-spotted Flycatcher

Muscicapa griseisticta

Jebittaksae



Status - Common passage migrant. Observed to be an uncommon passage migrant on September 26, 1999 and May 18, 2002.

Grey-spotted Flycatcher												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests					U				U			
Wetlands												
Jinwi River												
Airfield												
Cantonment												

The Grey-spotted Flycatcher nests and breed in northeastern China and Russia, including the Kamchatka Peninsula. There they can be found in open deciduous and mixed woods, but also in urban park settings. They overwinter in the Philippines and southward.

Their tenure on Osan AB is very brief, as they were recorded only during the spring and fall migrations on Hill 180. Like most flycatchers, they perch in the open usually on dead branches, watching for flying insects. They quickly fly to catch their prey and then most frequently return to the same perch.

Grey-spotted Flycatchers are about 14.5 cm in length. Their upperparts are a pale greyish-brown. Their underparts are whitish with heavy grey-brown streaks. They have a single whitish wing bar and an indistinct white eye ring.

Vinous-throated Parrotbill

Paradoxornis webbianus

Bulgenmeoriomognuni



Status - Abundant resident. Confirmed to be a common, year-round resident.

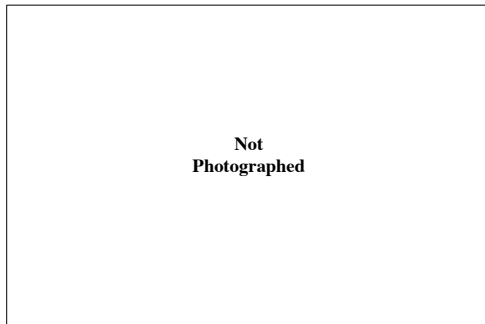
Vinous-throated Parrotbill												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests	C	C		C	C	C	C	C		C		C
Wetlands						C						
Jinwi River												
Airfield		C		C	U	U		C		C		
Cantonment				U	U				C		U	

Vinous-throated Parrotbills can be locally abundant on Osan AB. They forage in flocks of 10 to 30 individuals and are more often heard than seen as they chatter their way through dense tangles of undergrowth. Often, one can be within a few meters of a flock and see only motion, because of their excellent camouflage. They are most commonly found in the overgrown areas at the bases of Hills 170 and 180, the Beta Site, and the reedbeds associated with the Jinwi River shoreline.

Vinous-throated Parrotbills are small birds attaining only 13 cm in length. Overall, they are brown above with reddish-brown tints to their crown and wings. Beneath, they are a dull buff-brown. They have long tails and a stubby, short, black bill.

Long-tailed Tit
Aegithalos caudatus

Omognuni



Status - Common resident. Observed to be an uncommon winter visitor.

Long-tailed Tit												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests				R						C		U
Wetlands												
Jinwi River												
Airfield												
Cantonment				R								

Long-tailed Tits are nonmigratory, year-round residents of Korea, Japan, eastern China, and northeastern Russia. They prefer habitats of deciduous and mixed woods and thickets in hilly terrain. In the summer, they seek higher elevations between 500 to 1,500 m. In winter, they descend to lowland hills, agricultural lands, gardens, and urban parks. It is during the non-breeding season that they are encountered on Osan AB, most frequently on Hill 180 in association with mixed flocks of tits, buntings, and Goldcrests.

The Long-tailed Tit is a small bird reaching only 14 cm in length. The sexes are similar. The top of their head is white contrasting with a black stripes on either side of the head from in front of the eye, joining at the nape and extending onto the upper back. The middle back, rump, and vent are pinkish. Their face, breast, and underparts are white. The wings and tail are black with white feather edges.

Coal Tit
Poecile ater (formerly *Parus ater*)

Jimbaksae



Status - Common resident. Observed to be an uncommon late winter visitor.

Coal Tit												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests		R	C									
Wetlands												
Jimwi River												
Airfield												
Cantonment			R									

Coal Tits are year-round residents of Korea and most of eastern Asia. They are most often seen on Osan AB during the winter in the pine stands atop Hill 170 and in the pine groves of the cantonment area. In the spring, they seek the conifer forests in the higher elevations to nest and breed. Following the breeding season, they again descend to lower elevations.

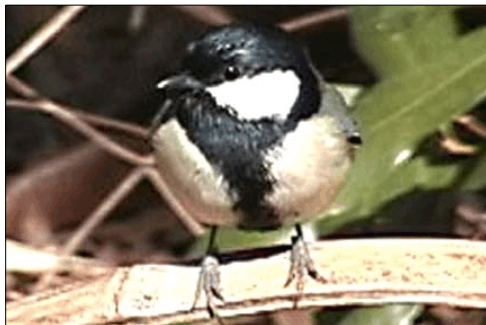
Coal Tits are the smallest tits to occur on Osan and seldom exceed 11 cm in length. They have a black-crested head with an elongated white nap. Their bold black throat extends into a bib that highlights their large white cheeks and ends abruptly on the upper breast. Their backs are bluish grey with blackish wings. Rows of white spots on the upper wing converge to make two wing bars.



Great Tit

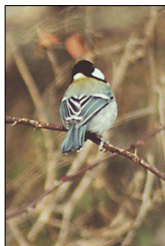
Poecile major (formerly *Parus major*)

Balsae



Status - Abundant resident. Confirmed to be a common year-round resident.

Great Tit												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests	C	C	C	C	C	C	C	C	C	U	C	C
Wetlands												
Jinwi River												
Airfield	C	C	C	U	U	U	U		U	U	U	U
Cantonment	C	C	C	C	U	U	U	C	C	C	C	C



Great Tits are common residents throughout most of north-central Asia and Europe. They are comfortable in forests, woodlands, gardens, and urban areas. They occur in all of the upland, dry habitats on Osan AB. Small flocks live, forage, and nest in the undergrowth of the Beta Site and Hills 170 and 180. They can also be observed foraging in the landscape plantings of the cantonment area.

The Great Tit is the largest of the tits found on Osan, approaching 14.5 cm in length. Their black cap and throat surround their white cheek. A black line extends from the throat down the center of the white breast and belly to the vent. The male's line is noticeably broader than the female's. Their backs are bluish-grey highlighted with olive on the upper shoulders. The wings are dark grey with a single wing bar and white edging on the primary and secondary wing feathers.

