

The waterbirds of Port Stephens



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What we will cover tonight

- What waterbirds occur around Port Stephens?
- Which ones are: Resident? Migratory? Nomadic?
- What do we know about them?
- Which ones are special, and why?

What do we mean by “waterbirds”?

- Shorebirds (wading birds)
- Cormorants, herons & egrets
- Swans & ducks
- Gulls and terns
- Fish-eating birds of prey

More than 50 waterbird species have been seen in Port Stephens

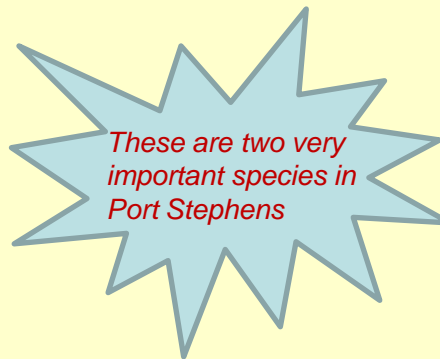
Photos: Me, Trevor Murray, Ann Lindsey, Dan Herbert, Alwyn Simple, Lois Wooding, Darryl Luck, Anon.

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
- Most of the Australian endemic shorebirds in Port Stephens are threatened species in NSW

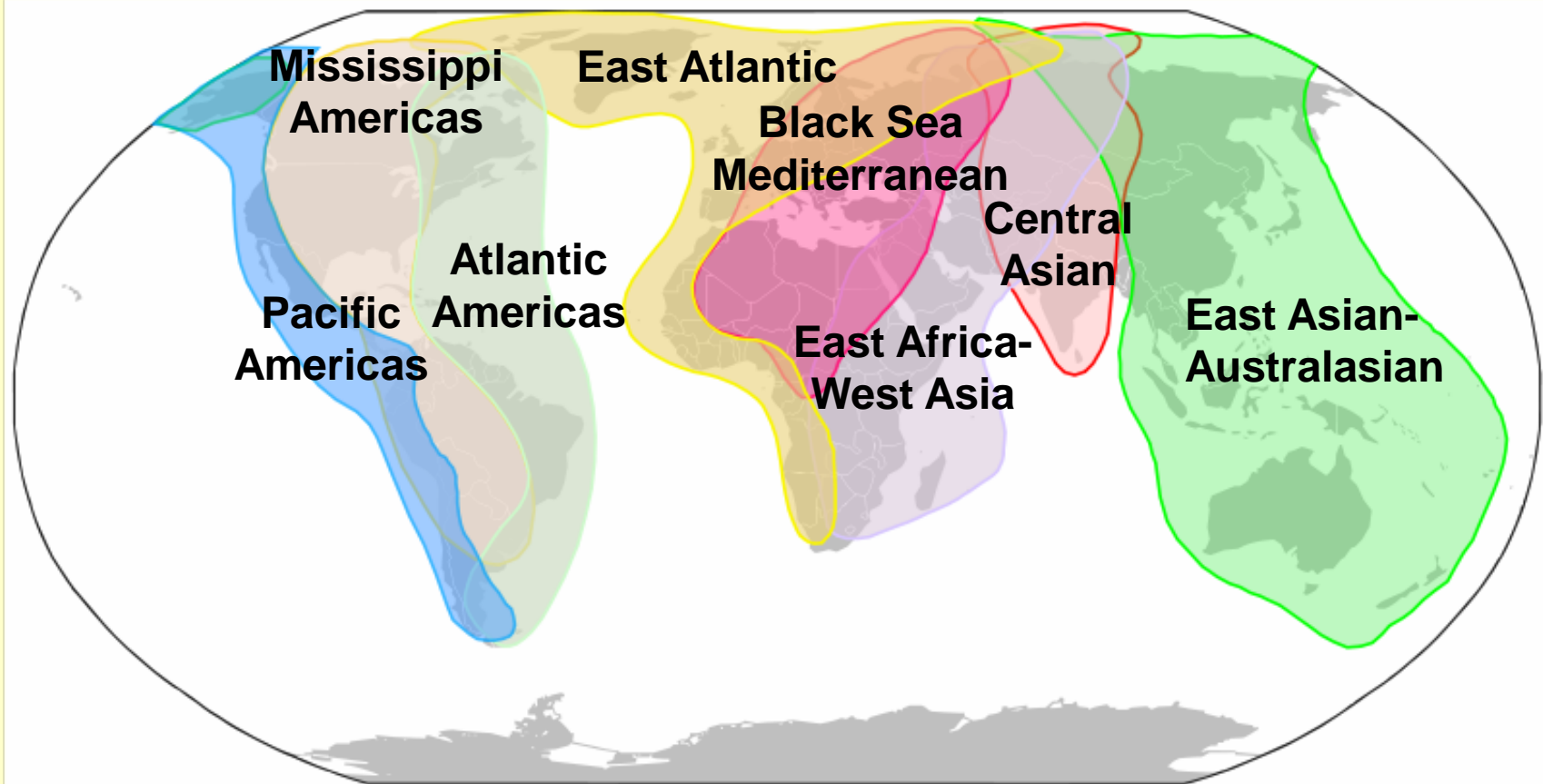


Eastern Curlew: Internationally Vulnerable



Australian Pied Oystercatcher: NSW Endangered

