

The importance of Port Stephens for shorebirds

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What we will cover tonight

- Migratory shorebirds – their amazing story
- What shorebirds occur around Port Stephens?
- Which ones are: Resident? Migratory? Nomadic?
- What do we know about them?
- Which ones are special, and why?
- Threatened shorebird species



*21 species have been recorded
in Port Stephens*

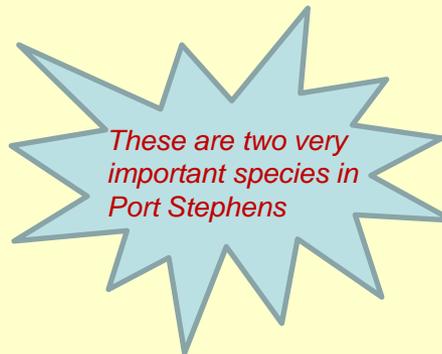
Photos: Me, Trevor Murray, Ann Lindsey, Dan Herbert, Alwyn Simple, Lois Wooding, Darryl Luck, Anon.

The shorebirds of Port Stephens

- Sometimes called “waders”.
 - Long-legged birds which primarily feed in inter-tidal zones
 - Most have specialised bills, for their particular feeding needs (resource partitioning)
- The majority of them are migratory – visiting Port Stephens for ~6 months every year
 - Port Stephens lies within the East Asian - Australasian Flyway
- The main Australian endemic shorebirds in Port Stephens are threatened species in NSW