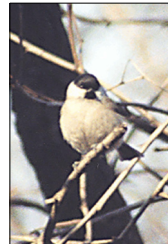
Marsh Tit*Poecile palustris* (formerly *Parus palustris*)**Soebaksae**

Status - Common resident. Confirmed to be a common resident.

Marsh Tit												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests	U	C	U	R		R	U	U	U	C	C	C
Wetlands												
Jimwi River												
Airfield												
Cantonment		U									U	

Marsh Tits are common year-round residents of northeastern China, eastern Russia, northern Japan, and Korea. They prefer mature deciduous and mixed forests in the summer on slopes up to the tree line. In winter, they move down to lower elevations and occur in more open woodlands, thickets, and urban gardens and parks. On Osan, they are often in mixed flocks with Great Tits (*P. major*) in the cantonment and wooded areas of the Beta Site and Hills 170 and 180.

Similar in size to Coal Tits (*P. ater*), Marsh Tits are small, attaining only 11 cm in length. The sexes are similar. Like the other tits, the Marsh Tit has a black cap, but it is solid without a crown stripe or nape patch. They also have small, black throat patches, but lack a bib. Their backs, wings, and tail are unmarked grey. Their undersides are greyish-white.



Varied Tit

Poecile varius (formerly *Parus varius*)

Gonjulbagi



Status - Common resident. Observed to be a rare resident.

Varied Tit												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests	R	R					R	R			R	
Wetlands												
Jinwi River												
Airfield												
Cantonment												

Varied Tits have a limited range occurring only in Korea, a small area of adjacent China, and throughout the Japanese Archipelago. They prefer mature forests of mixed deciduous and conifer trees with a thick undergrowth of shrubs. They seem to avoid areas of dense human occupation. Because their preferred habitat is limited on Osan AB, they are only incidentally encountered on base and then usually during the winter months. At those times, single individuals can be observed foraging with mixed flocks of Great and Marsh Tits (*P. major* and *P. palustris*, respectively).

The Varied Tit is comparable in size to the Great Tit, reaching 14 cm in length. Like the other species of tits, they have a black cap and throat and their wings and tail are grey-blue. They have a creamy-white face, nape patch, and upper breast, but their upper back and undersides are rusty brown. They are the only brightly colored tit found in Korea. (Varied Tit photographed on COMFLEACT Chinhae).

Common Treecreeper
Certhia familiaris

Namubalbari



Status - Uncommon winter visitor. Observed as a rare winter visitor on November 5, 1999.

Common Treecreeper												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests											R	
Wetlands												
Jimwi River												
Airfield												
Cantonment												

Common Treecreepers are year-round residents of Japan and northeastern Russia. During the breeding season, they prefer mixed and coniferous forests above 1,000 meters in elevation up to the tree line. They are only present in Korea during the winter months. During the winter, they descend to lower elevations and occur in open woodlands and suburban areas. On Osan AB, the species was recorded only once in the Black Locust plantation on the southeastern side of Hill 170. Always a rare species, they are solitary except during the breeding season. They forage for insects and spiders in the bark crevices of trees.

They are small birds only reaching a length of about 13 cm. Their upperparts are dark brown streaked with light brown and white. Their underparts are whitish and unmarked. Good field marks include a large whitish eyebrow and a thin, needle-like down-curved bill.



Yellow-throated Bunting

Emberiza elegans

Norangeongmetse



Status - Common resident. Observed to be a common winter visitor.

Yellow-throated Bunting												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests	C	C								C	C	C
Wetlands												
Jinwi River												
Airfield	C	C									C	
Cantonment												

Yellow-throated Buntings nest and breed in northeastern China and adjacent Russia. Many overwinter in Japan and along the coast of southeastern China. In Korea, Yellow-throated Buntings are year-round residents. On Osan AB, they are most commonly found during the winter months foraging in the undergrowth near the base of the Beta-North Site, Hills 170 and 180, and along the shoreline of the Jinwi River. Characteristically, they frequent the undergrowth of open forests and forest edges and stay well under cover.

Male Yellow-throated Buntings have a conspicuous black mask on a generally white face with an equally conspicuous black and yellow crest. Their backs and wings are brown streaked with cream and black. They have two white wing bars. Their undersides are whitish with chestnut-colored streaks on the flanks and an obvious black, triangular breast patch. The female is duller than the male and lacks the black face mask, crown coloration, and breast patch.

Rustic Bunting
Emberiza rustica

Ssuksae



Status - Abundant winter visitor. Observed to be an uncommon winter visitor.

Rustic Bunting												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests	U	R								C		
Wetlands												
Jimwi River												
Airfield		R	R									
Cantonment												

Rustic Buntings nest and breed throughout the taiga of Siberia and overwinter throughout Korea, Japan, and eastern China. In Korea, they frequent the undergrowth associated with lowland woods, paddy field berms, and river banks. On Osan AB, they are normally encountered foraging with flocks of Tree Sparrows (*Passer montanus*) or Yellow-throated Buntings (*E. elegans*) on Hills 170/180 or along the edge of the Beta-North Site. Occasionally they are sighted foraging in the tangles of C-wire and plant material around the periphery of the airfield.

Male Rustic Buntings display a distinctive black head with a small crest and a bright white eyebrow and throat. Their backs are reddish brown with black streaks. The undersides are greyish with chestnut-colored flanks and a central splotch on the breast. In the deepest months of winter, their head fades from black to brown with reddish-brown cheek and shoulder patches. Female plumage closely resembles that of the winter male.

Grey-headed Greenfinch

Carduelis sinica

Bangulsae



Status - Common resident. Confirmed to be a common year-round resident.

Grey-headed Greenfinch												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests		U										
Wetlands												
Jinwi River												
Airfield	U	U	U	C	C	U	U	C		C	U	U
Cantonment	U	C			C							



The Grey-headed Greenfinch is a year-round resident of Korea, China, southeastern Russia, and the main islands of Japan. They have general habitat requirements and can be found in forests, open cultivated fields, along riverbanks, and in urban settings. They can be observed in small flocks in the open woodland settings of the cantonment area and perched along the northern perimeter fence line. They likely breed and nest on Osan AB.

