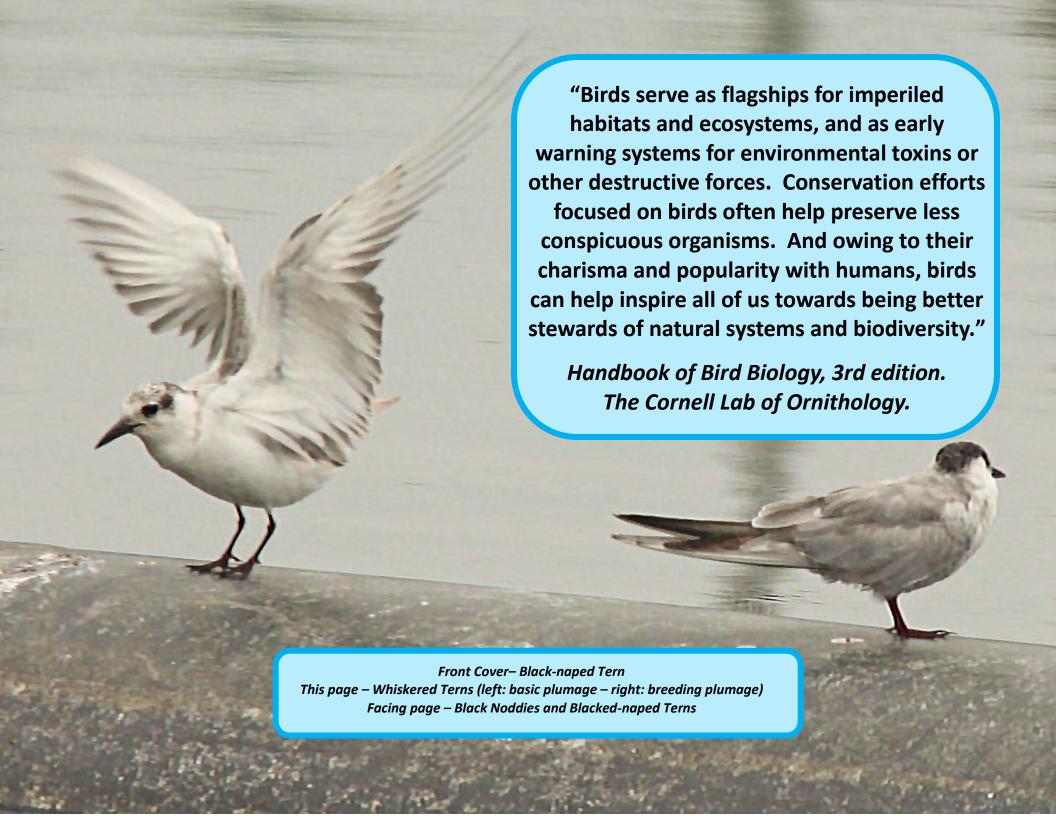


2017



Natural History Section

Belau National Museum



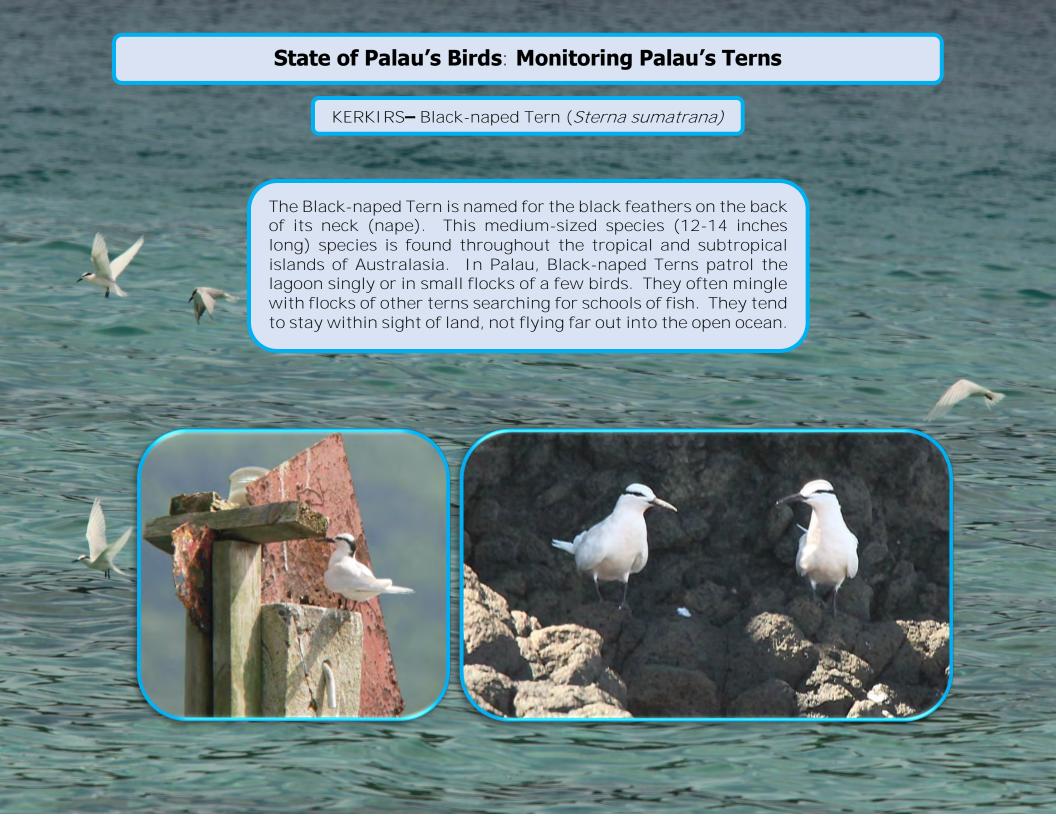
# **State of Palau's Birds 2017**



8<sup>th</sup> Annual Report of the National Program for Monitoring Forest and Coastal Birds

Siempre adelante y nunca atrás – "Ever forward and never back" - St. Junípero Serra





KERKIRS-Black-naped Tern (Sterna sumatrana)

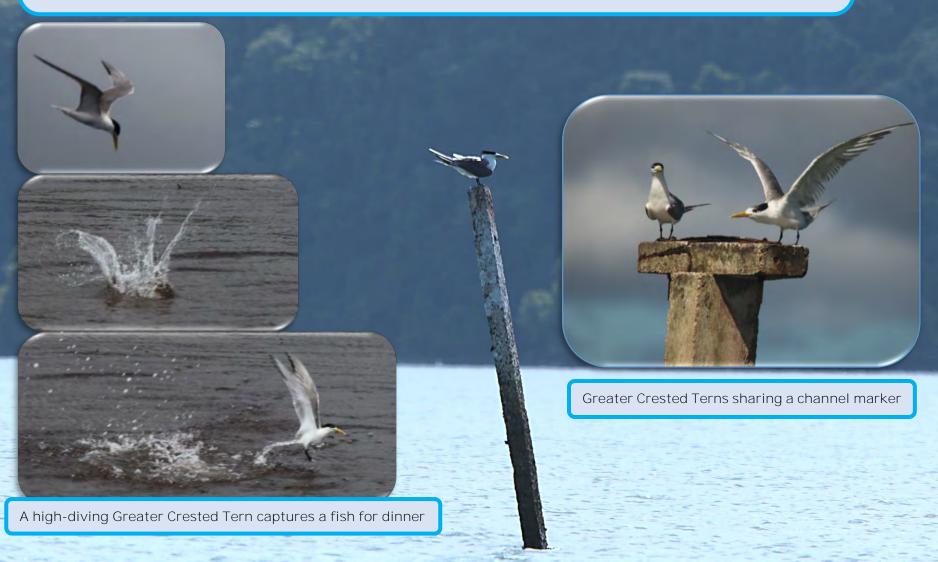
Black-naped Terns prefer to roost and nest on ledges of coastal cliffs, especially in the Rock Islands. They may choose a solitary nest site (below left) or they may choose to nest in small colonies. Young birds that have left the nest but are not yet capable of sustained flight (fledglings) are protected and fed by the parent birds until they are able to survive on their own. The lower right photo shows a parent bird guarding a fledgling on a tidal flat.

