



Jacana and chick

The Comb Crested Jacana (*Irediparra gallinacea*) also known as Lotus Bird or Jesus Bird is an 'emblem' of tropical and subtropical freshwater swamps and lagoons. They occur all year round at Yellow Water and breed from February to March. They build their nests on floating platforms made from the leaves of aquatic plants. Jacanas have long thin legs and elongated toes suitable for wading and walking over the 'surface' of the water. These toes seem out of proportion to their relatively small bodies and give them a comical appearance. Nevertheless, they have a nice balance between height and weight distribution that is suitable for walking on floating vegetation such as waterlilies. They feed mainly on insects and seeds from aquatic plants. Their nests and juvenile can be observed from the beginning of March to April.

Conclusions

Wetlands comprise some of the most threatened habitats on earth. Increasing the awareness of the importance of wetlands is vital for ensuring a common sustainable future which involves conservation and shared socio-economic values. The Yellow Water wetlands play an important role in conserving and supporting the biodiversity of plants and wildlife in Kakadu. To address conservation issues we need information on the processes that support the biodiversity and the many benefits that people derive from wetlands.

Photographs by MariaGrazia Bellio and Caroline Camilleri



eriss carries out scientific research for the protection of people and the environment in places that are highly valued by the Australian community.

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notes

SEASONAL CHANGES IN BIRDS AT YELLOW WATER WETLANDS, KAKADU NATIONAL PARK

A joint project between tour-operators and wetland scientists

The Environmental Research Institute of the Supervising Scientists (*eriss*) is located in Jabiru and Darwin in Australia's Northern Territory and undertakes research on environmental issues related to uranium mining and wetland management.

Wetland monitoring — A joint effort

In 1998 *eriss* started joint wetland monitoring projects with local community groups and wetland managers. These projects seek to involve wetland owners, users or managers in collecting information that can help them manage wetlands and educate visitors and other users.

In June 1998 a joint effort involving tour guides started monitoring seasonal changes in abundance of wetland birds and vegetation at Yellow Water wetlands in Kakadu National Park.

Yellow Water wetlands

Yellow Water is situated at the confluence of the South Alligator River and Jim Jim Creek. It has long been an important food gathering area for local Aboriginal people and it is home to an abundant and rich diversity of plants and animals.

The abundant wildlife and vegetation of the wetlands has been recognised in the listing of Kakadu National Park's wetlands as internationally important under the Ramsar Wetland Convention. The Ramsar Convention has been used for 30 years to ensure the conservation and wise use of wetlands around the world. Listing under the Convention has highlighted the international value of Yellow Water and other wetlands in the Park and encouraged their wise use and conservation.



Changes in water levels in the paperbark swamps at Yellow Water during the early and late Dry season



Recreation and tourism

The Yellow Water wetlands attract about 120 000 tourists each year. They are also used by park residents and visitors for recreational fishing. The information collected by the tour operators and **eriss** personnel has been used to increase the awareness of visitors of the importance of wetlands in general and Yellow Water in particular. This joint effort has also resulted in a better understanding of the seasonal cycles that occur at Yellow Water.



Regular tour boat cruises operate at Yellow Water all year round

Seasonal changes and birdlife

The monitoring program involved observing birds on a weekly basis at five sites over a period of 13 months. These observations have shown how the bird species respond to the seasonal climate that has two extremes — a cool to warm Dry season and a warm to hot Wet season. Birds species and numbers vary as the seasons change. From this we can deduce how the different species respond to variations in the habitats and the availability of food and areas for foraging, hunting or breeding. Some birds remain all year round, some are itinerant and others are migratory. Some are sociable and others are solitary or occur in pairs. All this information is valuable for addressing conservation issues for the different species.