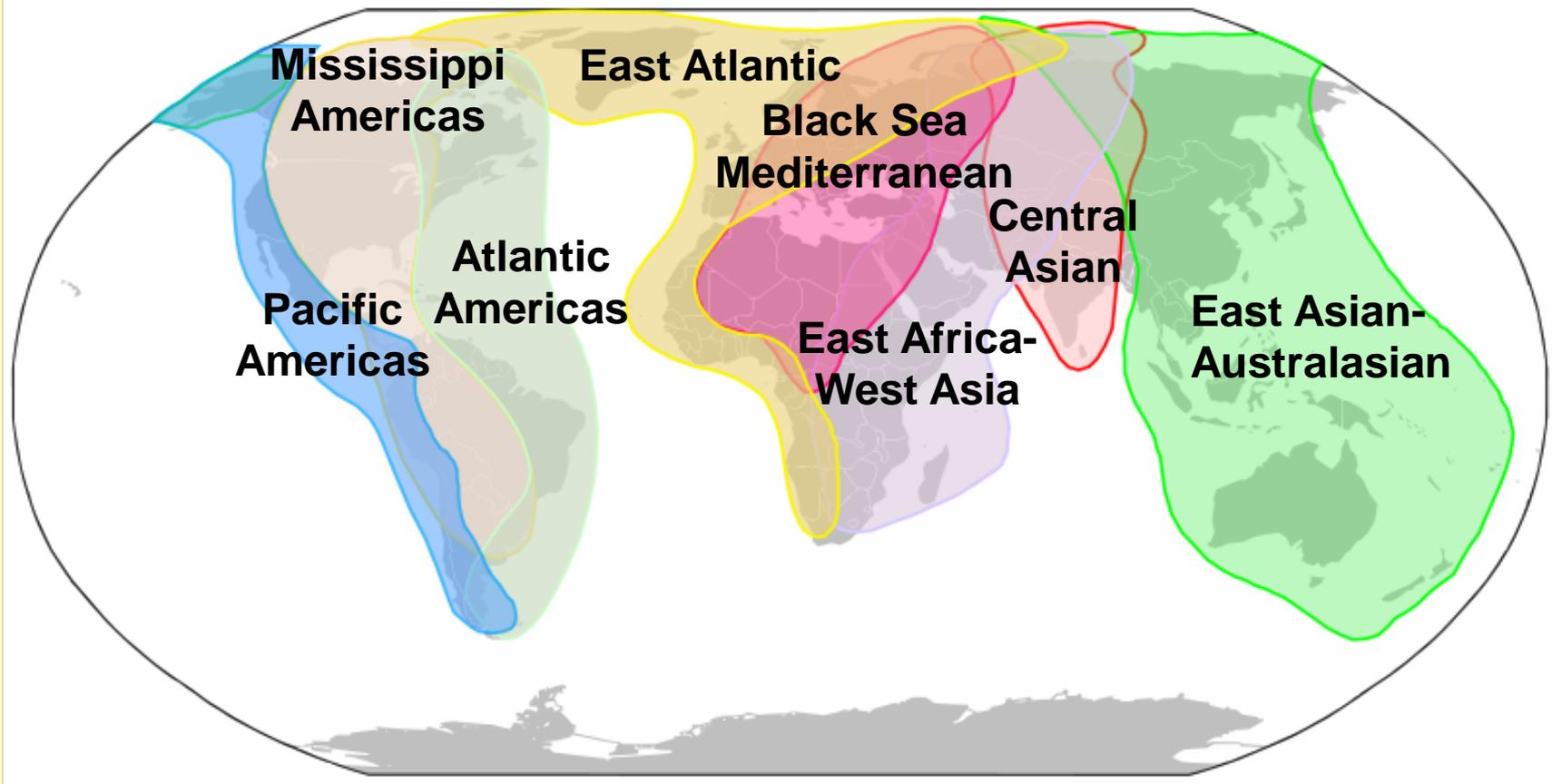


Eastern Curlew: EPBC Critically Endangered

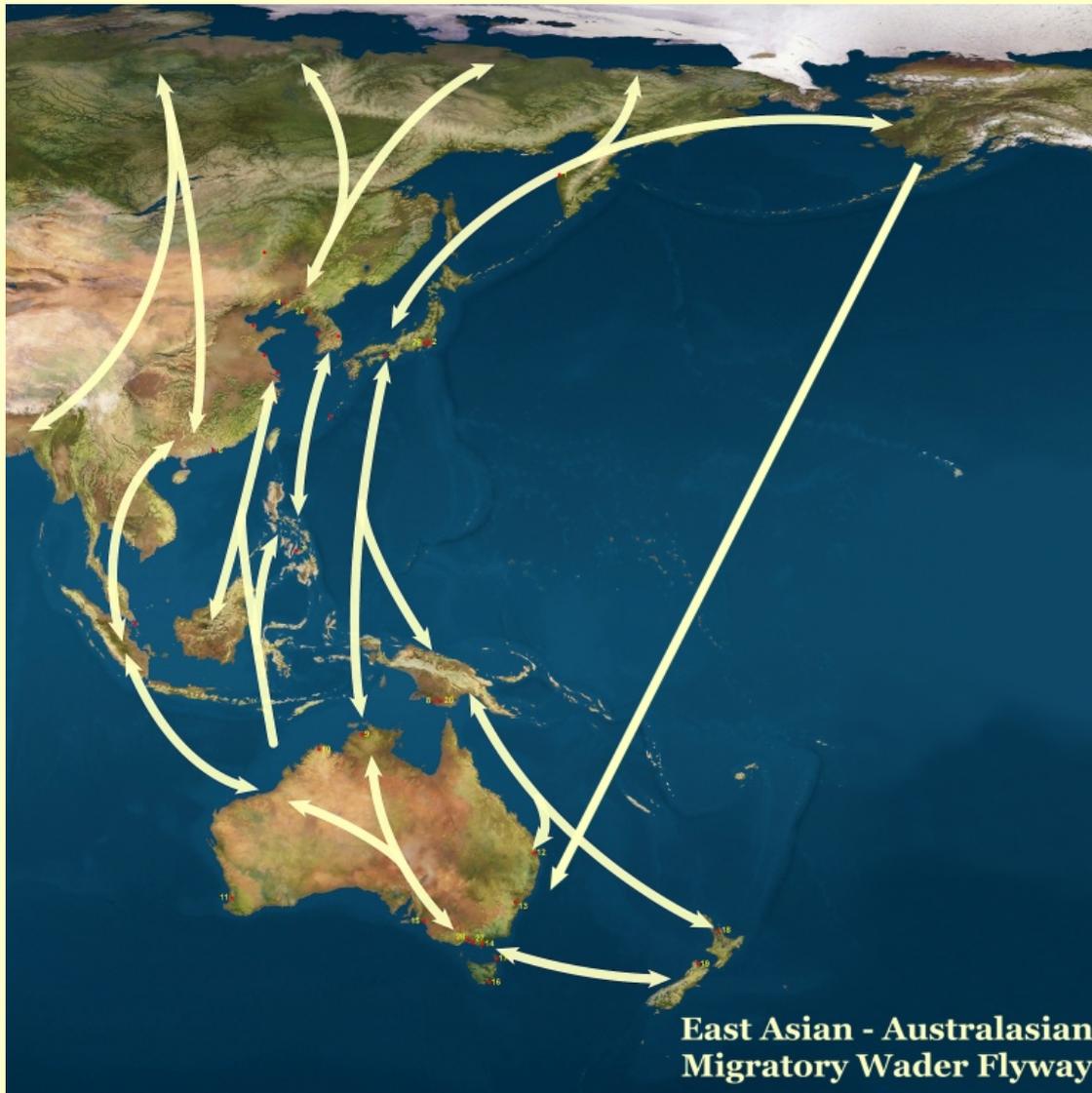


Australian Pied Oystercatcher: NSW Endangered