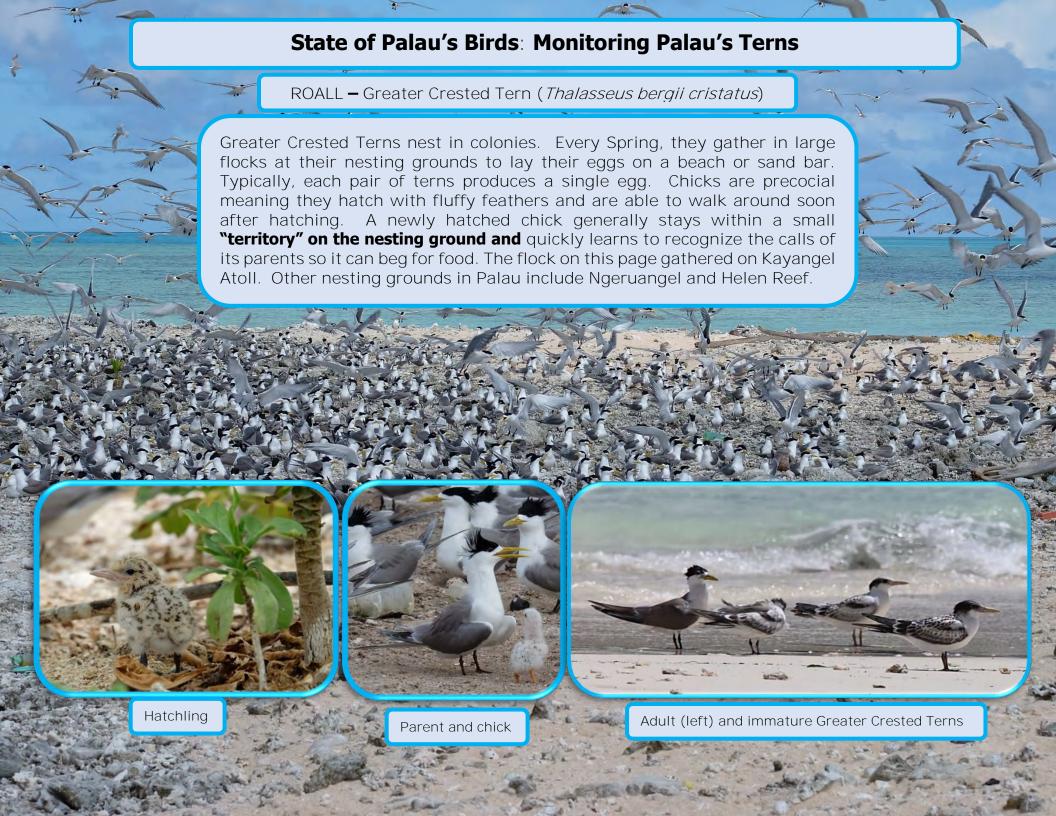


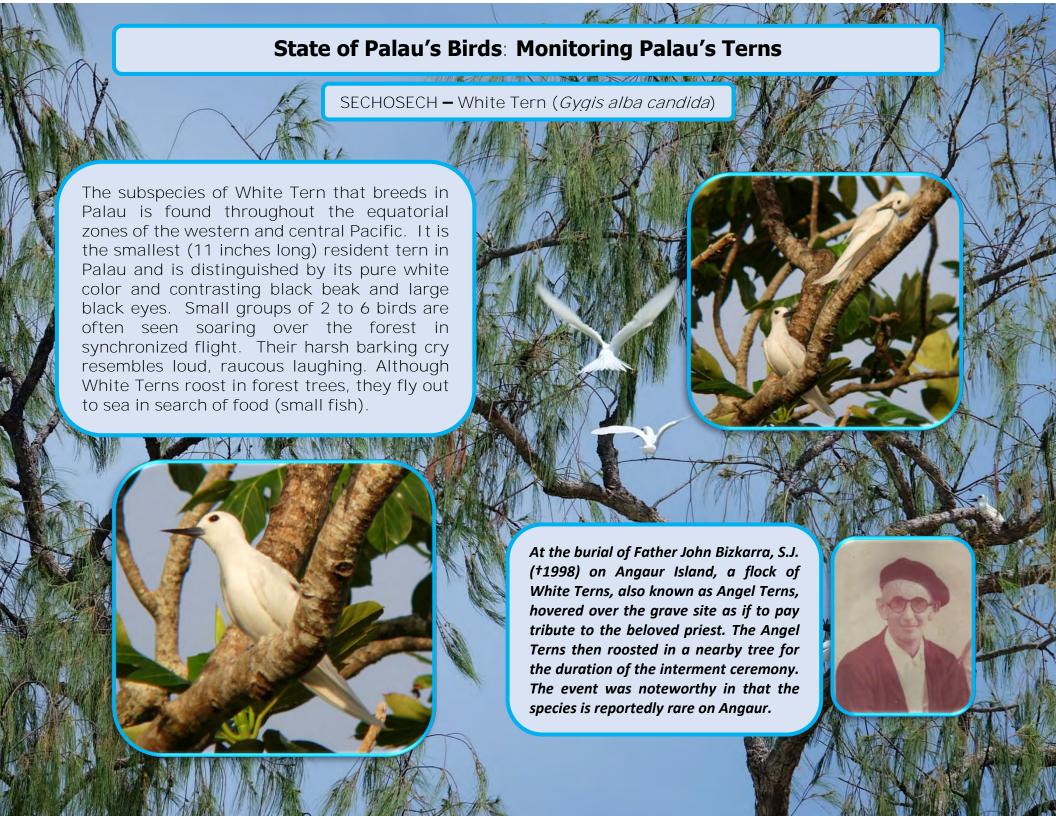


ROALL - Greater Crested Tern (*Thalasseus bergii cristatus*)

