

Significant species: Migratory shorebirds

Intrepid visitors to the Central Queensland Coast

The FBA region boasts two internationally important sites for migratory shorebirds: Shoalwater Bay/Broad Sound/Corio Bay and Pelican Banks (Curtis Island South), and many coastal wetlands that support large and diverse populations of these annual visitors.

Migratory A population of a species is migratory if a substantial proportion of the members of that population regularly cross at least one boundary between countries.

Shorebird Also known as waders, most shorebirds typically feed by wading along shorelines and in areas of shallow water. The majority of migratory shorebirds are members of the bird families Scolopacidae (sandpipers and allies) and Charadriidae (plovers and allies).

Regular shorebird visitors to CQ

Photos © Ian Montgomery

Latham's Snipe*		Ruddy Turnstone	
Bar-tailed Godwit		Great Knot	
Black-tailed Godwit*		Sanderling	
Far Eastern Curlew		Red-necked Stint	
Whimbrel		Sharp-tailed Sandpiper*	
Common Greenshank		Curlew Sandpiper	
Marsh Sandpiper*		Pacific Golden Plover	
Grey-tailed Tattler		Lesser Sand Plover	
Terek Sandpiper		Greater Sand Plover	

* these birds are found mainly in freshwater habitats

Which migratory shorebirds occur on the Central Queensland Coast?

More than 20 species of migratory shorebird have been recorded in the coastal wetlands of Central Queensland (CQ). A number of these (listed below) may be considered regular visitors, all from Asia:

We'll follow one of CQ's migratory shorebirds, the Whimbrel (*Numenius phaeopus*), through its annual cycle.



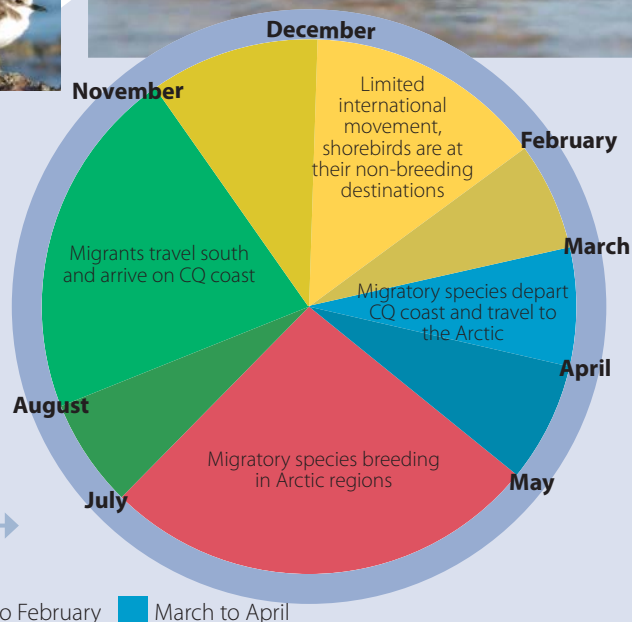
Photo © Ian Montgomery

An amazing feat: the journey to Australia

Although migratory shorebirds visit the CQ coast every year, it is remarkable that any reach our shores.

Annual cycle of shorebirds on the CQ coast

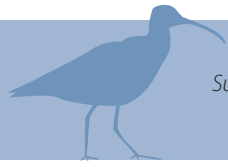
There is some overlap of the four periods — the boundaries are not sharp because timing varies between species, and year-to-year depending on conditions (e.g. severity of Arctic winter).



■ May to July
 ■ August to November
 ■ December to February
 ■ March to April

Most migratory shorebirds breed in the **Arctic regions** of north-east Asia and Alaska.

The birds build nests in swamps and meadows; a few species nest in trees. Eggs are laid in May–June and young birds can travel by July–August, if they survive predators and outbreaks of harsh Arctic weather.



Successfully raised during the short and perilous Arctic summer, a juvenile Whimbrel prepares to head south.

As cold weather heralds the end of a short summer, juveniles head south. Most adults leave weeks later.