World flyways for migratory birds



East Asian - Australasian Flyway



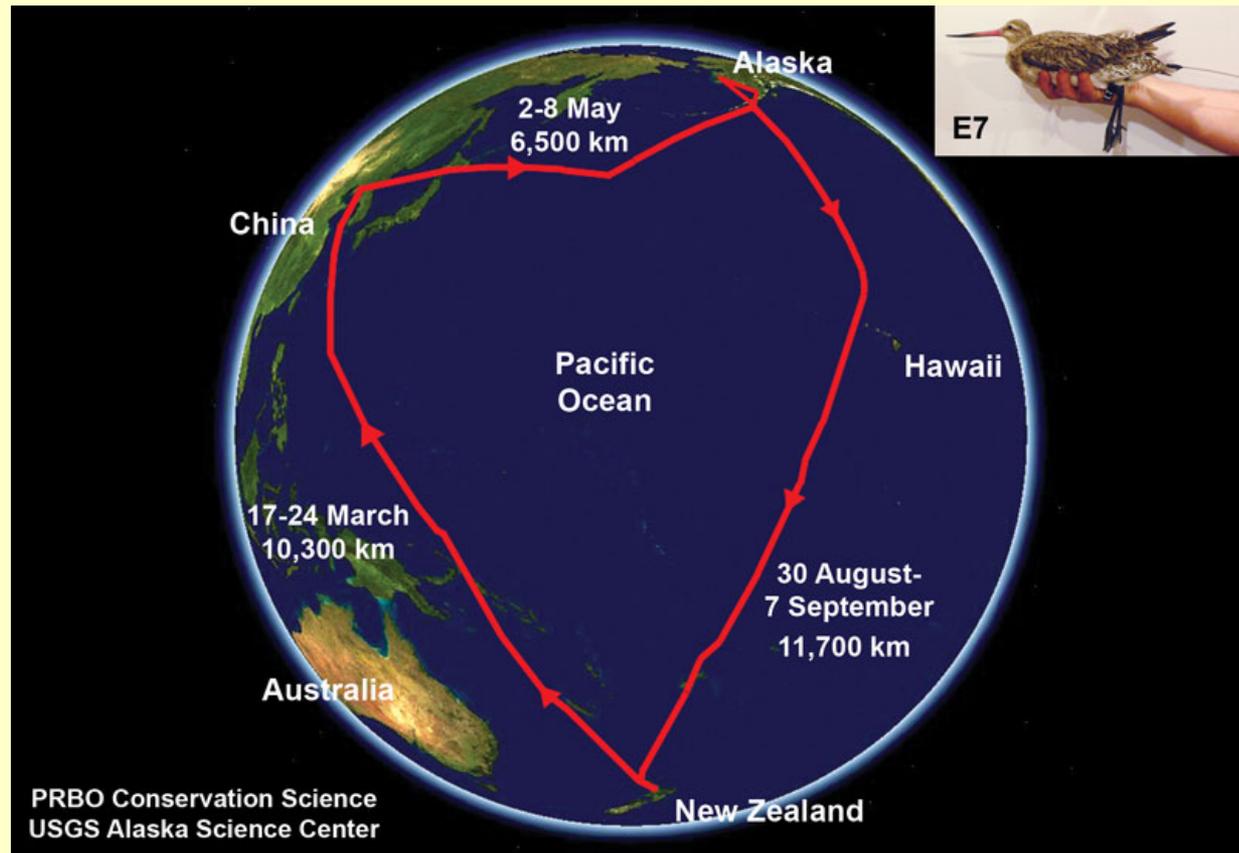
*Birds breed in Siberia,
North China and Alaska
in June and July*