The Greater Crested Tern is the largest (19 inches long) tern in Palau. It feeds on fish, capturing its prey with spectacular high dives over lagoon waters. It is often encountered in the lagoon as a solitary bird perched on a channel marker, rock outcrop or other elevated vantage point where it can survey the lagoon waters for schools of fish. The combination of gray and white plumage, yellow beak and black crest distinguish the Greater Crested Tern from other terns found in Palau.







SECHOSECH - White Tern (*Gygis alba candida*)

Unlike most other birds, the **White Tern doesn't build a traditional** nest for its eggs. Instead, it lays a single egg on a horizontal limb of a forest tree. The egg remains precariously balanced on the limb until it hatches. The newly-hatched chick clings to the same limb while the parents guard it and feed it until it is old enough to fly.

In Palau, White Terns are solitary nesters except for the Southwest Islands where nesting colonies of White Terns have been observed.



Left: White Tern sitting

on its egg

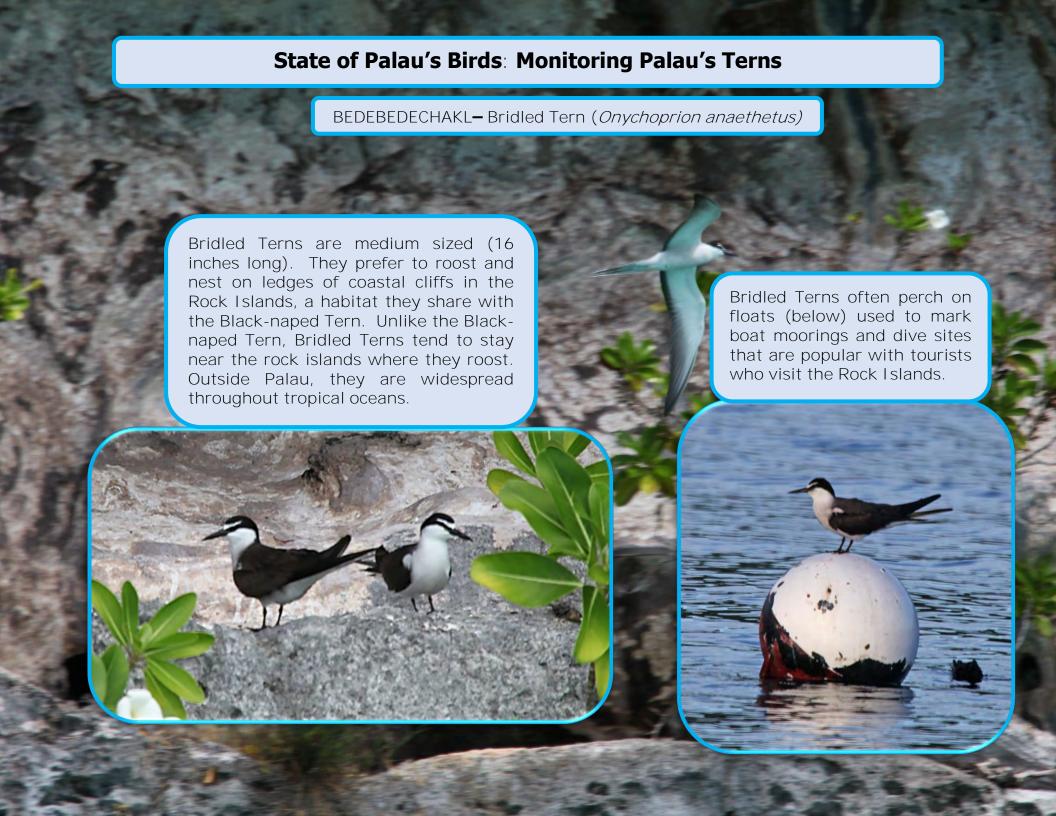
Right: White Tern with a newly-hatched chick





Photo © Mandy Etpison

Photo – Jon Hornbuckle



Sooty Tern (Onychoprion fuscatus)

Sooty Terns are pelagic, spending months at sea, far from land. During breeding season, Sooty Terns gather in nesting colonies on the beaches of Helen Reef and occasionally Kayangel. They often mingle with other terns that are on the same beach. Each female bird lays a single egg in a depression in the sand. Outside of Palau, this species is widespread throughout the tropical and subtropical regions of the oceans.

