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Park Notes

Millstream - Chichester National Park

Department of Conservation and Land Management

What about the Palms?

The area around the Millstream Homestead has seen a lot of changes over the past one hundred years, but perhaps none as devastating as the introduction of the date palm. If you follow the Homestead Walk you will appreciate the impact the date palm has had on this sensitive ecosystem, and understand the need for its removal.

Millstream Palm

Of the three palms you will see, only the Millstream palm *Livistona alfredii* is native. It is unique to the Pilbara region, and only found in a handful of locations. It prefers calcareous soils near permanent springs, and is most abundant at Millstream.

It is a single-stemmed palm reaching between five and 12 metres high, with a trunk 30–50 centimetres in diameter. The species is slow-growing and unable to compete with the date palm.

The fronds have a broad, fairly short leaf stalk and a large, pale bluish-grey fan-shaped leaf blade with a waxy surface. Bunches of deep orange flowers appear to nestle amongst the fronds from August to September, and are followed by large, round fruits up to four centimetres in diameter. They have a thick, brown fleshy skin, which is edible and popular with the Yinjibarndi Aboriginal people from the Millstream area.

To assist palm seeds to germinate, tiny borers must pierce the woody interior of the seed to allow water to penetrate; then germination can begin. The root tip is the first to emerge from the seed and makes its way down, anchoring in the soil. It is soon followed by a single leaf, resembling a ribbed blade of grass.

The other two palms found at Millstream are the date palm *Phoenix dactylifera*, with its dark green feather-shaped fronds, and the cotton palm *Washingtonia robusta*, with its bright, glossy green fan-shaped leaves.

The cotton palms were planted as garden specimens by early pastoralists, along with some of the dates. Other date palms have germinated from seeds left in the droppings of camels as they moved around the area. At one time, camel trains were the only means of transport to and from inland stations to the ports along the north-west coast. Boats would arrive at Cossack, and cargoes would be unloaded and despatched to places like Millstream. The return trip would carry fleece to be sold in Perth.

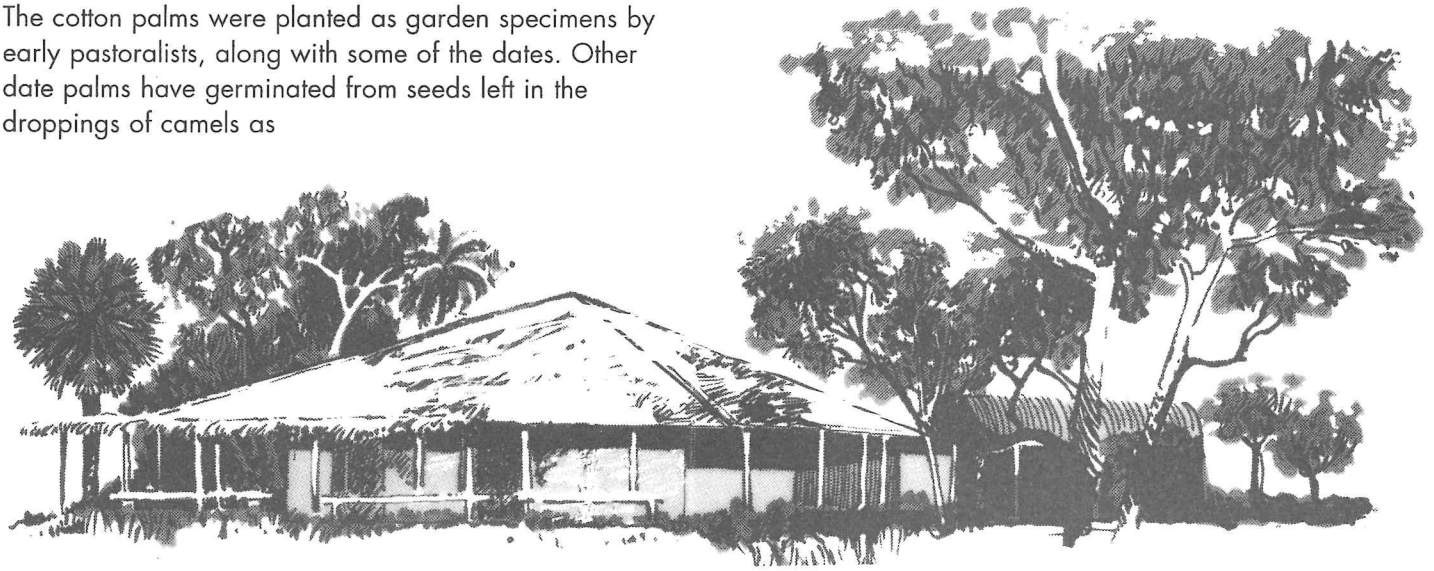
Date Palm

The date palm is an introduced, aggressive coloniser, thriving at Millstream where the watertable is close to the surface. Palms flower and fruit readily and seeds have been washed down the creek systems into the delta of the Fortescue River. They can also be carried and dropped by fruit bats, which can fly up to 50 kilometres in a night.

Date palms produce male and female flowers on separate plants. It is impossible to tell which is which until plants are sexually mature. The fruiting body of male palms is feather-like and carries numerous small flowers. The fruiting body of the female is more robust and must be able to support up to 15 kilos of fruit once the flowers have been pollinated by wind.

Date palms have a fibrous root system. With so much water available they form a bulky mass, blocking channels, altering water courses and restricting water flow to other species. These changes in water flow also affect the habitat of fauna such as the dragonfly and the fish species.

Before European settlement, the wetlands here at Millstream were dominated by majestic paper barks and river gums. Their open canopies allowed plenty of light for an understorey of sedges and other native grasses, herbs, shrubby wattles, cassias and native hibiscus. Over the years, the dense canopy of palm fronds has restricted light to these understorey plants, and species that once flourished have disappeared, leaving the ground bare.



Due to the build-up of dead fronds, any fires that start radiate intense heat. Where native plants have managed to survive the dense date palm canopy, they are killed by radiant heat.

Palm Removal

CALM is currently implementing a plan to remove most of the introduced palms. With help from Green Corps, all palms under two metres high are poisoned, and plants over two metres high are felled. Some large palms have been sold to landscaping companies, and all money received goes back into the palm control program.

As date palms are removed, barren patches are rehabilitated with native plants grown from seeds collected at Millstream. Date palm fronds are left on the ground in an attempt to protect young seedlings from the heat and prevent soil blowing or washing away until new plants have had an opportunity to re-establish.

Date palms have male and female fruiting parts on separate trees. Because date palms germinate so readily from seed, it's important to remove all female trees to halt this seeding process, and prevent the population increasing. (A grove of male date palms will be maintained around the Homestead walk trail.)

The area also has a number of introduced cotton palms. If left, they would compete with native vegetation for food, water and light. They too are part of the palm control plan. All cotton palms will need to be removed, as they have both male and female fruiting parts on the same tree.

Millstream is well known for its large colony of fruit bats. While they do eat dates, their preferred food is the blossoms of eucalyptus, paperbarks and other native plants. The removal of fruiting dates will have minimal impact on the colony.