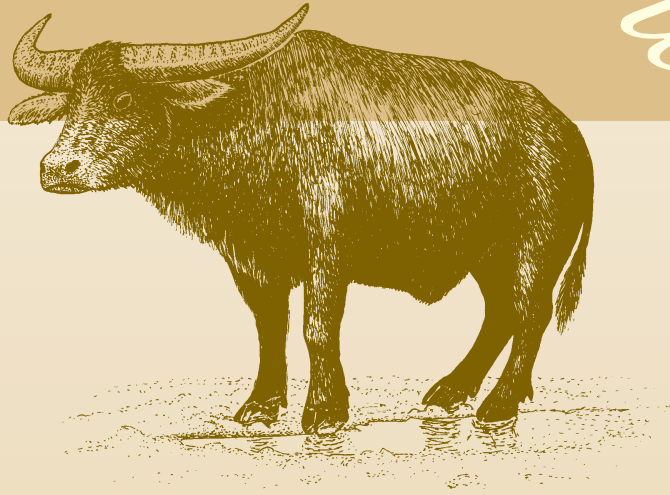


The feral water buffalo (*Bubalus bubalis*)

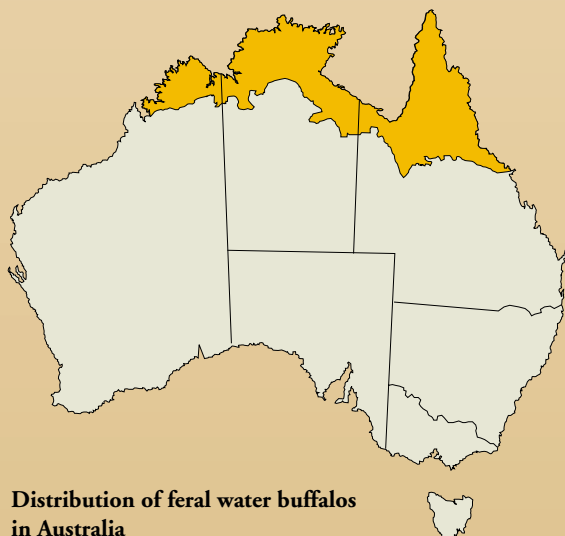


Water buffalos were imported to Australia in the 19th century to supply meat to remote northern settlements. The settlements and their buffalos were abandoned in 1949 and, despite harvesting for meat, hides and as hunters' trophies, feral buffalos spread across the northern floodplains. By the 1970s, feral buffalo numbers were so high that they were destroying wetlands and harbouring diseases that could affect native species and livestock. The Brucellosis and Tuberculosis Eradication Campaign, developed to protect the meat export industry, has all but eradicated feral buffalos from the wild. The challenge will be to ensure that feral buffalo populations do not rebuild.

History

Between 1825 and 1843, about 80 buffalos were brought to Melville Island and Cobourg Peninsula for meat. When these settlements were abandoned in the mid-1900s, the buffalos soon colonised the permanent and semipermanent swamps and freshwater springs of the Top End of the Northern Territory.

Australia has a mixture of the two types of buffalo: the river type from western Asia, with curled horns, and the swamp type from eastern Asia, with swept-back horns.



Distribution of feral water buffalos in Australia

Adapted from: Clarke GM et al (2000).
Environmental Pest Species in Australia.
Internal report, Department of the
Environment and Heritage, Canberra.

The number of feral buffalos in Australia has decreased dramatically from around 350 000 in the 1980s, due to extensive culling as part of the Brucellosis and Tuberculosis Eradication Campaign. In Kakadu National Park, the number was reduced from about 20 000 in 1988 to under 250 in 1996.

Ecology

Feral buffalos prefer to inhabit swamps and floodplains, where they have ready access to food and water. In years with low rainfall, many feral buffalos die, and the remaining ones are restricted to the northern river plains and associated swamps. After a series of wetter years, feral buffalos can spread again, with populations building to densities of up to 34 animals per square kilometre.