Grey-headed Greenfinches are medium-sized finches attaining a length of about 14.5 cm. The male is greenish-brown with a grey head. The wings and tail are blackish, but the base of the outer tail feathers and the base of the wing flight feathers are bright yellow. These yellow patches are conspicuous at rest and especially in flight. The female resembles the male but is more brown than green. Both sexes have a bright pink bill and legs.

Hawfinch*Coccothraustes coccothraustes***Kongsae**

Status - Common winter visitor. Observed to be a rare winter visitor on January 13, 2000.

Hawfinch												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests	R											
Wetlands												
Jimwi River												
Airfield												
Cantonment												

The Hawfinch breeds in a narrow geographical band extending westward from the northern islands of Japan into eastern and central Russia. They are year-round residents in small areas of Russia adjacent to and north of Korea. They overwinter throughout Korea, southern Japan, and east-central China. When in Korea during the winter, Hawfinches prefer lawns, gardens, and parks. They are often in the company of flocks of Grey-headed Greenfinches (*Carduelis sinica*). Only a single individual was observed and recorded on Hill 180 during the surveys.

Hawfinches are small, stocky finches attaining about 18 cm in length. Their heads are golden-brown with a grey nape and a darker brown back extending to a white-tipped tail. The undersides are a buff-brown. A single broad white wing bar with glossy blue secondaries highlight the wings. Black lores and throat surround a massive bill that is blue-black in the spring but turns to a yellowish pink in the fall. In flight, conspicuous white wing bars and the white tipped tail are good field marks. The sexes are similar, except the female is duller in color.

Brambling
Fringilla montifringilla

Doesac



Status - Common winter visitor. Confirmed to be a common winter visitor.

Brambling												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests		A	U								U	C
Wetlands												
Jinwi River												
Airfield		R										
Cantonment		C										

Brambling breed throughout the taiga of Siberia and overwinter in northeastern China, Russia, Japan, and Korea. They can become locally abundant in Korea during the winter months. During the winter, they occupy open woodlands, agricultural lands, and venture into city gardens. On Osan AB, they are common and sometimes abundant on Hills 170 and 180.

Brambling are small finches reaching about 16 cm in length. More colorful during the breeding season, the males display a black head and back, while the female has a light brown head and back. Their breasts are a rusty brown - more intense on the male. Their tails and wings are black with an evident wing bar. Their predominantly white undersides are speckled with black along the flanks. In winter, both sexes have grey heads with two black stripes from the crown to the nape.

Long-tailed Rosefinch*Uragus sibiricus***Ginkkorihing-yangjini**

Not
Photographed

Status - Common winter visitor. Observed as a rare winter visitor on November 6, 1999.

Long-tailed Rosefinch												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests												
Wetlands												
Jinwi River											R	
Airfield												
Cantonment												

The Long-tailed Rosefinch is a year-round resident of a narrow geographical band extending north westward from eastern Russia into central Russia. Segments of the population do migrate southward to overwinter throughout the Korean Peninsula and the main islands of Japan. When in Korea during the winter, they prefer wetlands and reedbeds with shrubby or forested edges. On Osan AB, two Long-tailed Rosefinches were recorded in the thicket just beyond the perimeter fence at the northeastern corner of the CE landfill area along the Jinwi River. The birds were observed only once, and the species has not been recorded on base since.

Long-tailed Rosefinches are average-sized finches reaching about 18 cm in length. The males have a whitish crown, cheeks, and throat offset by a bright red forehead and lores. His back is scarlet with brown streaks, and the underside is a dull red. His wings are black with two broad white bars. The tail is also black with white outer feathers. Females are dull brown above and below but share the same black wings and tails as the males.

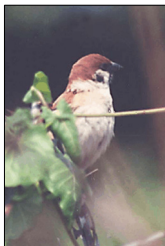
Tree Sparrow
Passer montanus

Chamsac



Status - Abundant resident. Confirmed to be an abundant resident.

Tree Sparrow												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests		C	A	U	U	C	U			U	C	
Wetlands												
Jimwi River												
Airfield	A	C	C	A	A	A	A	A	A	A	A	C
Cantonment	C	C	C	C	C	C	C	C	C	C	C	C



Tree Sparrows are well adapted to human habitation, thriving in urban, suburban, and agricultural environments. They are very common in the cantonment area of Osan AB. They prefer areas where grasses have become entwined in wire fences or concertina wire and provide cover. During the non-breeding season, they aggregate into flocks of 50 to 60 individuals as they forage along fence lines and overgrown ditches.

Both sexes of the Tree Sparrow are alike. The head is dark brown with a white line forming a collar around the nape. The face is white with a diagnostic black spot on the cheek. Their backs and wings are brown and streaked with black. They have two thin, white wing bars. Their undersides are greyish.

Grey Starling
Sturnus cineraceus

Jjireuregi



Status - Common summer visitor and uncommon winter visitor. Observed to be a common summer visitor.

Grey Starling												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests			U		U	U						
Wetlands												
Jimwi River												
Airfield			C	U	C	C	C	C				
Cantonment		U	U	C	C	C	C					

Grey Starlings breed as far north as northeastern China and overwinter through southern China. In between, some are year-round residents of Korea and Japan. They are well adapted to the urban and suburban environment and are common in city parks, gardens, and residential areas. At Osan AB, they are most often encountered in the cantonment area.

Grey Starlings are short-tailed, stocky birds attaining a length of about 24 cm. The top and back of their heads, neck, and breast are black, setting off their sometimes streaked white face. Their upperparts are greyish-brown with only slightly paler underparts. Good field marks include their orange bill and legs and an obvious white rump patch visible in flight.



Black-naped Oriole

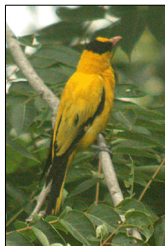
Oriolus chinensis

Kkeokkori



Status - Common summer visitor. Confirmed to be a common summer visitor.

Black-naped Oriole												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests					C	C	C	C				
Wetlands												
Jimwi River												
Airfield						U	U	U				
Cantonment									U			



Black-naped Orioles breed throughout Korea and China. They overwinter in southeastern Asia and Malaysia. On Osan AB, they are typically found in the upland deciduous forest of Hills 170 and 180 and the Beta Site. It is likely they nest at each location. They are more often heard than seen. Their scold is unique and easy to identify, as it is similar to a North American Catbird's mimic of a cat's call.

