هـيـئـة الـبـيـئـة - أبـوظـبـي
Environment Agency - ABU DHABI

BIODIVERSITY

GREATER FLAMINGO STATUS AND CONSERVATION

ANNUAL SUMMARY REPORT

ABU DHABI 2018

\\EXECUTIVE SUMMARY

01

Greater Flamingos (*Phoenicopterus roseus*) is an important flagship species in the United Arab Emirates (UAE). It is a winter / passage visitor in the country and also a breeding species. Species numbers have been monitored by regular counts throughout UAE for more than a decade and ten most important sites for the species have been ranked across the UAE; out of these 50% were in Abu Dhabi Emirate; 60% of the total ten sites were under some form of protection also, 50% of these ten sites had low levels of disturbance. It has successfully bred in Abu Dhabi Emirate at three different sites. Recently, breeding has been successful in Al Wathba Wetland Reserve from 2011 onwards.

Satellite telemetry studies have shown that during summer these birds travel through Iran to the Caspian Sea and further north to Kazakhstan and Turkmenistan. In this report we present the findings on the distribution and abundance, breeding, management, movement and migration.

INTRODUCTION

Two species of flamingos are reported from the United Arab Emirates (UAE), the Greater Flamingo (*Phoenicopterus roseus*) and the Lesser Flamingo (*Phoenicopterus minor*). The Lesser Flamingo is vagrant, occurring only rarely in the UAE, while the Greater Flamingo (hereafter flamingo) is a common passage and winter visitor where it has been recorded at almost all coastal, inland wetland sites, lagoons and mudflats that have shallow saline water preferred by the species (Khan *et al.,* 2017).

02

Greater Flamingo is an important flagship species in the region (Javed, 2008; Aspinall, 2010). The first ever protected area in Abu Dhabi, the Al Wathba Wetland Reserve was established following successful breeding of flamingos in 1998. Advocating conservation of sites based on flamingo numbers has resulted in creation of three protected areas in the UAE; Al Wathba Wetland Reserve (AWWR) and Bul Syayeef in Abu Dhabi Emirate and Ras Al Khor in Dubai. AWWR and Ras Al Khor have been designated as RAMSAR sites.

INTERESTING FACTS

The Greater Flamingo is a widely distributed species of flamingos, occurring in North Africa, Mediterranean region, Arabian Peninsula, Iran, Turkey, USSR and the Indian subcontinent (del Hoyo et al., 1992; Johnson & Cézilly, 2007; Birdlife, 2017).

This is the largest species of flamingo, averaging 110–150 cm tall and weighing 2–4 kg. Most of the plumage is pinkish white, with red wing coverts; the pink colour comes from the carotenoid pigments in the organisms they feed upon.

Flamingos are filter feeders and use their specialized bills to sieve small organisms from shallow water.Greater Flamingo are a colonial nesting bird and make large nest mounds upon which one egg is laid. They gather near the nesting area and indulge in breeding displays before nesting. Water levels and availability of food at a site determine the number of breeding birds and the size of nesting colony (Johnson & Cézilly, 2007).

In the entire Arabian Gulf, recent breeding of Greater Flamingo has been reported only from the UAE at sites that have relatively higher flamingo numbers and have low levels of disturbance and predation (Khan *et al.,* 2017).

03

// DISTRIBUTION AND ABUNDANCE

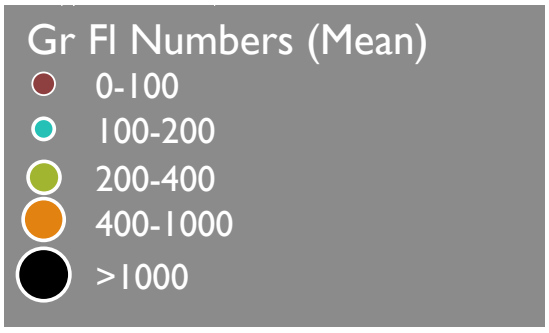
In the United Arab Emirates, nearly 20,000 Greater Flamingo are recorded during winter months while some overwintering birds were recorded at few undisturbed sites (Khan *et al*., 2017).