The White Bellied Sea Eagle (*Haliaeetus leucogaster*) is one of the best known resident birds at Yellow Water and can be observed all year round. These majestic birds build their large nests in the top of tall trees. They are carnivorous and hunt other birds, reptiles and fish. They can be observed perching on



Magpie Goose and water lilies



Jabiru

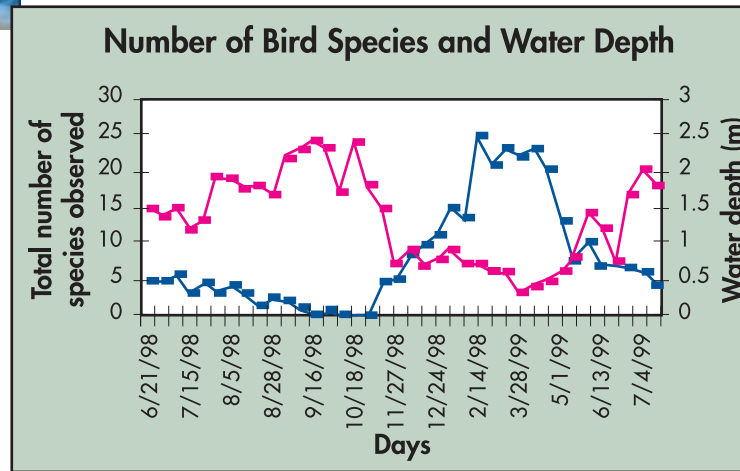
exposed branches and hunting along the main water channels.

Magpie Geese (*Anseranas semipalmata*) and Wandering Whistling Ducks (*Dendrocygna eytoni*) are highly gregarious. Their movements are largely determined by variations in water level and food availability. During the Dry season they congregate in thousands on the mudflats near permanent water. They feed on tubers and seeds of wetland plants. During the Wet season they disperse widely and are often seen roosting in the nearby trees.

The Jabiru (*Eppiphiorhynchus asiaticus*) are solitary or in pairs. At Yellow Water they are mainly seen during the Dry season.

Seasonal changes and feeding behaviour

Yellow Water is a dynamic place, changing dramatically between the seasons. The abundance and diversity of birds varied greatly accordingly to seasonal changes. Our study has confirmed that during the Wet, when the area is under flood, the number and variety of bird species diminishes greatly.



During the Dry season many waterbirds congregate at Yellow Water which is one of the bigger areas in Kakadu with both large permanent bodies of water, seasonally flooded plains and many small ponds. These conditions attract different species with a wide range of feeding habits, from herbivorous to carnivorous and those that seem to eat almost anything, as well as birds that feed on the surface, surrounding land or amongst the fringing vegetation.

Herons, egrets, ibises and spoonbills prefer shallow water for feeding. They favour small ponds where their prey concentrate and are less likely to escape.

Burdekin Ducks (*Tadorna radjab*) are most common in the Dry when the habitat is more suitable for them to feed. They sieve through the mud at the water's edge searching for small aquatic insects and dabble at the surface while diving.



Plumed Whistling Ducks

Burdekin Duck

Darier

Sulphur Crested Cockatoo

Residents, migrants and occasional visitors

Some species visit Yellow Water only during the Wet season. The Sulphur Crested Cockatoo (*Cacatua galerita*) is more common between January and April, the same time that the pandanus palm (*Pandanus aquaticus*) is fruiting.

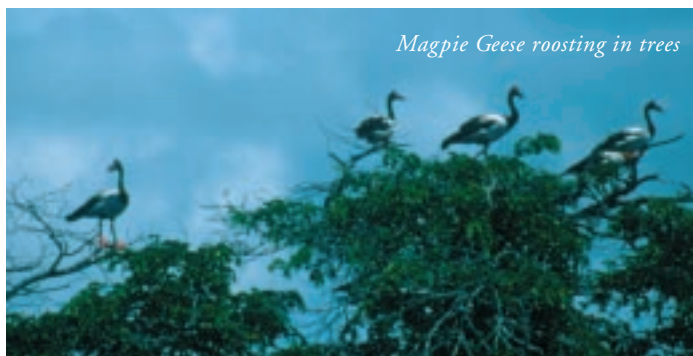
Dollarbirds (*Eurystomus orientalis*) are regular visitors from September to April when they breed. They depart again at the end of the Wet to their wintering territories of New Guinea and adjacent islands.

Darters (*Anbinga melanogaster*) are sedentary and can be observed all year round at Yellow Water. They spend most of the day resting on exposed perches, sunning, preening and digesting their food. They are usually colonial and nest in trees close to the water. They breed during the Wet and the chicks can be seen in the nests until July.

Spoonbills, Ibises and Herons feeding in small ponds, late October



Sea eagle perching



Magpie Geese roosting in trees