

Christmas Island National Park

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Viewing the annual red crab migration

At the beginning of the wet season (usually October / November), most adult red crabs suddenly begin a spectacular migration from the forest to the coast to breed. Breeding is usually synchronized island-wide. The rains provide moist overcast conditions for crabs to make their long and difficult journey to the sea.

During peak migration times, sections of roads where crabs cross in high numbers may be closed to vehicles for short periods of time. You can park your vehicle and carefully walk amongst the moving sea of crabs as they relentlessly make their way to and from the shore.

The easiest places to watch the crab migration and the females spawn are at Drumsite, Flying Fish Cove, Ethel Beach and Greta Beach.

Updates on public notice boards and local radio give crab movements during the migration.

The annual breeding migration

While the rains provide the moist preconditions for the march to begin, the timing of the migration breeding sequence is also linked to the phases of the moon. Eggs are released by the female red crabs into the sea precisely at the turn of the high tide during the last lunar quarter.

The sea level at the base of the cliffs and on the beaches, where the females release their eggs, at this time varies the least for a longer period, and it is therefore safer for the females approaching the water's edge to release their eggs. Sometimes there are earlier and later migrations of smaller numbers of crabs but all migrations retain this same lunar rhythm.

The breeding sequence

Males lead the first wave of the downward migration and are joined by females as they progress. Larger males arrive at the sea first (after about five to seven days) but are soon outnumbered by females. The crabs replenish moisture by dipping in the sea.

The males then retreat to the lower terraces to dig burrows. The density of



Crabs reach the shoreline and release their eggs, which hatch immediately on contact with the sea water.



Crabs on their annual migration climb various different obstacles on their way to the sea.



Plastic walls help funnel crabs to the crossings.

burrows is high (one to two per square metre) and males fight each other for burrow possession. The females move to the terraces and mating occurs.

After mating, males dip again and begin returning inland.

The females produce eggs within three days of mating and remain in the moist burrows on the terraces for 12-13 days while they develop. The eggs are held in a brood pouch between their extended abdomen and thorax. A single female can brood up to 100,000 eggs.

In the morning and late afternoon around the last quarter of the moon, the egg-laden females descend from the terraces to the shoreline. They pack into shaded areas above the waterline, in densities of up to 100 per square metre in some places. The females usually release their eggs into the sea toward dawn, around the turn of the high tide. Release of eggs may occur on five or six consecutive nights during the main breeding migration.

Larvae grow to baby crabs

The eggs released by the females hatch immediately on contact with the sea water and clouds of young larvae swirl near the shore before being washed out to sea by waves and tides. Millions of the larvae are eaten by fish, plankton feeders such as manta rays and the enormous whale sharks which visit Christmas Island waters to feed.

After about a month in the ocean, and after growing through several larval stages, the surviving larvae have developed into prawn-like animals called megalopae. The megalopae gather in pools close to the shore for one to two days before changing into young crabs and leaving the water.

Although only five millimeters across, the baby crabs begin their march inland, taking about nine days to reach the plateau. Here they are rarely seen, disappearing into rocky outcrops and fallen tree branches and debris on the forest floor for the first three years of their life.

In many years, very few or no baby crabs emerge from the sea, but the occasional very successful year (perhaps only one or two every ten years) is enough to maintain the red crab population to a high level.

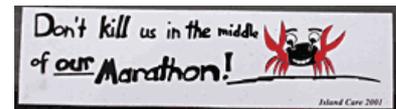
Managing human impacts

Human activities have led to increased numbers of red crabs being killed during their annual migration. The crabs risk dehydration when they are forced to cross areas cleared of forest cover and many thousands of adults and young are crushed by vehicles as they cross the roads. Some have to negotiate up to three or four such hazards on their march to and from the sea each year.

To reduce this high death toll, a range of conservation measures are in place. To protect the crabs from being crushed by vehicles, park staff and the shire erect crab crossing signs so that drivers slow down. Some roads may be temporarily closed off with traffic detours. Park staff have built walls and plastic fencing along the roads, to funnel the crabs to 'crab crossings' and 'crab bridges' and 'crab underpasses' where they may safely cross.

The crab migration and the crab bridges have become a great tourist attraction and they're popular with islanders too.

Park staff work actively with all employers on the island, so that all new staff are alerted to the need to drive slowly and drive around Christmas Island's land crabs.



Bumper stickers created by the local school children.