*Stopover at staging
sites in Yellow Sea*

*Migrate south to Australia
& New Zealand*

**East Asian - Australasian
Migratory Wader Flyway**

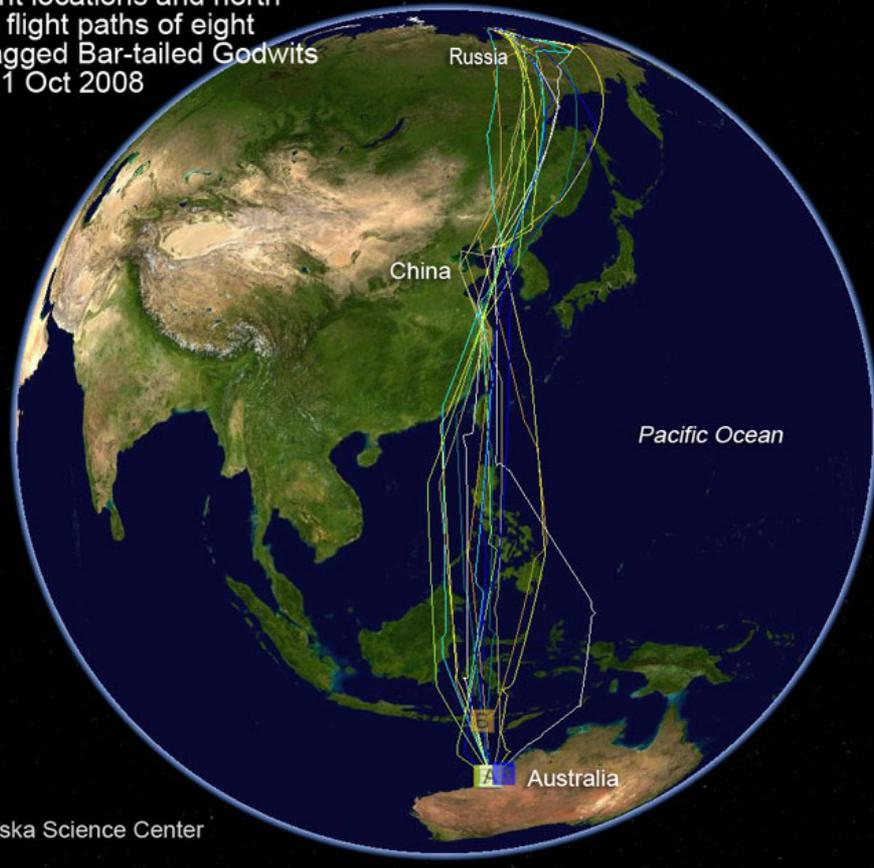
Bar-tailed Godwit satellite tracking



- In 2007 NZ scientists fitted 16 Bar-tailed Godwits with satellite transmitters
- Birds flew non-stop to Yellow Sea, then non-stop to Alaska
- One godwit E7 flew non-stop 11,700 kilometres from Alaska to NZ in 9 days
- Total round-trip 30,000km! (for a 250-350g bird!)