Sooty Terns resemble Bridled Terns in appearance only slightly larger (17 inches long). If you look closely, an adult Bridled Tern has a distinct white "eyebrow" that extends from its forehead over and beyond its eye while the white area of the forehead of an adult Sooty Tern does not extend past its eye.





Photos – Heather Ketebengang

#### MIGRATORY TERNS

In addition to the terns that live and breed in Palau, several species of migratory terns pass through Palau on their journeys to and from breeding grounds outside of Palau. The most frequent passage migrants are the Whiskered Tern (*Chlidonias hybrida*) and the White-winged Tern (*Chlidonias leucopterus*). The Whiskered Terns and White-winged Terns that visit Palau display both basic and alternate (breeding) plumages. They are attracted to ponds, landfills and other inland sites where flocks of over 100 of these terns (background photo) have been seen in Palau on several occasions.



MIGRATORY TERNS

Three species of migratory terns occasionally pass through Palau in small numbers. All three have been seen at the Northern Peleliu Lkes Important Bird Area as well as other coastal locations in Palau. The migratory terns seen in Palau are either passage migrants that breed in NE Asia or stray birds from breeding grounds in Australia.



Little Tern – Sternula albifrons



 ${\bf Gull-billed\ Tern} - {\bf \it Gelochelidon\ nilotica}$ 

Photos - Ron Leidich

NODDIES

Noddies are closely related to terns. Two species, the Black Noddy and the Brown Noddy, live and breed in Palau. Both species are widespread in tropical oceans. The Black Noddy is smaller than the Brown Noddy and has a proportionately longer bill and shorter tail. The two species are gregarious and often form mixed flocks with each other and with other resident terns of Palau.



**BLACK-HEADED GULL (Chroicocephalus ridibundus)** 

#### **PALAU'S ONLY SEA GULL**

Gulls are closely related to terns. Gulls, terns and noddies all belong to the Family Laridae. The Black-headed Gull is a migratory species and the only gull known to occur in Palau. A small flock comes to Palau on an annual basis, probably by following ships from Palau's commercial fishing fleet into port. This year, a flock of 15 Black-headed Gulls appeared in late February and stayed for about a week. Black-headed Gulls are widespread. They breed in Eurasia and travel to Africa, southern Asia and Australia during the non-breeding season. The gulls that visit Palau are normally in basic (non-breeding) plumage where the head is white with black markings. A breeding Black-headed Gull has a completely black head.





Flock of Black-headed Gulls resting in Koror

Black-headed Gull (basic plumage)

#### **RARE MIGRATORY BIRDS**

### **SWINHOE'S SNIPE (Gallinago megala)**

In 2017, a flock of more than 90 of these snipes was spotted in September at Asahi Field. In Palau, the secretive Swinhoe's Snipe is normally encountered as a single bird or at most a pair. This observation by alert citizen-scientists is noteworthy for the unusually large size of the flock. The species breeds in central Asia and winters from India to Papua New Guinea.



Swinhoe's Snipe



Snipes are adept at hiding in tall grass. The above photo shows seven snipes and a plover. The Plover is standing on the dirt mound at the right. Can you find all seven snipes?



#### SAFEGUARDING ENDANGERED SPECIES

Each and every one of us is called to protect the environment with special care for preserving the habitats of endangered species that are heading towards extinction. Four species of birds that occur in Palau are endangered — the resident Palau Megapode and three migratory shorebird species that rely on Palau for refuge during their migrations. All four of these endangered species occur at the Northern Peleliu Lkes IBA. The following pages report recent responses to the call to safeguard these special creatures and all the birds of Palau.



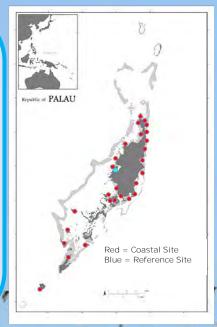
ENDANGERED BIRDS OF PALAU (Left to right).

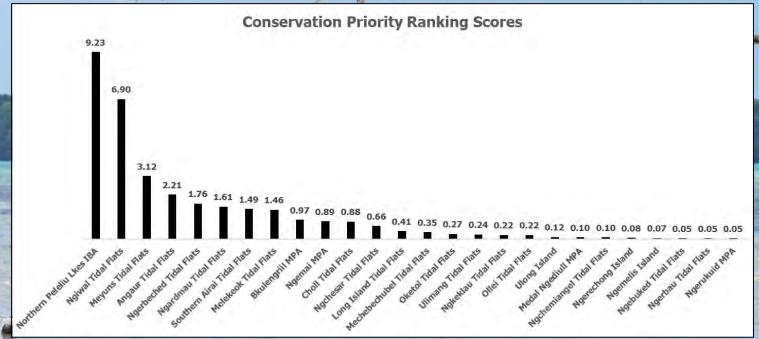
Palau Megapode, *Megapodius Iaperouse senex* Bar-tailed Godwit, *Limosa Iapponica* Far Eastern Curlew, *Numenius madagascariensis* Great Knot, *Calidris tenuirostris* 