In Abu Dhabi Emirate, a large proportion of these birds were recorded at four close-by sites located near Abu Dhabi city, it includes two adjacent coastal sites of Bul Syayeef and Al Aryam, characterised by shallow seas and extensive intertidal mudflats and two inland wetlands which are not very far from the coast (Map 1).

Bul Syayeef recorded the highest number of flamingos in April 2009 when more than 18,000 flamingos were seen. This is possibly the highest number of Greater Flamingo recorded at any site in the Arabian Peninsula.

AWWR has recorded the highest number of 4762 flamingos in any inland wetland in the region. AWWR also has abundant *Artemia* (Brine shrimp), the main food for Flamingos (Al Dhaheri & Saji, 2013).

Map 1 // Important sites for Greater Flamingos in the UAE (mean number of birds ≥ 100), encircled area shows the location of breeding areas (From Khan *et al*., 2017).



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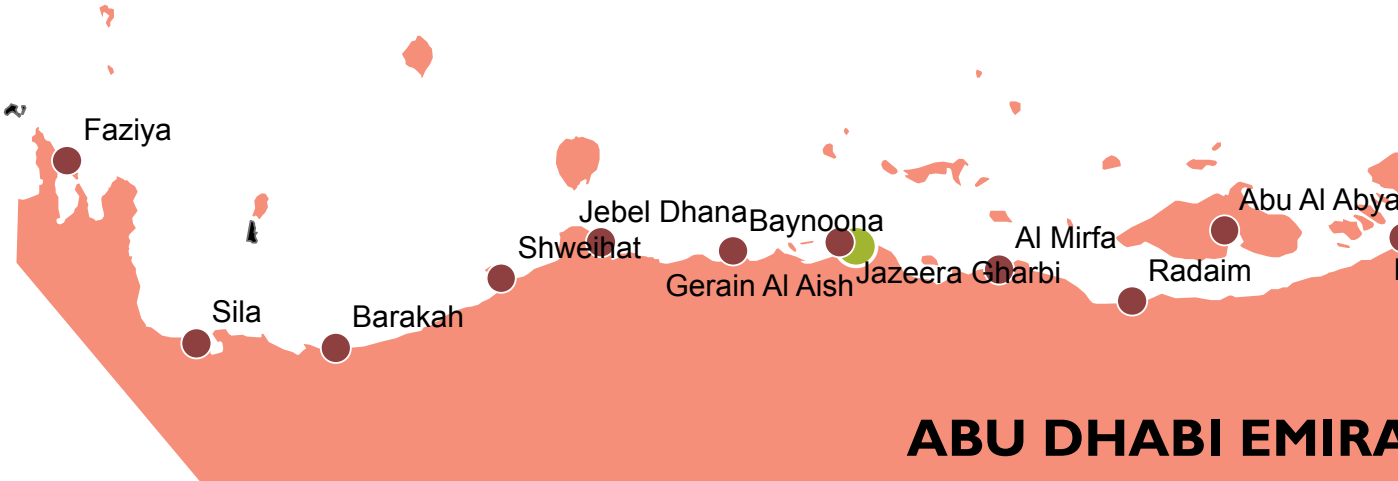


04

BIAN GULF

Khor Al Khawar
Khor Al Jazeera
Khor Beidah
Khor Al Zowra
Wasit N. Reserve
Ras Al Khor WLS
Dibba
Al Aqqah
Khor Fakkan
Quarrayah Pools
Fujairah
Quarrayah Beach
Khor Kalba
Jebel Ali WLS
NORTHERN EMIRATES
Taweela
Shahama Wetland
East Corniche
Al Raha Beach
Bu Syayeef
Al Aryam
Al Wathba
Dabaiya
Zakher Pools
Neema Pools
Al Ain Compost plant

ATE

05

// BREEDING

A total of 14 breeding attempts have occurred in Abu Dhabi Emirate at three different sites. The first successful breeding was recorded at Al Wathba in 1993 when four chicks fledged.