Bar-tailed Godwit tracking 2

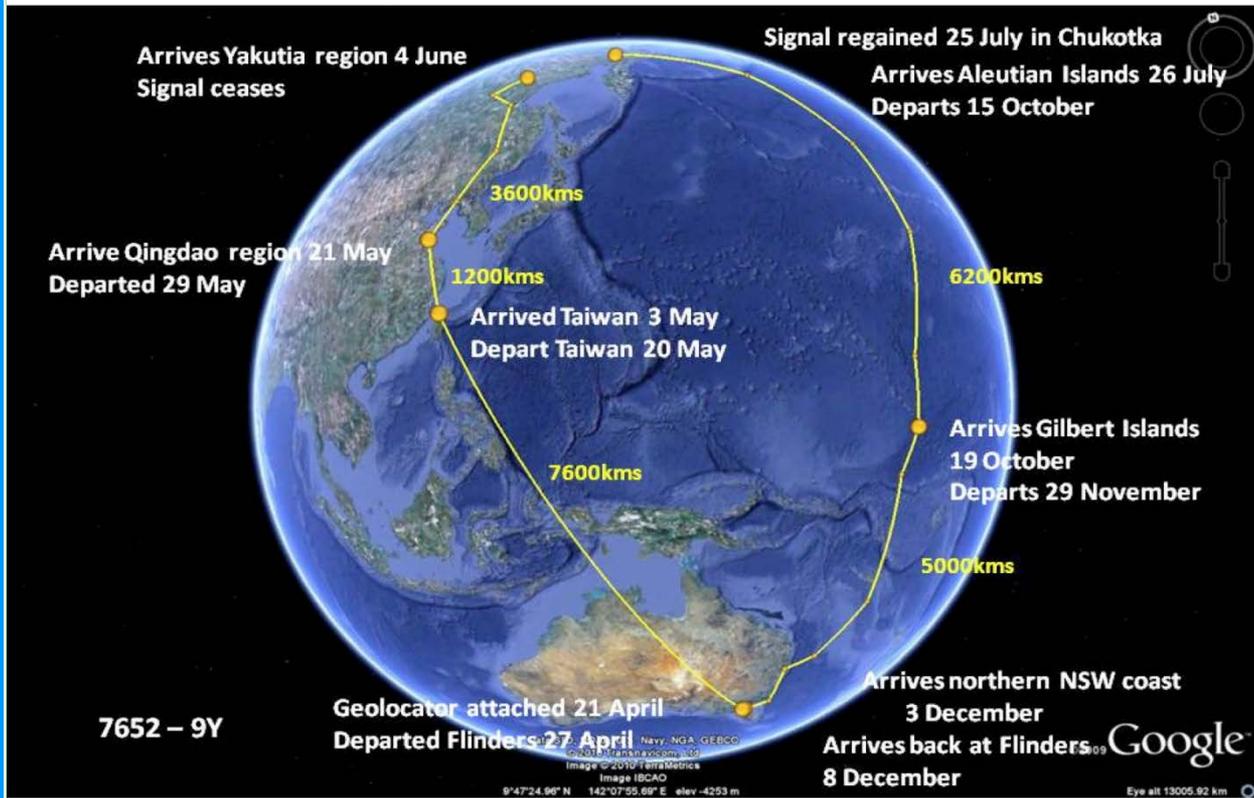
Most recent locations and north and south flight paths of eight satellite-tagged Bar-tailed Godwits updated 21 Oct 2008



- 15 godwits fitted with satellite transmitters at Broome in Feb 2008
- Birds flew nonstop to Yellow Sea, spent 6 weeks there, then departed for Alaska and Siberia
- Returned to Broome later that year