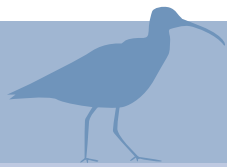
Southward-heading shorebirds may stop to build up fat reserves, feeding on intertidal mudflats in **north-east Asia**. Larger shorebirds like the Whimbrel, which weighs around 350 grams, can migrate non-stop from east Asia to Australia, by converting added body fat to energy. Smaller shorebirds, weighing as little as 25 grams, may need to island-hop.

The total journey from north to south is about 12,000km to 13,000km.

The network of migration paths and stop-over sites is known as the **East Asian – Australasian Flyway**. While some species barely cross the equator, most travel as far as Australia. For some species, most individuals in the population reach our shores. →



Map courtesy of AWSG and Wetlands International



Fattening up for the journey, Whimbrels eat seeds and berries as Arctic insect populations dwindle then crustaceans, worms and molluscs at migration stop-over sites.

Holiday homes: critical habitats in Australia

In coastal Central Queensland, most migratory shorebirds use **intertidal mudflats**, seeming to prefer areas with fine-grained sediments and limited tidal scouring. →

Some use **freshwater swamps**, which is good habitat when drying out, with shallow water, wet mud and sparse vegetation cover (see species marked with an asterisk (*) in “Regular shorebird visitors to CQ” box). They also use non-tidal (or rarely tidal) swamps on marine plains and saltmarsh wetlands. →

Saltmarshes (bare salt flats or with grass/samphire cover) provide good shorebird habitat when inundated. A few species use **rocky shores, reefs and shallow artificial ponds**. →

Roosting sites

Birds that use the intertidal zone need a roosting site for preening and resting while their mudflat feeding areas are inundated at high tide. →

Large gatherings at a few roost sites are typical but some species roost at low density, in (for example) mangrove trees. Major roost sites can be small islands, the high part of secluded beaches and adjacent bare sand dunes, sandy spits, rock outcrops surrounded by water, saltmarshes and artificial structures like sea walls. Most roost sites are close to feeding areas but some are kilometres away.



Photo by Roger Jaensch, Wetlands International



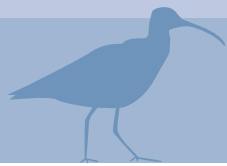
Photo by Roger Jaensch, Wetlands International



Photo by Roger Jaensch, Wetlands International



Photo by Roger Jaensch, Wetlands International



The harsh cry of a Whimbrel, startled from its roost or feeding site along a tidal channel, is a characteristic sound of the Queensland coast.

Different legs and bills match different feeding strategies

Migratory shorebirds probe mud, peck at the surface or chase their main food of marine and aquatic invertebrates (marine worms, small crabs, shrimps, molluscs, insects and their larvae).

The smallest shorebirds, with short legs and bills (Sharp-tailed Sandpiper and Red-necked Stint) or short to medium legs and short bills (sand plovers), feed in shallow water or pick food items from wet mud or sand.

Long legs and bills of large shorebirds like the Whimbrel and Bar-tailed Godwit allow them to feed in water up to 20cm deep and probe deeply into soft mud.



Whimbrels feed mostly by gleaning from the mud surface or shallows and by probing their curved bills into soft substrates.

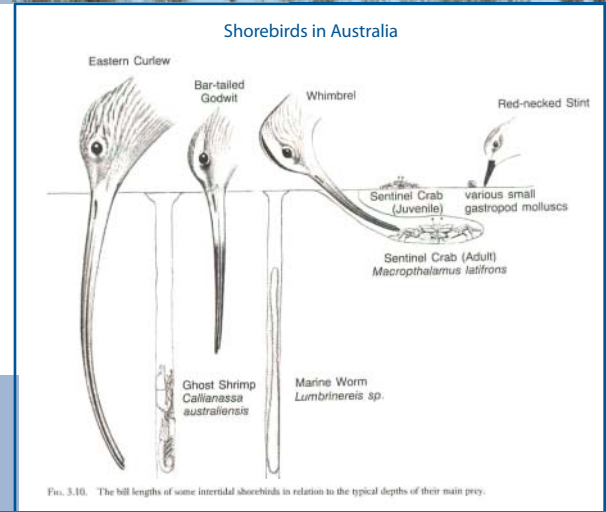


FIG. 3.10. The bill lengths of some intertidal shorebirds in relation to the typical depths of their main prey.