Shahama Wetland recorded successful breeding in 2007 and Bul Syayeef Marine Protected Area in 2009. AWWR recorded eight successful breeding events from 2011 onwards see Table 1 (Khan *et al.* 2017).

The highest number of chicks hatched in a single breeding attempt was 801 at Bul Syayeef followed by 448 at AWWR in 2017.

Table 1 // Summary of Greater Flamingo breeding events in Abu Dhabi Emirate

S. NO.	YEAR	LOCATION	SEASON	EGG LAYING	NO. OF CHICKS FLEDGED
1	1993	AWWR	SUMMER	JUN	4
2	1998	AWWR	SUMMER	MAY	NIL
3	1998-99	AWWR	WINTER	DEC	10
4	2007	SHAHAMA WETLAND	WINTER	FEB	350 (APPROX.)
5	2009	BUL SYAYEEEF MARINE PROTECTED AREA	WINTER	FEB	801
6	2010	AWWR	WINTER	MAR	NIL
7	2011	AWWR	SUMMER	MAY	18
8	2012	AWWR	SUMMER	MAY	17
9	2012-13	AWWR	WINTER	NOV	41
10	2013	AWWR	SUMMER	MAY	201
11	2014	AWWR	SUMMER	APR	110
12	2015	AWWR	SUMMER	APR	420
13	2016	AWWR	SUMMER	APR	24
14	2017	AWWR	SUMMER	APR	448