Ruddy Turnstone migration tracking

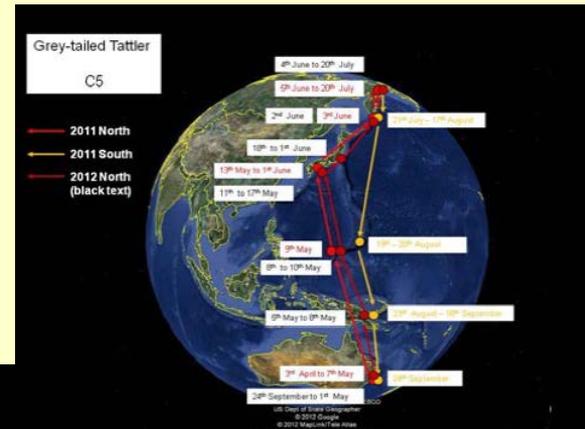
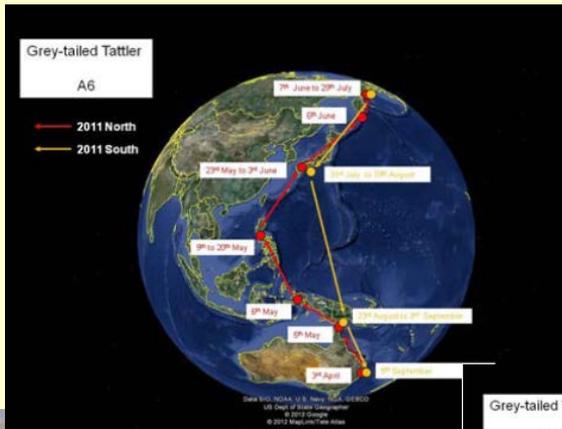


- In 2009, geo-locators were fitted to some Ruddy Turnstones in southern Australia
- Birds flew non-stop to Taiwan, then on to their breeding grounds in 2 further stages
- Return via Gilbert Islands
- This bird weighs just 100-130g!



Smaller geolocators, smaller birds...

- Since 2008, geolocator studies are being progressed to smaller shorebirds
 - Ruddy Turnstone, Greater Sand Plover, ...
 - Grey-tailed Tattlers are a current study
- Grey-tailed Tattlers are unusual in that they migrate through Japan. Long distance non-stop flights remain the norm though!



The importance of Port Stephens

NSW Estuary	Total	Migratory	Endemic
Hunter	2695	2284	411
Port Stephens	1811	1624	187
Richmond	953	941	12
Botany Bay	870	801	69
Clarence	786	772	14
Shoalhaven	772	736	36
Manning	722	670	52

- January 2010 data (the latest available full set)
- All other NSW estuaries had fewer than ~500 shorebirds

Port Stephens shorebirds

Migratory

- Pacific Golden Plover
- Grey Plover
- Double-banded Plover
- ***Lesser Sand Plover***
- ***Black-tailed Godwit***
- ***Bar-tailed Godwit***
- Whimbrel
- ***Eastern Curlew***
- ***Terek Sandpiper***
- Common Sandpiper
- Grey-tailed Tattler
- Common Greenshank

Migratory (cont'd)

- Ruddy Turnstone
- ***Red Knot***
- Red-necked Stint
- Sharp-tailed Sandpiper

Australian Endemic

- ***Beach Stone-curlew***
- ***Aust. Pied Oystercatcher***
- ***Sooty Oystercatcher***
- Red-capped Plover
- Masked Lapwing

Species in ***Bold*** classified as threatened (NSW and/or Commonwealth Acts)

Migratory shorebirds in Port Stephens

- Double-banded Plovers spend winters in Port Stephens
 - They breed in the South Island of New Zealand



Double-banded Plover: a NZ migrant in winter

- All the others come from northern Russia (esp. Siberia)
 - Round-trips of 25-30,000 km every year
 - The smallest species (the Red-necked Stint) weighs only ~25g!



Red-necked Stint: a migrant from the Arctic tundra in summer

- Port Stephens no longer has much habitat that is suitable for most small and medium sized migratory shorebirds → their numbers are much decreased

Port Stephens' special shorebirds

Migratory Species

- Eastern Curlew

- ~1% of world population (= 300+ birds) visit each summer; many immature (non breeding) birds remain over winter
- Port Stephens has been ***Internationally Significant*** for Eastern Curlew ever since records are available (~100 years)
- ***Critically Endangered*** under EPBC Act since 2015. Numbers world-wide have plummeted in recent years.