#### SAFEGUARDING ENDANGERED SPECIES

#### IDENTIFYING HIGH-PRIORITY SHOREBIRD CONSERVATION AREAS

The National Program for Monitoring Forest and Coastal Birds recently analyzed a ten-year (2007–2017) dataset of observations of migratory shorebirds from the archives of Belau National Museum, Palau Conservation Society and the eBird website. The dataset included 5,015 checklists of sightings of shorebirds from 26 coastal wetlands (map, red markers), which are primary habitats for shorebirds. The analysis calculated a standardized conservation priority score for each coastal site based on shorebird diversity (chart). The calculated score is weighted toward rare species such as endangered migratory shorebirds. The analysis awarded the highest score (9.23) to the Northern Peleliu Lkes Important Bird Area and concluded that protection of the Northern Peleliu Lkes Important Bird Area is the highest priority site for biodiversity conservation in Palau. A detailed account of the analysis was submitted to the Ministry of Natural Resources, Environment and Tourism as a technical report for the Global Environment Facility (GEF) Palau National Program.





#### SAFEGUARDING ENDANGERED SPECIES

#### DOCUMENTING HIGH PRIORITY SHOREBIRD CONSERVATION AREAS AND HABITATS

Palau Conservation Society teamed with Lightning Strikes Productions and Belau National Museum to produce a documentary film entitled "Winged Ambassadors" featuring the shorebird habitats of Palau. Filmed on location at the Northern Peleliu Lkes Important Bird Area (IBA), the documentary features aerial and ground-level footage of the IBA and the flocks of migratory shorebirds that rely on the IBA for survival. The documentary increases public awareness of the need to protect coastal habitats for migratory shorebirds as well as the endangered species of shorebirds that visit Palau. The film is on display in the Natural History Gallery of Belau National Museum.



launch a camera drone over the Northern Peleliu Lkes Important Bird Area.

#### RARE MIGRATORY BIRDS of the NORTHERN PELELIU LKES IBA

### **FAR EASTERN CURLEW (Numenius madagascariensis)**

The Far Eastern Curlew is an endangered species whose population is in steep decline in the East Asian-Australasian Flyway. It was first reported from Palau in 1945 and is an annual visitor in small numbers. The Northern Peleliu Lkes Important Bird Area hosts the only stable population of Far Eastern Curlews in Palau. This rare species is the subject of an international conservation action plan that calls for the protection of its coastal habitats by every country in its range, including Palau.



Far Eastern Curlew (Delerrok)

Far Eastern Curlew (top, center) with other shorebirds at the Northern Peleliu Lkes

The Far Eastern Curlew breeds in northeastern Russia. After the breeding season (June – August), Far Eastern Curlews migrate southward to overwinter in Australia and New Zealand. A small number (5-10 birds) prefer the Northern Peleliu Lkes IBA as an overwintering refuge.

#### THE CULTURAL IMPORTANCE OF PROTECTING THE HABITAT OF THE FAR EASTERN CURLEW

Traditional stories describe the distribution of Palauan money beads by the magical Money Bird known as Delerrok. Even today, depictions of Delerrok appear on traditional meeting halls (Abai) as well as on government buildings as a symbol of prosperity. The real-life Delerrok Money Bird is the Far Eastern Curlew, the largest shorebird in the world. It is an endangered species. The only remaining habitat for the Far Eastern Curlew in Palau is the Northern Peleliu Lkes Important Bird Area (background photo) which is not protected from overdevelopment. If the Northern Peleliu Lkes is lost to commercial development, the Money Bird will become extinct in Palau.



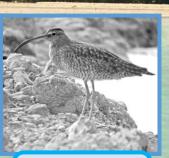
Money Bird Carving on a traditional Abai



Money Bird Icon from the National Capitol Building



Delerrok
Far Eastern Curlew



Okak Whimbrel

### **DELERROK (FAR EASTERN CURLEW) AND OKAK (WHIMBREL)**

The Palauan name for the Far Eastern Curlew is "Delerrok" and the Palauan name for the whimbrel is "Okak." Although superficially similar, the rare Far Eastern Curlew, *Numenius madagascariensis*, and the more common Whimbrel, *Numenius phaeopus*, are relatively easy to identify in the field. Note the larger size and proportionately longer beak of the Far Eastern Curlew (far left) compared to the Whimbrel (left). Both species use their long, curved beaks to probe the sand flats for crustaceans that have burrowed below the surface. The larger size and longer beak of the Far Eastern Curlew allow it to probe for prey at depths that the Whimbrel can't reach.