World flyways for migratory shorebirds



East Asian - Australasian Flyway

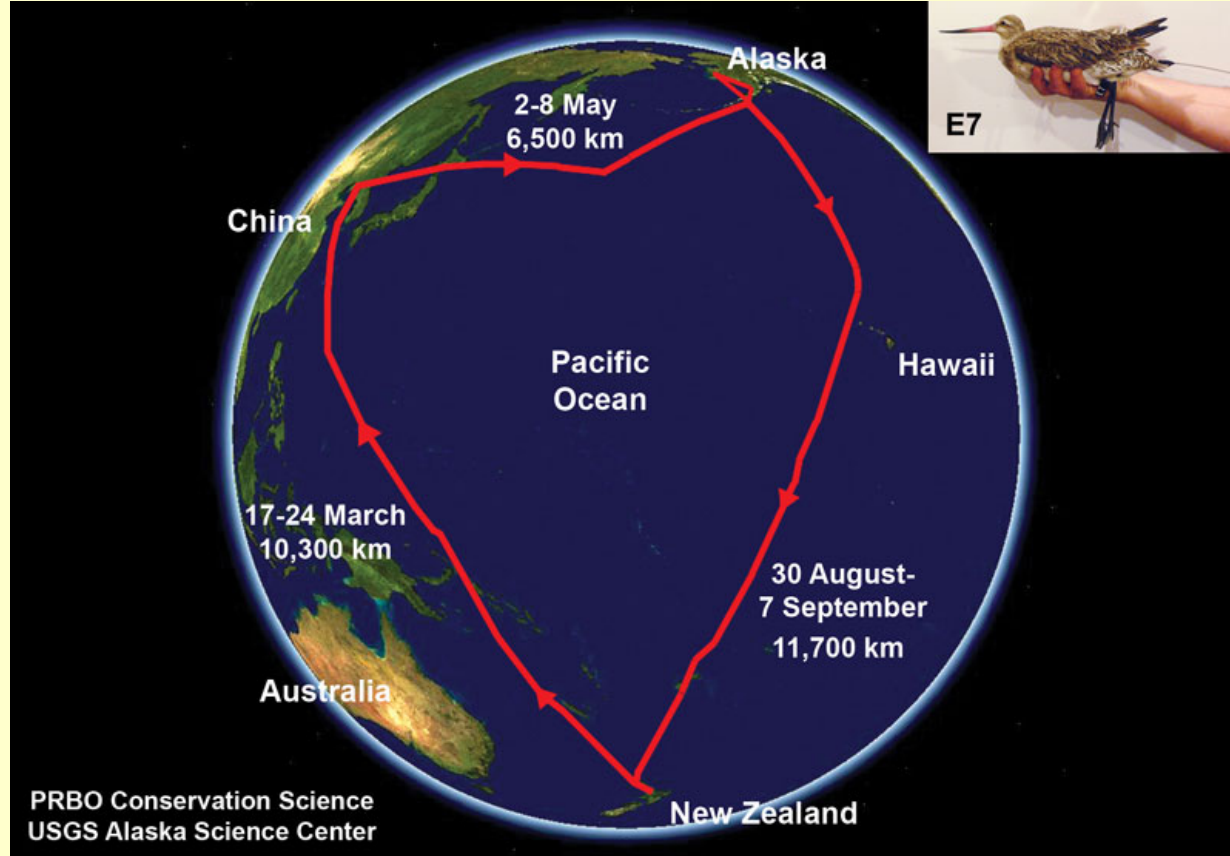


*Birds breed in Siberia,
North China and Alaska
in June and July*

*Stopover at staging
sites in Yellow Sea*

*Migrate south to Australia
& New Zealand*

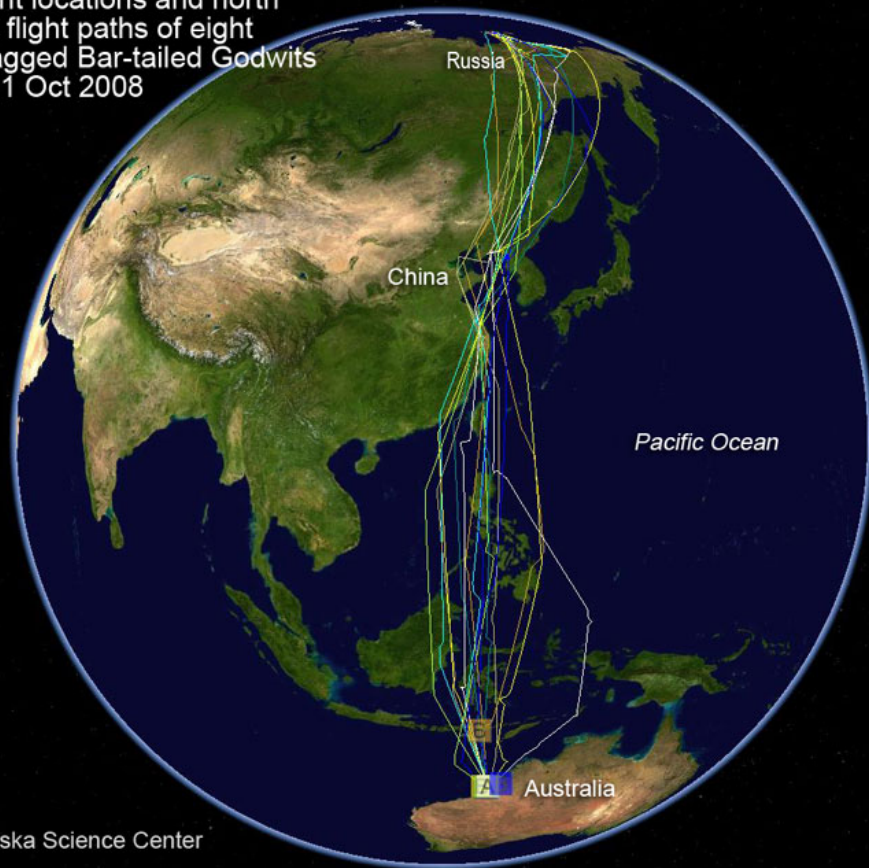
Bar-tailed Godwit satellite tracking



- 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 11,600 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