Port Stephens' special shorebirds

Migratory Species

- Bar-tailed Godwit
 - 500-800 birds each summer, 100-300 immature birds in winter
 - 0.2-0.3% of world population is present in summer
 - Port Stephens is therefore **Nationally Significant** for the Bar-tailed Godwit
 - **Vulnerable** under EPBC Act since 2016. Numbers world-wide have declined substantially in recent years.



Port Stephens' special shorebirds

Migratory Species

- Whimbrel
 - 200-300 birds each summer, 50-100 immature birds in winter
 - 0.2-0.3% of world population is present in summer
 - Port Stephens is therefore ***Nationally Significant*** for the Whimbrel



Whimbrel

Port Stephens' special shorebirds

Migratory Species

- Grey-tailed Tattler
 - 100-125 birds each summer, and 10-20 in winter
 - 0.2-0.3% of world population is present in summer
 - Port Stephens is therefore ***Nationally Significant*** for the Grey-tailed Tattler
 - And it is the most important site in NSW for them



Grey-tailed Tattler

Port Stephens' special shorebirds

Australian Endemic Species

- Australian Pied Oystercatcher
 - Classified as **Endangered** in NSW (only ~500 birds; officially 232 birds)
 - Nests in a scrape on sandy beaches, raising 1-2 young each year
 - Severely impacted by disturbance on beaches across NSW



Pied Oystercatcher near-miss

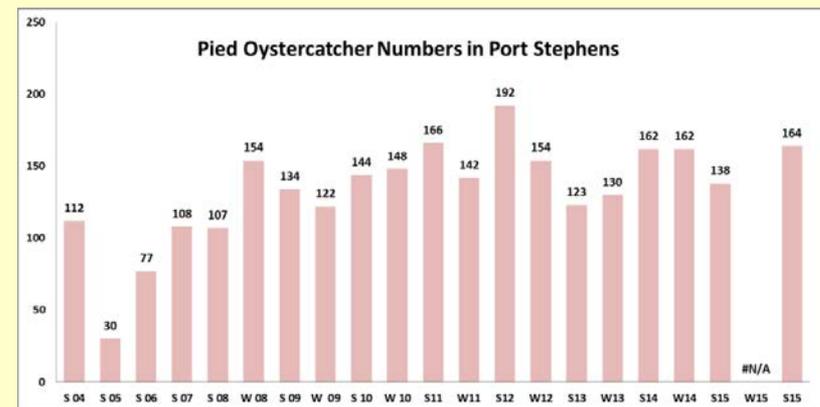
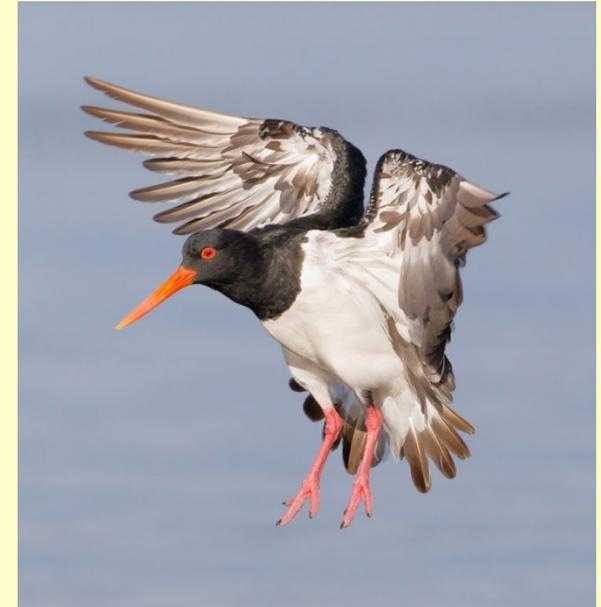


Pied Oystercatcher feeding

Port Stephens' special shorebirds

Australian Endemic Species

- Australian Pied Oystercatcher
 - Port Stephens has been found to be a haven for adult birds waiting for an opportunity to have a breeding territory elsewhere in NSW
 - Surveys by HBOC/NPWS since 2004 find ~150 birds in summer & winter (30-40% of the NSW population)
 - There are only 2 known breeding attempts within Port Stephens
 - Port Stephens is **Internationally Significant** for the Pied Oystercatcher
 - 1-1.5% of the total population is present year-round