Critical habitat in Central Queensland

Identifying important sites for migratory shorebirds helps prioritise conservation and management effort.

Internationally-used **criteria for important sites** in the Flyway include: (a) the site supports at least 1% of the Flyway population of a species; or (b) the site supports at least 20,000 migratory shorebirds. Lesser thresholds may apply where shorebirds mainly pass through rather than stay at the site.

One percent thresholds for migratory shorebirds in the Flyway are calculated from extensive field surveys (thresholds are available in print or electronic format).

Information on important sites is far from complete, but **two internationally important sites have been identified on the coast of the FBA region: Shoalwater Bay/Broad Sound/Corio Bay, and Pelican Banks** (Curtis Island South).



Shoalwater Bay and Broad Sound is the most important site for Whimbrels in Australia, with counts of over 7000 birds.



Look out for birds that are tagged with plastic leg flags. The colour tells you where the bird was banded:

- Moreton Bay – green flag
- North-western Australia – yellow flag
- Southern Australia – orange flag over a yellow flag

Other areas have different colour flag combinations. See www.tasweb.com.au/awsg/, 'wader flagging program' for more information.

Shoalwater and Corio bays are formally protected Ramsar wetlands. An informal, non-regulatory means of recognising important sites for shorebirds is the **Shorebird Site Network for the East Asian – Australasian Flyway**, coordinated by Wetlands International. Managers with jurisdiction over such sites may nominate them to the Network. For more information, go to: www.deh.gov.au/biodiversity/migratory/waterbirds/infosrn1.html.

Many CQ coast wetlands included in the *Directory of Important Wetlands in Australia* (see website details under "References and Resources"), e.g. Fitzroy River Floodplain and The Narrows, periodically support high numbers, feeding and/or roost sites. All shorebird habitats are important in the collective sense.

Addressing threats to shorebirds in Australia

Australia boasts critical, high quality intertidal shorebird habitat along most of its coastline. However, **heavy development on eastern and southern coasts has destroyed or degraded some important shorebird habitats**. Port and industrial facilities and canal estates now stand where shorebirds once fed and food resources of some mudflats have dwindled due to poor water quality. **Appropriate coastal-zone planning can prevent further loss.**

Do this: *protect water quality in coastal wetlands.*

Freshwater shorebird habitat in and near the coastal zone has been harder hit. **Shallow swamps have been drained or modified for agriculture** and many sites are **overrun with weeds**. **Awareness of the value and scarcity of freshwater wetlands** and **knowledge of management strategies** for water, grazing, fire and weeds will reduce further loss of freshwater shorebird habitat.

Do this: *retain shallow water in swamps and control weeds and exotic pasture grasses.*

Disturbance of shorebirds by humans and dogs, common on many beaches, forces the birds to expend vital energy needed for migration or may cause them to abandon optimal roost sites. Demonstration projects, funded by the Natural Heritage Trust and spearheaded by WWF, **raise public awareness** and promote **zoning of critical sites** to exclude or limit visits by humans and dogs.

Do these things:

1. Keep dogs on leashes or fully occupied when off-lead on dog beaches.
2. Avoid driving or operating all forms of vehicles, vessels and recreational crafts near shorebirds.
3. When fishing on sandbars, fish from the opposite end to where birds gather.
4. Avoid camping or walking near (or into) a roost site, especially at high tide.

Returning to Asia: further perils

Migratory shorebirds prepare for their return journey by moulting into **special breeding plumage** and feeding up to **accumulate critical fat reserves**. Birds less than a year old stay in Australia, returning to breeding grounds the following year.