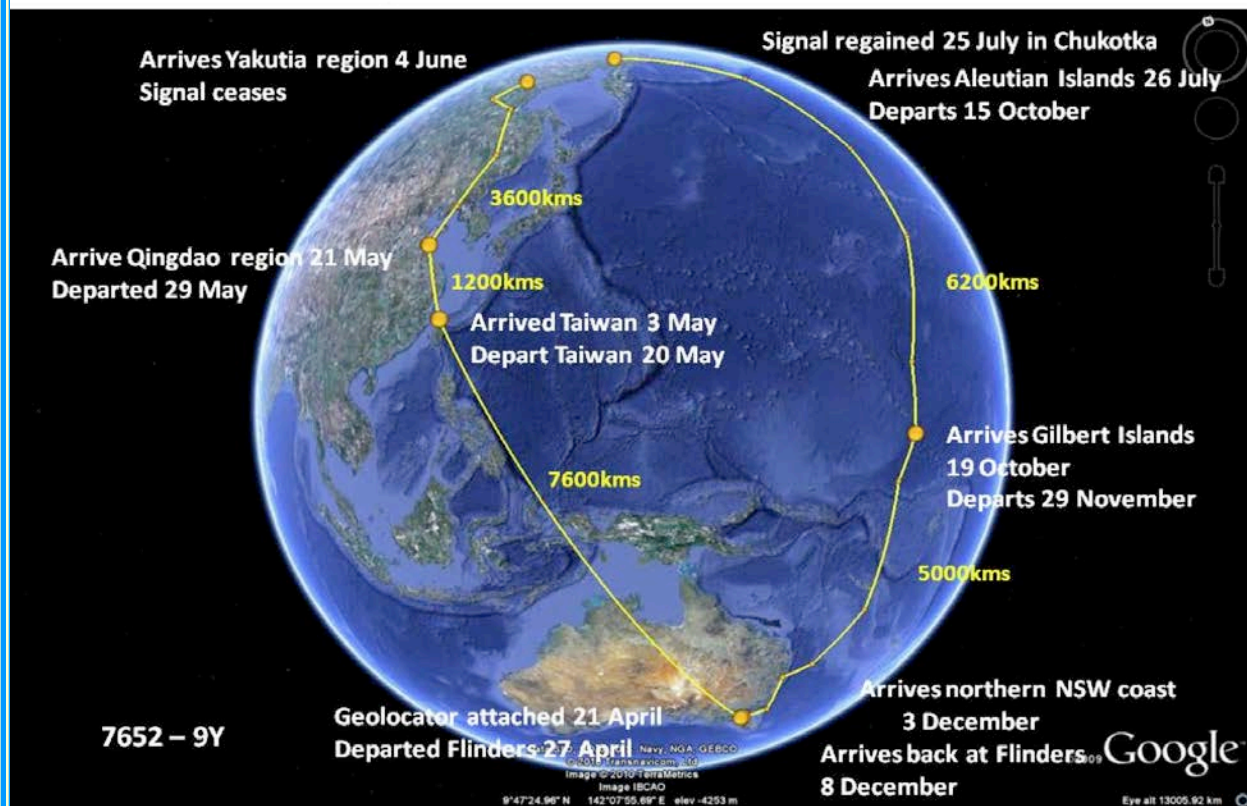


A7 in the hand: Adrian Boyle



Released A9 in flock: Jan van de Kam

Ruddy Turnstone satellite tracking

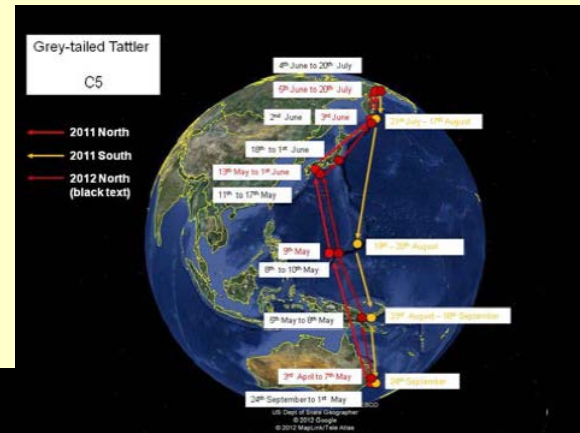
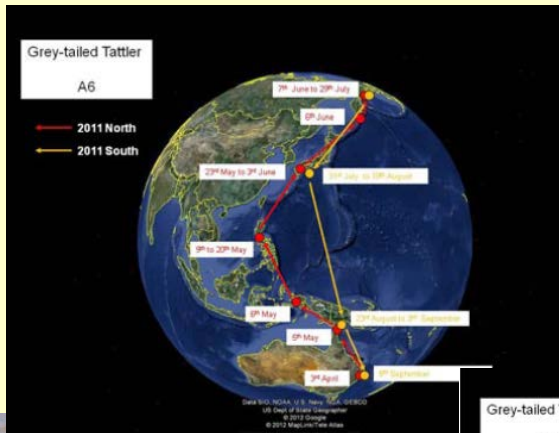


- In 2009, satellite transmitters were fitted to some Ruddy Turnstones in southern Australia
- Birds flew non-stop to Taiwan, then on to their breeding grounds in 2 further stages
- Return via Gilbert Islands
- This bird weighs just 100-130g!



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!



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 an internationally significant site for Eastern Curlew ever since records are available
- Bar-tailed Godwit
 - 500-800 birds each summer, 100-300 immature birds in winter



Port Stephens' special shorebirds

Migratory Species

- Whimbrel
 - 200-300 birds each summer, 50-100 immature birds in winter