Port Stephens' special shorebirds

Australian Endemic Species

- Sooty Oystercatcher
 - Classified as **Vulnerable** in NSW
 - Nests on rocky headlands, off-shore islands
 - Numbers in Port Stephens have been rising in recent years: now 35-50+ birds (0-3-0.5% of the total population)
 - Situation appears to be similar to Pied Oystercatchers (i.e. adult birds, waiting for a breeding territory to become available elsewhere)
 - Port Stephens is therefore **Nationally Significant** for the Sooty Oystercatcher



Pair of Sooty Oystercatchers at their rocky roost



Sooty Oystercatcher about to land

Port Stephens' special shorebirds

Australian Endemic Species

- Beach Stone-curlew
 - Classified as **Critically Endangered** in NSW (officially: 13 birds)
 - Nests in dunes/clearings behind beaches, raising 1 young each year
 - Severely impacted by predation (e.g. foxes) & disturbance on beaches
 - 1-2 birds were recorded in Port Stephens occasionally over 2000-2010
 - Since 2010,



Beach Stone-Curlew

Port Stephens' special shorebirds

Australian Endemic Species

- Beach Stone-curlew
 - In 2010, a pair established a territory at Soldiers Point / Dowardee Island
 - Have bred in each subsequent season, successfully raising a chick every year
 - This is now the southernmost breeding pair in NSW
 - Soldiers Point / Dowardee Island is critical habitat!



The Soldiers Point Beach Stone-Curlew family

Port Stephens' special shorebirds

Australian Endemic Species

- Red-capped Plover
 - Australia's smallest endemic shorebird
 - Nests in a scrape on sandy beaches, sandbanks, salt marsh
 - A prolific breeder, but eggs/chicks suffer from predation & disturbance
 - In the 1980s, 50-60 birds usually were recorded (in partial surveys)
 - Now, only 10-20 birds are found in summer, mainly around Winda Woppa / Corrie Island
 - This is an example of how small/medium sized shorebird numbers have declined in Port Stephens



*Red-capped Plover
(Adult male)*

What makes Port Stephens special for some shorebirds?

- Many parts are quite shallow → large inter-tidal foraging areas
- Largely pristine environment
 - No major industry, relatively few high density settlements
- Significant disturbance only occurs in some parts of Port Stephens
 - There are lots of quiet backwaters (for much of the time)
- Apparently has high inter-tidal biodiversity (invertebrates)
 - Based on a recent study (Alan Stuart & Lois Wooding)



Conclusions 1.

- Port Stephens supports a large number and diverse range of shorebirds
 - 21 species
 - ~1,800 birds in summer and ~500 birds in winter
- Port Stephens is the second-most important estuary for shorebirds in NSW
- The numbers of the small and medium sized shorebirds have declined



Conclusions 2.

- Two shorebirds occur in >1% of their total world populations. Port Stephens is classified as an internationally significant site for them
 - Eastern Curlew (EPBC Critically Endangered)
 - Australian Pied Oystercatcher (NSW Endangered)
- Four other species occur in >0.1% of their total world populations (typically 0.3-0.4%). Port Stephens is classified as a nationally significant site for them
 - Bar-tailed Godwit (EPBC Vulnerable)
 - Whimbrel
 - Grey-tailed Tattler
 - Sooty Oystercatcher (NSW Vulnerable)
- The generally pristine environment and overall low levels of disturbance are keys to Port Stephens' diversity of shorebird life
 - What will happen as the population around Port Stephens continues to rise?

What you can do to help

- Learn where birds prefer to be and help protect those areas from disturbance
- Keep records, count numbers present, monitor the trends
- Join a local bird club
 - Tomaree Bird Watchers
 - Hunter Bird Observers Club
- Join BirdLife Australia (national body: knowledge and advocacy)
- Submit data to BLA/HBOC



birds are in our nature