During most of the dry season (May–October), males (bulls) and females (cows) live separately. Females and calves, led by one of the older females, occupy the forested plains where food and shade are most plentiful. Males inhabit more open plains with little shade, or slopes with dryer vegetation. When the wet season breaks, the older males join the females and drive away younger males. There is a peak of mating in about March and pregnancy lasts about ten months. In the wet season (November–April), the feral buffalo grazes on aquatic grasses and grass-like wetland plants. It eats a broader range of foods in the dry season, feeding on grasses, herbs and the leaves of plants like pandanus. In the wet, feral buffalo groups camp overnight in woodland and move out to feed at dawn, with males eating up to 30 kilograms of dry matter each day. Mid-morning, they move to the water to drink and wallow, returning to graze from mid-afternoon till dusk. In drier times feral buffalos prefer to graze at night, spending most of the day in wallows to escape biting insects and stay cool.



*Feral buffalo consume large quantities of aquatic plants, muddy the water and create 'swim channels' which can allow salt water to intrude into freshwater swamps, damaging aquatic ecosystems.
Photo: Ken Griffiths/ANTphoto.com.au*

Dingos and crocodiles prey on younger feral buffalos, but once adulthood is reached individuals may live for 20 years.

Impact

The feral buffalo has been a major environmental disaster in the wetlands of the Top End. When the population was at its highest, from the 1960s to the 1980s, the feral buffalo grossly altered the character of the northern floodplains. With its wallows, trails, dung, trampling and disturbance, it caused soil erosion, channelling of floodwaters, increased intrusion of saltwater into freshwater habitats and destruction of wetland vegetation. These effects were worse during dry periods when animals concentrated at receding water. Many native wetland flora and fauna failed to thrive in the muddied or salt-polluted water; they also suffered from the disturbance and loss of cover. Crocodiles, barramundi and other native species declined and many waterbirds lost their habitat.

Feral buffalos eat large volumes of grasses and other plants, removing this food source for native wildlife, and they can damage the trees they regularly rub against. Their trampling and soil disturbance also promotes the spread of weeds across the landscape.



*Water buffalo were introduced from South East Asia and are now widespread across north Australian tropical wetlands.
Photo: Dave Watts/ANTphoto.com.au*

The feral buffalo carries important diseases of cattle, particularly tuberculosis and brucellosis.

Feral buffalos are the only major vertebrate pest that has been successfully controlled in Australia. If they were to return to their former numbers, they would almost certainly threaten wetland-dependent frogs, fish, birds and plants of the Top End.

Control

Feral buffalos were all but eliminated from Kakadu National Park and the northern wetlands in a massive shooting program that was part of the Brucellosis and Tuberculosis Eradication Campaign. Beginning in 1979 and lasting until 1997, feral buffalos were shot from helicopters. The difficult terrain made full eradication impossible, but only small, isolated populations remain in the wild. In Kakadu National Park, the park staff have taken over the responsibility for controlling the few hundred remaining feral buffalos to minimise damage to the environment. Since feral buffalo numbers have been greatly reduced, plants such as red water lilies, grasses and sedges have returned. Pandanus, eucalyptus and paperbark have regrown in areas where feral buffalos previously ate their seedlings.

For many years, the feral buffalo has supported several industries: meat for human consumption (local and international), pet meat, hides, horns, animals for live export and game for hunters. Over nine decades from the 1880s, some 700 000 animals were harvested, on foot, from horseback and eventually from four-wheel drive vehicles, but the feral buffalos continued to multiply and spread. Some Aboriginal communities in Kakadu depend on the buffalo as a food source and have negotiated permission to maintain a domesticated herd. Farming of redomesticated herds is increasing.

Illustration of water buffalo by Sharyn Wragg
Printed on recycled paper (2004)

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