Black-naped Orioles are a medium-sized bird reaching 26 cm in length. They are unmistakable with their striking bright yellow plumage. They have a contrasting black mask, nape, and tail. Their bills are bright pink, and their legs are black. The sexes are similar, but the females are a slightly duller greenish-yellow above with a narrower eye stripe.

Jay
Garrulus glandarius

Eochi



Status - Common resident. Observed to be an uncommon to common resident of Hill 170.

Jay												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests	U	R	C	C	U	U	U		U		C	
Wetlands												
Jimwi River												
Airfield												
Cantonment												

The Jay is a non-migratory year-round resident of Korea. They inhabit the low hills surrounding Osan AB. They prefer deciduous forests in the vicinity of Osan. Like other jays, they have a tendency to stash excess tree seeds and nuts for consumption later in the season. Many of the nuts, like the acorns from oaks, are never recovered and germinate during the next growing season. The Jay is probably responsible for establishing the native oaks on Hills 170 and 180 by transporting acorns onto the base. On Osan AB, they are generally recorded on Hill 170 and the Beta Site and are only rarely seen on Hill 180.

The Jay is a medium-sized bird attaining 33 cm in length. Several subspecies of the Jay have been described, but the subspecies common on Osan is *G. g. brandtii*. They are characterized by a rusty brown head, neck, and breast. The back is greyish-brown and the undersides are grey. The flight feathers and tail are black. Excellent field marks include a black moustachial strip, blue wing coverts, and in flight, a conspicuous white wing patch and white rump.

Azure-winged Magpie
Cyanopica cyana

Mulkkachi



Status - Common resident. Observed to be a common resident appearing first in April 2006.

Azure-winged Magpie												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests				C			C					
Wetlands												
Jinwi River												
Airfield												
Cantonment				U								

The Azure-winged Magpie is a common resident throughout northern China, eastern Russia, Korea, and the northern half of the Japanese island of Honshu. Their preferred habitats are hilly open forested areas near water and orchards. They can also be common in urban parks and gardens. They avoid dense forests, mountain forests, and deep valleys. Despite their commonness in Korea, none were recorded on Osan AB until April 2006 when a small flock of 6 individuals was present during the entire survey period. The absence of Azure-winged Magpies is often directly related to the presence and dominance of Black-billed Magpies. Osan AB has traditionally had a large, raucous population of Black-billed Magpies. Also, Azure-winged Magpies are often the unwitting victims of nest parasitism by the Common Cuckoo, also a common summer resident at Osan AB.

The Azure-winged Magpie is an average-sized bird attaining a length of about 37 cm. Both sexes have a black cap that contrasts sharply with their white nape, lower face, and throat. Their backs, breasts, and undersides are light grey. The wings and tail (except the white tip) are light blue. The bill and legs are black.

Black-billed Magpie
Pica pica

Kkachi



Status - Abundant resident. Confirmed to be a common resident.

Black-billed Magpie												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests	C	C	C	C	C	C	C	C	C	C	C	C
Wetlands												
Jimwi River												
Airfield	C	C	C	C	C	C	C	C	C	C	C	C
Cantonment	C	C	C	C	C	C	C	C	C	C	C	C

Black-billed Magpies are one of the most common birds found on Osan AB and are present in all of the upland habitats. They are loud and raucous and sometimes form flocks of 20 to 30 individuals. They breed and nest on base. Their large nests of sticks can be seen on antenna towers, poles, and in trees. Typically they forage for food on the ground. They are aggressive birds and can often be observed scrapping among themselves.

Black-billed Magpies are relatively large birds reaching 46 cm in length. They have black upperparts, throat, breast, and vent area. Their shoulders and belly are white. They have a long, wedge-shaped tail that, like their wings, is glossed with green, blue, or purple. Their bill and legs are black.



Carrion Crow

Corvus corone

Kkamagwi



Status - Common resident. Observed to be an uncommon resident.

Carrion Crow												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forests						R						
Wetlands												
Jinwi River												
Airfield	C	U										U
Cantonment				R								

Carrion Crows are year-round residents of Korea. During the breeding season, they are more common in the higher elevations, but move to the lowlands during the winter. They are well-adapted to areas of human habitation, especially agricultural areas. At Osan AB, they are seldom observed on base. Instead, single individuals or flocks of approximately 45 to 50 individuals are regularly recorded in the winter during the early morning and early evening hours in flight along a northeast-to-southwest line over the base. Apparently, they are commuting between their nighttime roost and daytime feeding areas. On occasion, they have been observed picking through trash along the opposite side of the Jinwi River.

The Carrion Crow is relatively large reaching 50 cm in length. They have black plumage that has a glossy iridescence ranging from purplish to greenish. Their smoothly tapering forehead is a good field mark distinguishing them from Rooks (*C. frugilegus*) and Jungle Crows (*C. macrorhynchos*).

5 BASH (Bird Air Strike Hazards)

Table 1 lists the 108 bird species confirmed to occur on Osan AB and excludes the Dunlin and Meadow Bunting observed only during the KACN surveys. A subjective scale was used to rank each bird species according to the potential hazard it poses to aircraft operations. The subjective ranking has four categories ranging from “high” for the greatest hazard to “slight” for the least hazard. Also, birds protected by the Korean Ministry of Environment are listed in red. Species listed by the Korean Ministry of Culture and Tourism are listed in blue.

On a subjective scale, about one-half (56 of 108 species) of the species are classified as either “high,” “moderate,” or “low” BASH risks. Only 9 species are assigned a high hazard ranking. Typically, they (1) commonly occur on the airfield or in the immediate vicinity of the runway approaches, (2) prefer grassland and/or wetland habitats occurring on the airfield, (3) are of large body mass, (4) tend to congregate in flocks, and (5) demonstrate unexpected or unpredictable behavior when subjected to aircraft operations. Those that do not meet all of the criteria are subjectively ranked as either moderate (10 species) or low (37) BASH hazards.

Fifty-two species (48 percent) are classified as “slight” BASH risks because they either do not occur in the habitats associated with the airfield environment or their behavioral characteristics would lead them to seek cover within the infield grasses rather than take flight. Also in this category are birds that are so rare in the vicinity of the base that a chance encounter with aircraft operations would be exceedingly unlikely.