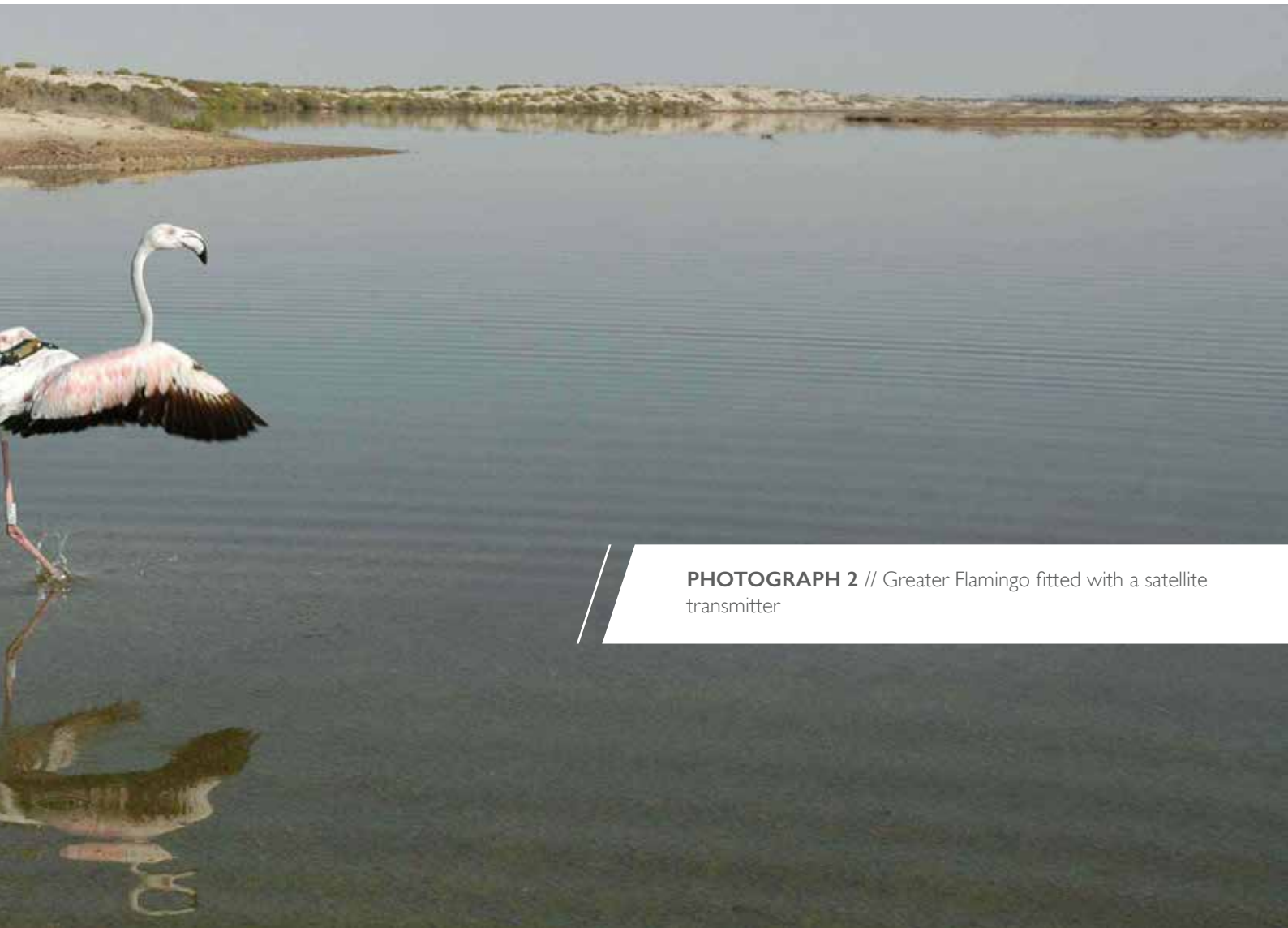
06

// INTEGRATING TECHNOLOGY FOR FLAMINGO CONSERVATION

Since 2005, EAD has used satellite telemetry technology to understand movement patterns and migration of flamingos from the UAE. Argos & GPS transmitters have been used on 15 flamingos since 2005.