- Grey-tailed Tattler
 - 100-125 birds each summer, 10-20 in winter
 - The most important site in NSW for Grey-tailed Tattlers

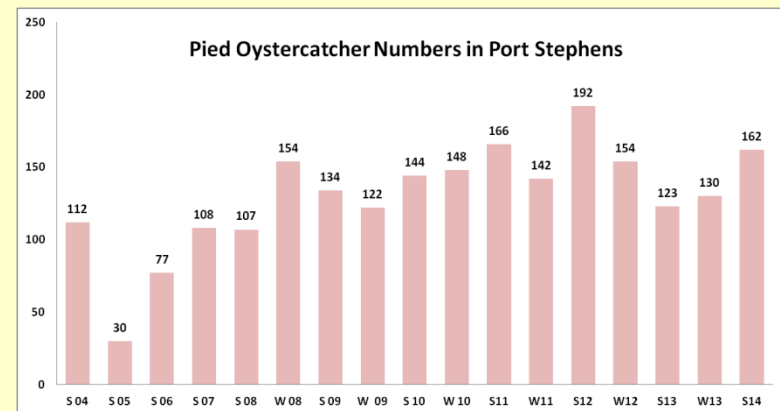


Port Stephens' special shorebirds

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
- Port Stephens has been found to be a haven for adult birds waiting for an opportunity to have a breeding territory
 - Surveys by HBOC since 2004 find ~150 birds in summer & winter (30-40% of the NSW population)
 - There is only 1 known breeding attempt within Port Stephens



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 sometimes over 2000-2010
 - In 2010, a pair established a territory at Soldiers Point / Dowardee Island
 - Have bred in each of the past 3 seasons, successfully raising a chick every year
 - This is now the southernmost breeding pair in NSW
 - Soldiers Point / Dowardee Island is critical habitat!