Table 1. Birds of Osan Air Base and their Potential BASH Risk

Species protected by the ROK Ministry of Environment are listed in **Red**
Species protected by the ROK Ministry of Culture and Tourism are listed in **Blue**

Family, Common, & Species Names	Typical Locations or Habitats	BASH Hazard
Grebes (Podicipedidae)		
Great Crested Grebe (<i>Podiceps cristatus</i>)	Uncommon winter visitor on Jinwi River.	Low
Little Grebe (<i>Podiceps ruficollis</i>)	Common year-round resident Jinwi River and golf course ponds.	Slight
Herons and Bitterns (Ardeidae)		
Grey Heron (<i>Ardea cinerea</i>)	Common year-round resident of Jinwi River and airfield ditches.	High
Cattle Egret (<i>Bubulcus ibis</i>)	Abundant summer residents of open grassy areas and the airfield.	High
Striated Heron (<i>Butorides striatus</i>)	Rare summer visitors of drainage ditches and golf course ponds.	High
Great Egret (<i>Egretta alba</i>)	Common year-round resident of Jinwi River and airfield ditches.	Moderate
Little Egret (<i>Egretta garzetta</i>)	Common, never numerous year-round resident of Jinwi River and airfield ditches.	Moderate
Intermediate Egret (<i>Egretta intermedia</i>)	Uncommon summer visitor of Jinwi River and airfield ditches.	Moderate
Chinese Little Bittern (<i>Ixobrychus sinensis</i>)	Rare summer visitor of golf course ponds - front 9.	Slight
Black-crowned Night Heron (<i>Nycticorax nycticorax</i>)	Common year-round resident of Jinwi River and airfield ditches.	High

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Family, Common, & Species Names	Typical Locations or Habitats	BASH Hazard
Swans, Geese and Ducks (Anatidae)		
Northern Pintail (<i>Anas acuta</i>)	Rare winter visitor above and below Jinwi River dam - Sector A.	Low
Common Teal (<i>Anas crecca</i>)	Common winter visitor congregates on Jinwi River.	Low
(Northern) Shoveler (<i>Anas clypeata</i>)	Rare winter visitor associated with Spot-bill Ducks on Jinwi River.	Low
Baikal Teal (<i>Anas formosa</i>)	Rare winter visitor observed on Jinwi River.	Low
Mallard (<i>Anas platyrhynchos</i>)	Abundant winter visitor with Spot-bill Ducks on Jinwi River.	Low
Spot-billed Duck (<i>Anas poecilorhynchos</i>)	Common year-round resident of airfield drainage ditches and Jinwi River.	High
Garganey (<i>Anas querquedula</i>)	Rare winter visitor; single pair on Jinwi River (4/25-26/06).	Slight
Gadwall (<i>Anas strepera</i>)	Common winter visitor on Jinwi River.	Low
Bean Goose (<i>Anser fabalis</i>)	Rare winter visitor and only observed in flight around dusk.	High
Pochard (<i>Aythya ferina</i>)	Rare winter visitor; single pair on Jinwi River (4/25/06).	Low
Brant (<i>Branta bernicla</i>)	Rare winter visitor; identified from photo by 51 FW/SEG (2/16/01).	High
Whooper Swan (<i>Cygnus cygnus</i>)	In flight from Beta Site over Jinwi River 6/22/00 and 2/11/03.	Low
Hawks, Eagles, and Vultures (Accipitridae)		
Eurasian Sparrowhawk (<i>Accipiter nisus</i>)	Rare winter visitor along edge of Jinwi River.	Slight
Chinese Sparrowhawk (<i>Accipiter soloensis</i>)	Uncommon summer visitor of Pitch Pine habitats of Hill 170.	Slight
Common Buzzard (<i>Buteo buteo</i>)	Uncommon winter visitor hunting Jinwi River shoreline.	Low
Eurasian Hobby (<i>Falco subbuteo</i>)	Uncommon summer resident of Golf course and Sector E.	Moderate
Eurasian Kestrel (<i>Falco tinnunculus</i>)	Year-round resident: All airfield sectors and golf course.	Moderate
Pheasants, Partridges, and Quail (Phasianidae)		
Common Pheasant (<i>Phasianus colchicus</i>)	Year-round resident of Hills 170, 180, and airfield sectors.	High
Rails, Gallinules and Coots (Rallidae)		
Common Gallinule (<i>Gallinula chloropus</i>)	Uncommon summer visitor; golf course ponds and Jinwi River.	Slight
Coot (<i>Fulica atra</i>)	Rare summer visitors on Jinwi River (5/26/05).	Slight
Plovers (Charadriidae)		
Little Ringed Plover (<i>Charadrius dubius</i>)	Common summer visitor; gravel areas and road shoulders.	Low
Pacific Golden Plover (<i>Pluvialis fulva</i>)	Rare passage migrant near RRR exercise area (8/23/05).	Low
Northern Lapwing (<i>Vanellus vanellus</i>)	Common winter visitor on airfield - Sector A.	Moderate
Sandpipers (Scolopaciidae)		
Common Sandpiper (<i>Actitis hypoleucos</i>)	Common passage migrant; airfield drainage ditch - Sector D	Low
Common Snipe (<i>Gallinago gallinago</i>)	Uncommon passage migrant - airfield drainage ditches.	Low
Black-tailed Godwit (<i>Limosa limosa</i>)	Rare passage migrant; 200 observed in west rice field (5/19/02).	Low
Far Eastern Curlew (<i>Numenius malagascariensis</i>)	Single individual in northern perimeter rice fields (6/30/04).	Low