EAD has successfully used drone technology in enumerating flamingo numbers at Al Wathba Wetland Reserve.

PHOTOGRAPH 1 // Drone Image of Greater Flamingo flock



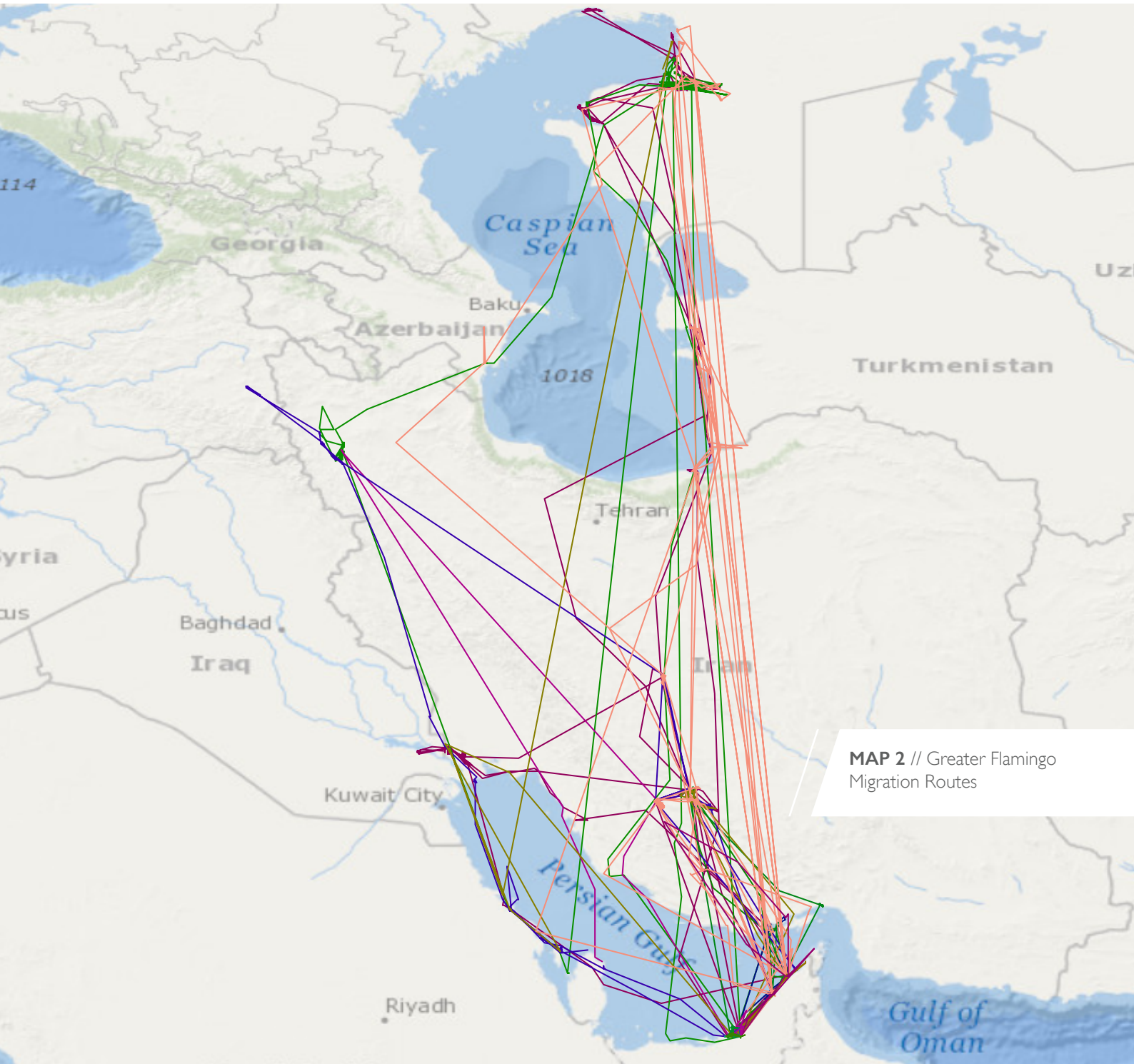
PHOTOGRAPH 2 // Greater Flamingo fitted with a satellite transmitter