Having arrived in Australia in September, some depart in March, and **by the end of April few are left**. Departure may be in stages, with birds in Queensland first being joined by birds from the south and New Zealand. Large numbers leave together from key sites in northern Australia such as Roebuck Bay at Broome, Western Australia, and possibly the south-east Gulf of Carpentaria.

Whimbrels and other large migratory shorebirds may reach China in one flight. Having depleted their fat reserves, they feed in estuaries and tidal flats of the Yellow Sea region, competing with large numbers of people who harvest invertebrates and hunt shorebirds for food. After refuelling and waiting for Arctic regions to thaw, the birds **eventually complete their journey, reaching their breeding grounds**.



Although many shorebirds sport red and black breeding plumage, Whimbrels remain rather plain. A non-stop flight to China, a stopover on Yellow Sea tidal flats to fuel up fat reserves once more, a few close calls with hunters and the Whimbrel heads back to the Arctic breeding grounds.



Photo by Ken Gosbell (2005)

Photo by Mark Barber, Wetlands International

Addressing threats to shorebirds internationally

International cooperation under a **Shorebird Action Plan** seeks to address threats to migratory shorebirds and their habitats in the Flyway, particularly in the **Yellow Sea region** of East Asia. Funded mainly by the governments of Australia and Japan and coordinated by Wetlands International, the Plan facilitates **education and training** for managers of shorebird habitats and identification of important shorebird sites.

Australia protects migratory shorebirds

All shorebirds that regularly migrate to Australia are listed under international treaties with Japan (JAMBA) and/or China (CAMBA) and are designated as "**matters of national environmental significance**" under Australia's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). A person must not take an action that has, will have, or is likely to have, a significant impact on a listed migratory species, without approval from the Commonwealth Environment Minister. For details and links to the referral process see www.deh.gov.au/epbc/matters/migratory.

Some important sites for shorebirds in CQ are included in **Ramsar Wetlands** (*EPBC Act*: Shoalwater and Corio Bays area), gazetted **fish habitat areas** (*Fisheries Act 1994*, eg. Broad Sound and Corio Bay), marine parks, national parks and nature refuges. Freshwater wetlands also have general and specific protection under the *Vegetation Management Act 1999*, *Water Act 2000* and *Environmental Protection Act 1994*.

Get involved

The Queensland Wader Study Group (www.birdsqueensland.org.au) is a community-based organisation that seeks to study and conserve migratory shorebirds. At the national level the Australasian Wader Studies Group and WWF Shorebird Project pursue similar objectives.

Opportunities exist for volunteers to participate in existing projects or set up new projects in their local area. Volunteers to regularly count shorebirds in their local area are needed (training is available). You might even observe a leg-flagged shorebird that will help our understanding of migration paths!

Several actions under the FBA Regional Plan address migratory shorebirds and their habitats. These are detailed within four programs under the associated Regional Investment Strategy (RIS):

- *Coral and Coasts*
- *Healthy Waterways, Rivers and Wetlands*
- *Biodiversity and Vegetation*
- *Sustainable Landscapes*

See the FBA web site for information about each of these programs, or a copy of the FBA regional plan.

References and resources

Useful web sites

Shorebird Site Network for the East Asian – Australasian Flyway

www.deh.gov.au/biodiversity/migratory/waterbirds/infosn1.html

Australasian Wader Studies Group

www.tasweb.com.au/awsg

Feathers, Flyways and fast food

www.deh.gov.au/biodiversity/migratory/waterbirds/shorebirds/distance

WWF national shorebird project

<http://www.wwf.org.au>

Directory of Important Wetlands in Australia, Australian Government Department of the Environment and Heritage: search for "migratory waterbirds", and "directory database" (nationally important wetlands)

www.deh.gov.au

Books

Pizzey, G. & Knight, F. 2000. *A Field Guide to the Birds of Australia*. Collins, Sydney.

Lane, B.A. 1984. *Shorebirds in Australia*. Royal Australasian Ornithologists Union, Melbourne.

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