Family, Common, & Species Names	Typical Locations or Habitats	BASH Hazard
Sandpipers (Scolopaciidae) - continued		
Whimbrel (<i>Numenius phaeopus</i>)	Common passage migrant; golf course and ROK revetment area.	High
Eurasian Woodcock (<i>Scolopax rusticola</i>)	Rare passage migrant; single bird flushed on Hill 180 (4/27/06).	Slight
Wood Sandpiper (<i>Tringa glareola</i>)	Common summer visitor; puddles and airfield Sector D drainage ditches.	Slight
Green Sandpiper (<i>Tringa ochropus</i>)	Uncommon passage migrant of airfield drainage ditches - Sector D.	Low
Marsh Sandpiper (<i>Tringa stagnatilis</i>)	Rare passage migrants Jinwi River dam.	Low
Common Redshank (<i>Tringa totanus</i>)	Rare passage migrants Jinwi River dam.	Low
Gulls (Laridae)		
Herring Gull (<i>Larus argentatus</i>)	Common winter residents near along Jinwi River, Sector A-C.	Moderate
Black-tailed Gull (<i>Larus crassirostris</i>)	Uncommon summer visitor along Jinwi River.	Moderate
Black-headed Gull (<i>Larus ridibundus</i>)	Abundant winter visitors at dam and along Jinwi River.	Moderate
Pigeons (Columbidae)		
Rock Dove (<i>Columba livia</i>)	Rare year-round resident; single individual on golf course.	Low
Oriental Turtle Dove (<i>Streptopelia orientalis</i>)	Common year-round resident; all areas, NRMUs, and airfield sectors.	Low
Cuckoos (Cuculidae)		
Common Cuckoo (<i>Cuculus canorus</i>)	Common summer resident on Hill 180, Alpha and Beta Sites.	Low
Owls and Barn owls (Strigidae and Tytonidae)		
Short-eared Owl (<i>Asio flammeus</i>)	Rare winter visitor; rice paddy berm (Sector E) and airfield (Sector B).	Slight
Brown Hawk Owl (<i>Ninox scutulata</i>)	Rare summer visitor on Hills 170, 180, and in Beta South.	Slight
Kingfishers (Alcedinidae)		
Common Kingfisher (<i>Alcedo atthis</i>)	Common summer visitor - golf course ponds and drainage ditches.	Slight
Black-capped Kingfisher (<i>Halcyon pileata</i>)	Rare summer visitor near July 12, 2001, at Fac 2135 (7/12/01).	Slight
Rollers (Coraaciidae)		
Broad-billed Roller (<i>Eurystomus orientalis</i>)	Common summer visitor - Hill 180, CE Compound, and Beta Site.	Slight
Hoopoes (Upupidae)		
Hoopoe (<i>Upupa epops</i>)	Common summer visitor - airfield Sectors C, D, and H.	Low
Woodpeckers (Picidae)		
Japanese Pygmy Woodpecker (<i>Dendrocopos kizuki</i>)	Rare in Osan's pine stands - NRMU 170-1.	Slight
Great spotted Woodpecker (<i>Dendrocopos major</i>)	Year-round woodland resident of Hills 170, 180, and 1400.	Slight
Wryneck (<i>Jynx torquilla</i>)	Apparent migrant - Locust forests Hill 180 (NRMUs 180-2, -3).	Slight
Grey-headed Woodpecker (<i>Picus canus</i>)	Uncommon year-round resident of Hill 180.	Slight
Larks (Alaudidae)		
Eurasian Skylark (<i>Alauda arvensis</i>)	Common resident of grassy airfield areas - all airfield sectors.	Low

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Family, Common, & Species Names	Typical Locations or Habitats	BASH Hazard
Swallows (Hirundinidae)		
Asian House Martin (<i>Delichon urbica</i>)	Rare summer visitor of all airfield sectors.	Low
Red-rumped Swallow (<i>Hirundo daurica</i>)	Uncommon summer residents - airfield Sectors B, C, D.	Low
Barn Swallow (<i>Hirundo rustica</i>)	Common summer visitor - cantonment area and all airfield sectors.	Low
Bank Swallow (<i>Riparia riparia</i>)	Rare passage migrant; nest holes in Beta Site recycling yard (6/00).	Slight
Wagtails and Pipits (Motacillidae)		
Red-throated Pipit (<i>Anthus cervinus</i>)	Rare passage migrant; drainage ditch in airfield Sector D.	Low
Olive-backed Pipit (<i>Anthus hodgsoni</i>)	Uncommon winter visitor of Beta Site along forest edges.	Low
Buff-bellied Pipet (<i>Anthus rubescens</i>)	Uncommon passage migrant in small flocks - airfield Sector D.	Low
White Wagtail (<i>Motacilla alba</i>)	Common year-round resident near grassy drainage ditches.	Low
Minivets (Campephagidae)		
Ashy Minivet (<i>Pericrocotus divaricatus</i>)	Rare passage migrant on Hill 180 (9/26/99).	Slight
Bulbul (Pycnonotidae)		
Brown-eared Bulbul (<i>Hypsipetes amaurotis</i>)	Common year-round resident of Hills 170 and 180.	Low
Shrikes (Laniidae)		
Bull-headed Shrike (<i>Lanius bucephalus</i>)	Common year-round resident along fence lines.	Slight
Northern Shrike (<i>Lanius excubitor</i>)	Very rare - more correctly a vagrant.	Slight
Tiger Shrike (<i>Lanius tigrinus</i>)	Rare summer visitor along perimeter road - airfield Sector E.	Slight
Thrushes (Turdidae)		
Red-flanked Bluetail (<i>Tarsiger cyanurus</i>)	Rare passage migrant in edge communities of Hill 180.	Slight
Daurian Redstart (<i>Phoenicurus aureus</i>)	Common non-breeding resident of cantonment areas.	Slight
White's Ground Thrush (<i>Turdus dauma</i>)	Uncommon spring migrants on Hill 180 (NRMU 180-3).	Slight
Grey-backed Thrush (<i>Turdus hortulorum</i>)	Rare summer visitor on Hill 170 (NRMU 170-3).	Slight
Dusky Thrush (<i>Turdus naumanni</i>)	Common winter resident of open grassy areas.	Low
Eye-browed Thrush (<i>Turdus obscurus</i>)	Rare passage migrants observed on golf course - airfield sector E.	Slight
Warblers (Sylviidae)		
Oriental Great Reed Warbler (<i>Acrocephalus orientalis</i>)	Common summer resident; golf course cattails and Jinwi River bank.	Slight
Japanese Bush Warbler (<i>Cettia diphone</i>)	Uncommon summer visitor; heard song on Hill 180 and Beta Site.	Slight
Yellow-browed Warbler (<i>Phylloscopus inornatus</i>)	Uncommon passage migrant on Hills 170 and 180.	Slight
Crowned Willow Warbler (<i>Phylloscopus occipitalis</i>)	Rare passage migrant on Hill 180 and north perimeter fence row.	Slight
Goldcrest (<i>Regulus regulus</i>)	Rare passage migrant on Hill 180.	Slight
Flycatchers (Muscicapidae)		
Blue-and-white Flycatcher (<i>Cyanoptila cyanomelana</i>)	Rare passage migrant on Hill 180.	Slight
Asian Brown Flycatcher (<i>Muscicapa daurica</i>)	Rare passage migrant on Hill 180.	Slight