MOVEMENT AND MIGRATION

Nearly 15,000 to 20,000 flamingos are recorded throughout UAE during winter months that arrive from Central Asia in the north (see Map 2); the majority of these birds are seen between September and April. Telemetry studies have revealed frequent movements of flamingos between sites within UAE, highlighting the use and importance of several different sites for the same population (Javed *et al.,* 2006).

Satellite telemetry studies have shown that these birds travel through Iran to the Caspian Sea and further north to Kazakhstan and Turkmenistan during summer (Javed *et al.*, 2006; Javed *et al.*, 2007).

07



MAP 2 // Greater Flamingo Migration Routes

THREATS TO FLAMINGOS

08

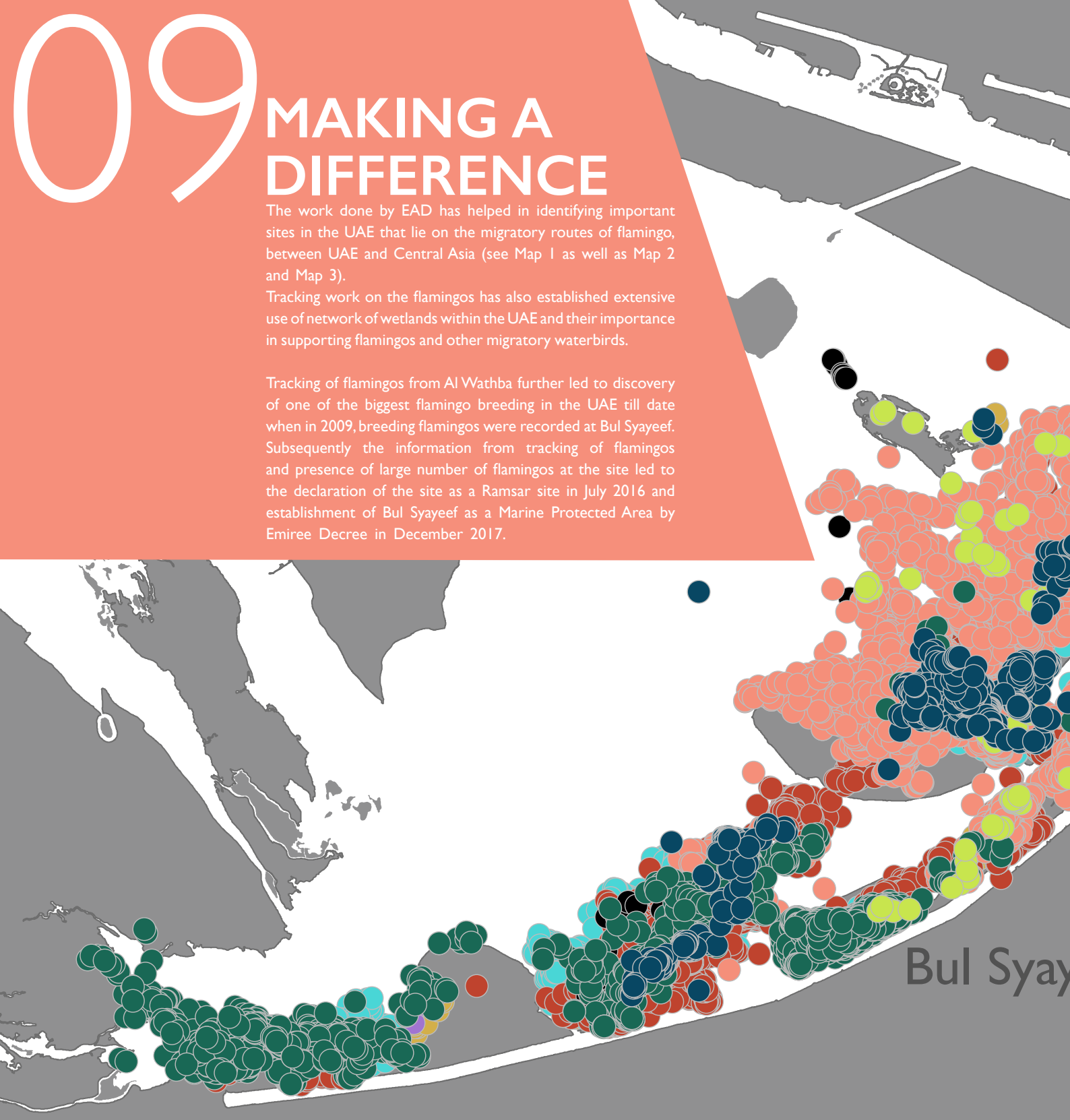
Although not globally threatened, the Greater Flamingo in the UAE is vulnerable to development pressure. Rapid development along the coast, especially at key coastal sites in the emirates will not only has implications for the small but important resident population of the species, but will also limit the ability of these sites to support larger concentration of wintering flamingos.

09 MAKING A DIFFERENCE

The work done by EAD has helped in identifying important sites in the UAE that lie on the migratory routes of flamingo, between UAE and Central Asia (see Map 1 as well as Map 2 and Map 3).

Tracking work on the flamingos has also established extensive use of network of wetlands within the UAE and their importance in supporting flamingos and other migratory waterbirds.

Tracking of flamingos from Al Wathba further led to discovery of one of the biggest flamingo breeding in the UAE till date when in 2009, breeding flamingos were recorded at Bul Syayeef. Subsequently the information from tracking of flamingos and presence of large number of flamingos at the site led to the declaration of the site as a Ramsar site in July 2016 and establishment of Bul Syayeef as a Marine Protected Area by Emiree Decree in December 2017.



MAP 3 // Image showing sightings of the tracked Greater Flamingos in an around Bul Syayeef

PHOTOGRAPH 3 // Greater Flamingos with chicks

FUTURE OUTLOOK

EAD will continue to monitor the flamingo population in Abu Dhabi Emirate; however, a concerted national level effort needs to be undertaken to monitor flamingo as well as other waterbirds annually. Management of the current breeding sites will continue at Al Wathba Wetland Reserve, with further improvements to encourage more breeding.

10

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