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## **Benchmarking human use of Eighty Mile Beach Marine Park prior to implementation of the management plan**

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Systematic conservation planning and subsequent management of Marine Protected Areas requires adequate knowledge about human use of the area. The proclamation of a new Marine Park in the coastal waters off the coast of north-western Australia necessitated an evaluation of the spatial and temporal distribution of people along this remote stretch of coast. Human use of the coast between the towns of Broome and Port Hedland, 500 km apart in north-western Australia, was examined by undertaking monthly aerial surveys (November 2012 to October 2013) using a Cessna 210 aircraft flying at 1,000 feet altitude with two observers equipped with digital cameras and a GPS logger. Aerial Survey Assistant software and a Geographical Information System were used for analyses. Results with respect to the number of people on the shore and number of boats in coastal waters showed that there was much higher usage in the winter, dry season (May to October) than the summer, wet season (November to December). Areas with highest densities of people were near Eighty Mile Beach Caravan Park, Cape Keraudren and Barn Hill and, to a lesser extent, Port Smith and Bidyadanga. Of the people recorded along the shore, 46% were fishing with rod and line and 33% were walking along the beach. Fishing was particularly popular near Eighty Mile Beach Caravan Park with anglers, and their associated four-wheel drive vehicles, spread along about 30 km of coastline. Camping along the coast during the dry season was largely within the confines of the large caravan parks at Eighty Mile Beach and Port Smith but there were also nodes of camping at Barn Hill Station and Cape Keraudren. Boating activity occurred mainly in the northern part of the study area around Port Smith and, to a lesser extent, near Cape Keraudren. These boats were engaged in recreational fishing or motoring and vessels engaged in pearl aquaculture were also recorded between Port Smith and Barn Hill. The distribution of human use was also examined relative to the designated sanctuary zones of the new Eighty Mile Beach Marine Park. This study provides spatially explicit data on coastal recreational activities that can be used by managers as a benchmark of use prior to the implementation of the management plan for the 220 km long Eighty Mile Beach Marine Park.

**Keywords:** Eighty Mile Beach, human use, Marine park, fishing, seasons