Family, Common, & Species Names	Typical Locations or Habitats	BASH Hazard
Flycatchers (Muscicapidae) - continued		
Tricolor Flycatcher (<i>Ficedula zanthopygia</i>)	Rare passage migrant in wooded areas of Hills 170 and 180.	Slight
Grey-spotted Flycatcher (<i>Muscicapa griseictica</i>)	Uncommon passage migrant in open locust stands of Hill 180.	Slight
Bearded Tits and Parrotbills (Panuridae)		
Vinous-throated Parrotbill (<i>Paradosornis webbiana</i>)	Common year-round resident of Hill 180 and fence row thickets.	Slight
Long-tailed tits (Aegithalidae)		
Long-tailed Tit (<i>Aegithalos caudatus</i>)	Uncommon winter visitor of Hill 180, CE Yard, airfield Sector B.	Slight
Tits (Paridae)		
Coal Tit (<i>Parus ater</i>)	Uncommon winter visitor associated with flocks with Great Tits.	Slight
Great Tit (<i>Parus major</i>)	Common year-round resident - all cantonment and wooded areas.	Slight
Marsh Tit (<i>Parus palustris</i>)	Common year-round resident of Hill 170 and 180 wooded areas.	Slight
Varied Tit (<i>Parus varius</i>)	Sporadic year-round resident of Hill 170 pitch pine habitats.	Slight
Tree Creepers (Certhiidae)		
Brown Treecreeper (<i>Certhia familiaris</i>)	Rare winter visitor of Hill 170 black locust habitats.	Slight
Buntings (Emberizidae)		
Yellow-throated Bunting (<i>Emberiza elegans</i>)	Common winter visitor of Hill 180, fence row, and Beta Site thickets.	Slight
Rustic Bunting (<i>Emberiza rustica</i>)	Uncommon winter visitor of Hill 180, fence row, and Beta Site thickets.	Slight
Finches (Fringillidae)		
Grey-headed Greenfinch (<i>Carduelis sinica</i>)	Common year-round resident of the cantonment areas.	Slight
Hawfinch (<i>Coccothraustes coccothraustes</i>)	Rare winter visitor associated with Dusky Thrushes (1/13/00).	Slight
Brambling (<i>Fringilla montifringilla</i>)	Common winter visitor of Hill 180 and Beta Site thickets.	Slight
Long-tailed Rose Finch (<i>Uragus sibiricus</i>)	Rare winter visitor along north security fence line (11/6/99).	Slight
Weaver Finches (Ploceidae)		
Tree Sparrow (<i>Passer montanus</i>)	Abundant year-round resident.	Low
Starlings (Sturnidae)		
Grey Starling (<i>Sturnus cineraceus</i>)	Common but sporadic year-round resident of cantonment areas.	Low
Orioles (Oriolidae)		
Black-napped Oriole (<i>Oriolus chinensis</i>)	Common summer visitor of Hills 170 and 180 black locust habitats.	Low
Crows (Corvidae)		
Azure-winged Magpie (<i>Cyanopica cyana</i>)	Family unit of 6 birds first recorded in 2006 on Hill 180.	Slight
Carrion Crow (<i>Corvus corone</i>)	Common winter visitor traverses airfield at dawn and dusk.	Low
Jay (<i>Garrulus glandarius</i>)	Uncommon year-round resident of Hills 170, 180, and Beta Site.	Slight
Magpie (<i>Pica pica</i>)	Common year-round resident of all areas and airfield sectors.	Moderate

5.1 Airfield Management

The unpaved open areas associated with the airfield are classified as semi-improved grounds. This includes all of Osan AB from the taxiways north to the boundary fence. All trees have been removed from the airfield, and grounds maintenance consists mainly of grass mowing and weed control. Airfield grounds maintenance is conducted by Pavement and Grounds (51 CES/CEORH). Mowing follows a regular cycle, with mowing beginning at the western end of the airfield and moving eastward to the end of the airfield. Each cycle lasts 5 to 7 days. Mowing occurs constantly during the growing season, since the western end needs mowing by the time the eastern end is completed. Herbicides are applied by the Pest Management Shop (51 CES/CEORE) to pavement cracks and joints, around airfield lights, and at the base of the concertina wire surrounding the airfield. Herbicide application is scheduled based on the results of regular inspections or upon special request by 51 CES/CEORH. The semi-improved areas around taxiways and hardened hangars (e.g., “the diamonds,” “the Dragon’s Lair,” and “3rd Generation”) are maintained by the contracted groundskeeper. With the exception of ornamental lawns, grass in these areas shall be maintained at the same height as the airfield (7 to 12 in., or 18 to 30 cm).

The vast majority of all bird-aircraft strikes occur at or near airports. The most important factor in reducing the risk of bird-aircraft strikes is a well-designed, science-based, and properly implemented airfield management program. The principal objective of Osan AB’s airfield management program is to employ measures that will prevent collisions between aircraft and birds in the vicinity of the airfield.

In accordance with the 51 FW Plan 91-212 BASH Plan (51 FW 2002b) Annex J.13, the 51 CES is tasked with:

- a. Providing a Natural Resources Representative, or individual with similar qualifications, to the Bird Hazard Working Group (BHWG) to monitor and advise the group on environmental modifications.
- b. Developing procedures for removal or control of bird attractants and food sources.
- c. Initiating surveys and writing environmental impact assessments and statements, as required.
- d. Correcting environmental conditions that increase BASH potential.
- e. Utilizing the network of facility managers to report bird activities (i.e., roosting or loitering) inside airfield structures to 51 FW/SEF.
- f. Using land management practices that reduce BASH potential.
- g. Modifying airfield habitat consistent with runway lateral and approach zone management criteria in accordance with UFC 3-260-01. Habitat reduction to reduce BASH beyond the 1,000-foot (305-m) distance criterion is desired and will further reduce BASH potential.
- h. Developing a long-range program in conjunction with other base improvements and modifications in an attempt to make the airfield unattractive to birds.
- i. Incorporating the following practices into the Osan AB Land Management Plan:
 - (1) Grass height management. Mowing will be conducted when the average grass height reaches 12 inches (30 cm) or when seed heads begin to develop, whichever occurs first. Grass must be

cut before it goes to seed to discourage flocking species from entering the airfield. Grass height between 7 and 12 inches (18 and 30 cm) seems to best deter our largest threat, the White Egret [sic]. This height is optimum during most seasons. Optimum height may change slightly, dependent on the most prevalent bird type. Regularly coordinate with 51 FW/SEF and Airfield Management on the optimum mowing height. Begin mowing adjacent to the runway and proceed outward away from the runway to finish infield or outer-most grass areas. This will cause insects and other animals to move away from the runway. Coordinate mowing with periods outside of 51st Wing flying activity when possible.