#### RARE MIGRATORY BIRDS of the NORTHERN PELELIU LKES IBA

### BAR-TAILED GODWIT (Limosa lapponica)

The Bar-tailed Godwit population in the East Asian-Australasian Flyway (EAAF) is in step decline due to loss of habitat in eastern Asia. The species breeds in Northern Asia and Alaska. In 2017, a maximum count of 26 Bar-tailed Godwits was observed at the Northern Peleliu Lkes Important Bird Area. This is the highest number ever reported for Palau. Although 26 is a modest count by international standards, the apparent increase in the number of Bar-tailed Godwits that migrate to Palau is an indication that the Important Bird Area is becoming increasingly important for the EAAF population of godwits.



#### RARE MIGRATORY BIRDS of the NORTHERN PELELIU LKES IBA

### **Great Knot (***Calidris tenuirostris***)**



### **Eurasian Curlew (Numenius arquata)**



The Great Knot breeds in the tundra of southwest Siberia. Its population in the EAAF is in decline due to exploitation of coastal wetlands along its migratory route to Australia where it lives during the non-breeding season. Every year, 5-8 Great Knots overwinter in Palau at the Northern Peleliu Lkes IBA instead of Australia.

The first record of the Eurasian Curlew in Palau was one bird seen in April 2014 at the Northern Peleliu Lkes IBA. In 2017, another Eurasian Curlew (above) was seen at the same location. Although rare in Palau, this species has a wide range that includes Europe, Africa, Asia, Indonesia and the Philippines.

#### MONITORING MIGRATORY SHOREBIRDS

### Banding Migratory Shorebirds in the East Asian-Australasian Flyway (EAAF)

Over 50 species of shorebirds (Families Scolopacidae and Charidriidae) migrate along the EAAF (background map). Thirty-four shorebird species pass through Palau during their EAAF migrations. Scientists track the migration of shorebirds by attaching metal or plastic bands to the birds' legs. The bands are color-coded for the location where the band was attached and often bear a flag with a unique ID number. When a bird is subsequently resighted (seen again) the observer reports the date and location to the scientists who originally banded the bird so they know where the bird went after they banded it. Several banded birds are resighted in Palau every year.



Ruddy Turnstone, Arenaria interpres

Banded: Miyaga, Japan September 2015

Resighted: Northern Peleliu Lkes IBA October 2017



Great Knot
Calidris tenuirostris



Banded: Queensland, Australia Resighted: Ngiwal

Greater Sand Plover Charadrius leschenaultii



Banded: Yangtze Delta, China Resighted: Northern Peleliu Lkes IBA Lesser Sand Plover Charadrius mongolus



Banded: Kamchatka, Russia Resighted: Northern Peleliu Lkes IBA Red-necked Stint Calidris ruficollis



Banded: Hokkaido, Japan (left leg) Yangtze Delta (right leg) Resighted: Northern Peleliu Lkes IBA

#### MONITORING MIGRATORY SHOREBIRDS

### **Banding Migratory Shorebirds in Palau**

The birds on this page are examples of migratory shorebirds that were born in nesting grounds in Siberia in 2008 or earlier and were banded in Palau during the 2009/2010 migratory season. The bands consist of a blue plastic band over a silver metal band on the upper right leg. Locally banded birds have been resighted in the years since the banding, indicating that they migrate to Palau on a regular, probably annual, basis.

Common Greenshank, Tringa nebularia
Banded: Malakal Sewage Treatment Ponds - early 2009
Resighted: Malakal Sewage Treatment Ponds - May 2010, November 2013



#### **Palau Is Their Home**

Year after year, these birds returned to the same locations in the hamlets of Palau where they were originally banded and remained there for the entire season (September – May). For many migratory shorebirds, Palau is their primary residence, not the Siberian nesting grounds where they spend only three months of the year.