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 35-40+ birds
 - Situation is thought to be similar to Pied Oystercatcher
- 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



Pair of Sooty Oystercatchers at their rocky roost



*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 current study (Alan Stuart & Lois Wooding)



Cormorants, herons & egrets

- All are predominantly fish-eaters. Usually Port Stephens has plenty to offer them!
- Many hundreds of Pied Cormorants and Little Black Cormorants are present most of the time
- Other cormorants (Great, Little Pied) usually <100 birds
- Great Egret, Little Egret, White-faced Heron also are common
- Less common / uncommon: Intermediate Egret, Striated Heron, Nankeen Night-Heron



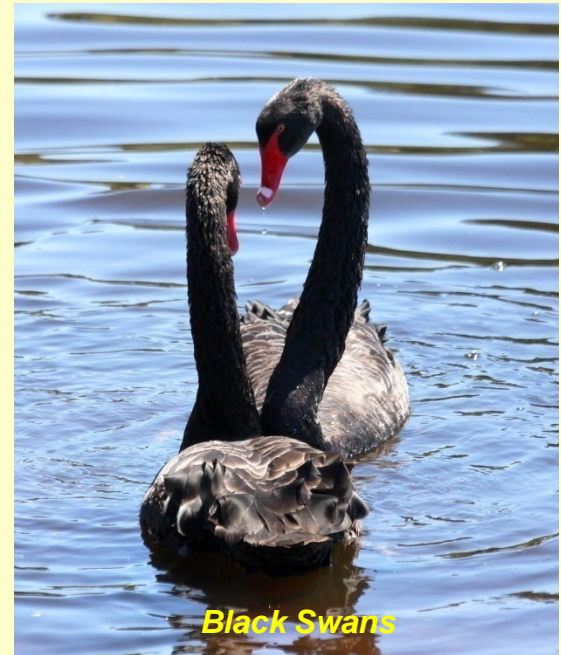
Pied Cormorant



Little Black Cormorant

Black Swans, ducks

- All are predominantly herbivores e.g. eating sea-grasses (*some ducks are omnivores*)
- Black Swan numbers vary greatly depending on sea-grass status
 - From <100 birds to >1,000 birds
- 20-50 each of Chestnut Teal and Pacific Black Ducks are usually present (widely dispersed)
- Australian Wood Ducks are more likely to be found on grassy banks
- All other duck species are uncommon/rare



Gulls and Terns

- Terns are fish-eaters, gulls predominantly are scavengers
- Silver Gulls and Crested Terns are the two most common species (100-300 birds usually are present)
- In summer, there sometimes are small numbers of Little Terns and Common Terns (10-50 birds each)
 - Little Terns are Endangered in NSW. Historically they have bred in Port Stephens but no recent records.
- In winter, there sometimes are small numbers of White-fronted Terns (1-5 birds)
- Arctic Jaegers sometimes in summer (it parasitises gulls & terns)



Birds of Prey (Raptors)

- Many of the raptors found around Port Stephens are primarily or exclusively land-based hunters
- The fish-eaters and/or scavengers are:
 - White-bellied Sea-Eagle (10-20+ birds and several breeding pairs)
 - Whistling Kite (10-20 birds and several breeding pairs)
 - Osprey (5-10 birds and 2-3 breeding pairs)
 - Brahminy Kite (1-2 birds, breeding is not confirmed)



Whistling Kite



Osprey



Brahminy Kite



White-bellied Sea-Eagle

What makes Port Stephens special for some waterbirds?

- Lots of fish & other marine life
- Many parts are quite shallow → easy for herons & egrets to hunt
- Some parts are deeper
 - Cormorants
 - Terns
 - Raptors
 - Also penguins
- Largely pristine environment
- Disturbance is not a serious issue (in general)

Conclusions

- Port Stephens supports a large number and diverse range of waterbirds
 - >50 species
 - >3,000 birds in summer and >2,000 birds in winter
- The numbers of the small and medium sized shorebirds have declined
- Two shorebirds occur in >1% of their total world populations: Port Stephens is classified as an internationally significant site for them
 - Eastern Curlew
 - Australian Pied Oystercatcher
- The generally pristine environment and overall low levels of disturbance are keys to Port Stephens' diversity of waterbird 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