- (2) Broadleaf weed control. Broadleaf weeds will be kept to a minimum on the airfield.
- (3) Planting bare areas. Bare areas are used by resting birds, so grass will be planted as necessary.
- (4) Fertilizing. Fertilizer will be used as necessary to achieve a uniform cover. Watering or irrigation will be used to enhance grass root production in newly seeded areas.
- (5) Reducing edge effect. The airfield will be maintained as uniformly as possible to reduce the highly bird attractive zone between two distinct habitat types (e.g., brush and grassland).
- (6) Leveling. High and low spots on the airfield will be leveled or filled as much as possible to reduce attractiveness to birds and prevent standing water. This does not apply to drainage ditches.
- (7) Dead vegetation. Brush piles, grass clipping piles, etc., and the cover they afford will be removed as soon as possible.
- (8) Dead birds or other animals. Dead animals will be removed from the airfield to avoid attracting vultures and other birds. Non-fleshy bird remains (feathers, feet, and beaks) from a potential bird strike will be forwarded to 51 FW/SEF.
- (9) Pest control. Invertebrates and rodents provide important food sources for many birds, so 51 CES will periodically survey and reduce these pests when required. Control of insects, earthworms, rodents, frogs, etc., will be accomplished under the supervision of the entomology office.
- (10) Drainage ditches. Ditches will be inspected regularly and kept clear and obstacle-free. Ditch sides outside the 300-foot (92-m) distance from the runway centerline will be kept as steep as possible to discourage wading birds and emergent vegetation. Vegetation will be removed in April and September, or as often as necessary to maintain flow.
- (11) Control waste disposal. Landfills are the most significant bird attractant. When identified to the 51 CES, they will ask local authorities to operate local landfills using the following methods, if applicable:
 - (a) Maintain a small working force to minimize exposed wastes.
 - (b) Incinerate waste.
 - (c) Operate landfill as a pit or trench to limit bird access.
 - (d) Dump waste at night or during non-flying periods.
 - (e) Cover waste material immediately.

- (f) Restrict birds with overhead wire barriers.
 - (g) Relocate putrescible wastes.
 - (h) Eliminate roosting sites.
- (12) Bird-proof buildings. Bird-proof buildings, hangars, and aircraft shelters by blocking entry routes. If necessary, methods such as toxic perches, pellet guns, netting, night harassment, etc., will be used.
- (13) Seek guidance. Routinely seek the guidance and assistance of HQ PACAF concerning bird hazard reduction policies and guidelines.

5.2 Drainage Ditch Maintenance

Execute the drainage ditch maintenance recommendations identified in 51 FW BASH Plan Annex J.13.h(10). Because the drainage gradient is slight, regrading the sides of ditches will not greatly improve the rate of drainage. However, keeping the drainage ditches clear of vegetation and debris will facilitate the flow of water and reduce habitat availability for prey species, thereby making the ditches less attractive to birds.

5.3 Surface Water Reduction

Establish a routine schedule to identify and fill tire ruts and other low spots around the airfield. Such areas retain water and provide habitat for reptiles, amphibians, fish, and aquatic invertebrates that, in turn, attract waterfowl and wading birds.

5.4 Alternative Mowing Equipment and Procedures

Investigate alternative mowing machines to avoid the creation of deep, water-retaining tire ruts. Alternatives might include equipping mowing machines with wide “balloon” tires that more evenly distribute mower weight. Also, new tractors are being produced with tracks instead of conventional tires.

Design mowing patterns that employ wide turns rather than tight turns. Wider turns will reduce tire ruts. When wet, the tire ruts act as miniature ponds and provide shelter for frogs and aquatic invertebrates that attract feeding birds. The compacted soil forming the ruts prevents even drainage. When dry, the tire ruts prevent even mowing and increase the wear-and-tear on equipment.

5.5 Restricted Mowing Schedules

Limit mowing activities to periods when there are no flying operations. Mowing machines disturb, maim, and disorient insects, other invertebrates, reptiles, amphibians, and even small mammals, which can attract bird predators. Cattle Egrets are naturally well adapted to foraging on the ground among animal herds. To a Cattle Egret, mowing machines provide the same benefits as herd animals. They have learned to associate mowing machines with an ample source of food and are particularly attracted to mowing operations. Mowing operations should be limited to non-flying hours because the egrets frequently follow mowers to feed on the insects that are stirred up. Also, mowing activities should be avoided when the airfield is saturated or soggy. All other motor vehicle operations should be restricted on the airfield.



Cattle Egrets are Attracted to Mowing Operations

5.6 Enhanced Bird Harassment

Implement more effective harassment methods for persistent individuals (e.g., Grey Herons, Spot-billed Ducks) or flocks of birds (e.g., Cattle Egrets, Whimbrels). Procure additional gas cannons or relocate existing cannons to the locations where birds congregate. Portable cannons mounted in the bed of a small pickup truck can be moved to where birds pose the greatest hazard.



Deploy Pyrotechnics to High Risk Areas

Investigate the possibility of using working dogs (like border collies) for bird dispersal. Border collies have been used effectively at commercial airports and some military airfields to harass birds. Working dogs could be accommodated in existing K-9 facilities.

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7 Index of Scientific and English Common Names

Scientific nomenclature follows Lee *et al.* (2000) in nearly all cases. Exceptions include: the Great Egret (formerly *Egretta alba*) is now *Ardea alba*; the Black-backed Wagtail (formerly *Motacilla lugens*) has been merged with the White Wagtail (*Motacilla alba*); the tits, formerly of the genus *Parus*, are now included in the genus *Poecile*; and the common name of the Oriental Greenfinch has officially been change to the Grey-headed Greenfinch.

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