Gray-tailed Tattler, *Tringa brevipes*Banded: Meyuns Baseball Field, February 2009

Resighted: Meyuns Baseball Field August 2010 (left), November 2016, September 2017 (center), October 2017 and December 2017 (right)







#### SAFEGUARDING MEGAPODES DURING A RODENT ERADICATION PROJECT AT THE RISL WORLD HERITAGE SITE

Koror State Government recently began a rodent eradication program for the Rock Islands Southern Lagoon UNESCO World Heritage Site. The initial phase of the project involved the use of rodenticide baits on Ngeanges Island which is also a nesting ground for the endangered Palau Megapode. In order to protect the megapodes from the rodenticide, the Koror Rangers coordinated with Belau National Museum to remove megapodes from Ngeanges during the rodenticide applications. Four megapodes were captured and relocated to a temporary shelter on Ngemelis Island where the birds were tended by the rangers until it was safe to return the birds to Ngeanges. Prior to returning the birds to Ngeanges, the rangers attached a leg band to each bird that will aid in identifying the birds during future monitoring of the impact of the rodent eradication project.







Top Left: Megapode housing on Ngemelis Island **Bottom Left:** Attaching a leg band to a megapode Top right: Placing a megapode in a bag for transport Bottom Right: Megapodes bagged and ready for transport







#### TRAINING AND AWARENESS

The National Program for Monitoring Forest and Coastal Birds continues to provide training opportunities for PAN conservation officers. In 2017, training activities were expanded to include field personnel of the Rock Islands Southern Lagoon UNESCO World Heritage Site. In addition to on-site training sessions, the training program holds monthly sessions at Long Island Park to broaden awareness of resident bird species, especially endemic forest birds. The monthly Long Island event is open to visiting bird-watchers and ecotourists as well as local bird enthusiasts.





Training Koror Rangers at the Rock Islands Southern Lagoon UNESCO World Heritage Site

Bird-watchers gather at Long Island Park on the first Saturday of every month (6:00 AM)

# The Palau eBird Crowdsourcing Project

In December 2017, the cumulative number of submissions from Palau to the *eBird* website (www.ebird.org) of global crowdsourced data from citizen-scientists passed a landmark 2,300 checklists. Although the data are submitted by experienced citizen-scientists, the *eBird* database can be explored by anyone with an interest in birds. The *iBird* app for Palau that complements the *eBird* crowdsourcing project is available from https://itunes.apple.com.



The Palau eBird Project is funded by the Global Environment Facility (GEF) Small Grants Programme (GEF/SGP) implemented by UNDP and GEF Palau National Project implemented by UNEP.

The Palau iBird application was funded by the Palau Conservation Society and the Aage V. Jensen Charitable Foundation.







Every year, Cornell University sponsors a "big count day" where birdwatchers from around the world spend the day counting birds and submitting the results to the eBird website. The Global Big Day that was held on May 13, 2017 broke the record for most species reported in a single day (6,652 species) thanks to the more than 20,00 participants from 150 countries.



Palauan participants reported a total of 38 species. Eight of those species were Palau endemics that were not reported from any other country thereby assisting in reaching the record-breaking total number of species for a Global Big Day. Moreover, Palau ranked number 2 in the Pacific Ocean region for total number of species from a country (New Zealand was #1). The above charts record Palau's achievements (and bragging rights) for the 2017 Global Big Day. The background photo shows field ornithologist Milang Eberdong counting birds at Ngiwal on the Global Big Day.

#### **ACKNOWLEDGMENTS**

**Board of Trustees of the Belau National Museum** 

Catholic Mission in Palau

**Palau Conservation Society** 

Koror State Department of Conservation and Law Enforcement and the Koror State Rangers

**BirdLife International** 

Global Environment Facility Palau National Project #5208 implemented by UNEP

Global Environment Facility Small Grants Program implemented by UNDP

Editors: Alan R. Olsen, Milang Eberdong

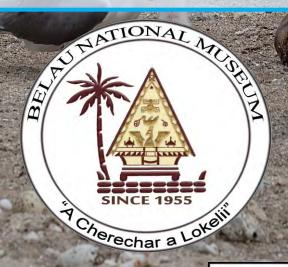
Photographers: Richard Brooks, Milang Eberdong, Mandy Etpison, Jon Hornbuckle, Jun Hosoya, Heather Ketebengang,

Glenn McKinlay, Alan Olsen, Angelina Smaserui-Olsen

eBirders: Milang Eberdong, Daisuke Horii, Ann Kitalong, Glenn McKinlay, Allison Miller, Emma Murray, Alan Olsen,

Angelina Smaserui-Olsen, Keith Swindle, Eric Mongami, Skye Yalap



















Together for birds and people







"The sight of a bird or the sound of its voice is at all times an event of such significance to me, a source of such unfailing pleasure, that when I go afield with those to whom birds are strangers, I am deeply impressed by the comparative barrenness of their world, for they live in ignorance of the great store of enjoyment which might be theirs for the asking."

- Frank M. Chapman, Dean of American Ornithology