



## **Exmouth Integrated Exmouth Reef Frequently Asked Questions**

The Exmouth integrated artificial reef consists of 6 large steel reef units, and 49 concrete reef modules, creating additional habitat across 27,000m<sup>3</sup> of the Exmouth Gulf's sandy barren seafloor.

We've taken on board some of your questions around the new integrated artificial reef in Exmouth Gulf and we'll help debunk some of the public myths surrounding the reef.

### **Why put a reef in Exmouth with the amount of natural reef already there?**

Improved fishing opportunities in the Exmouth Gulf have been a long held priority for local Exmouth fishers and was something the local community pushed for, for many years.

The reef was chosen to be located in the Gulf for a number of reasons:

1. The Gulf offers a unique location to access world class game fishing experiences;
2. The Gulf is very habitat limited, and the addition of a reef offers hard colonising structures;
3. The Gulf offers protection from adverse and extreme weather conditions, otherwise experienced on the western side of the cape;
4. The Gulf offers safe and accessible fishing opportunities and the reef is positioned only 10 minutes from the Exmouth Marina
5. Additional habitat within the Gulf has proven to be successful in ecosystem services, and have demonstrated social benefits, as demonstrated by other man-made habitat such as the Exmouth Navy Pier;
6. To alleviate pressure from the Ningaloo Reef, very limited existing natural reef inside the Gulf and mangroves on the prevailing side of the Gulf.

The ideal artificial reef location was chosen by the community after water depth, distance from shore, substrate, ocean currents, exposure to hydrological conditions and the total fishable area was taken into account. The addition of an artificial reef on a sandy desert like seafloor, creates a productive ecosystem, and provides habitat for colonising algae and bait fish, through to larger ocean predators.

### **What's an Integrated Artificial Reef?**

An integrated artificial reef is a habitat that consists of both scientifically /purpose built reef structures and repurposed reef structures. The special combination of materials and habitat complexity means a diverse, productive and sustainable ecosystem is established.

The purpose built reef located on the sandy barren seafloor in the Exmouth Gulf will form the structure for corals to establish themselves on. Reef materials are selected that are scientifically proven to support the establishment of a diverse ecosystem. A careful combination of repurposed steel integrated with concrete structures forms the foundation of the reef.

Engineered structures such as those being installed at Exmouth, provide stable foundations that sit on the mobile sand layer. They structures also provide important caves and ledges for fish to take refuge in and under. Once the engineered structures are installed, nature very quickly takes over, re-establishing fish populations, sponges and coral. The complexity of the engineered substrates



provides immediate new habitat for fish whilst the sponge and corals provide a new source of food and habitat for reef fishes and other organisms.

### **Could these repurposed materials have harmful effects the ocean?**

Similarly to all other purpose built artificial reefs installed in Australia, all modified materials incorporated in the Exmouth Integrated Artificial Reef have been subject to several processes to ensure that they do not have any adverse and negative effects on the marine environment. The reef has passed both Commonwealth and State Government Environmental approvals. In the case of the large steel reef units, no hydrocarbons have come into contact with the steel during their operational life as their purpose was to simply act as deep water steel floats. The preparation processes for these units ensured the removal of any antgrowth components, the addition of positive reef features and the activation of the internal module area by the cutting of a variety of holes into each module. The modules were also sandblasted to expose their bare steel making them ideal for the promotion of marine growth.

*“Recfishwest would never jeopardise the environment and the fish resources the community rely on. We only deal with infrastructure that has been scientifically modified and proven to produce fish and enhance fish habitats. This is a solution based process aimed at rejuvenating and creating ecosystems in our ocean,” Recfishwest CEO Dr Andrew Rowland.*

### **Why use recycled material? Isn't this just disposing of unwanted material?**

The large steel reef units incorporated in the Exmouth Integrated Artificial reef previously known as 'midwater depth buoys,' were used in offshore operations for a number of years. These types of steel structures:

- Cover a large horizontal and vertical profile
- Have pre-existing complex habitat features
- Are easily modified and transformed into reef modules

Existing infrastructure, when cleaned, modified and relocated effectively provides additional habitat and produce extremely productive ecosystems. As demonstrated by other reefing programs around the world, the conversion and repurposing of oil and gas infrastructure into purpose built artificial reefs has demonstrated that this strategy provides greater social, economic and environmental benefits which outweigh those provided by a complete removal and disposal method and it increase the ecological value of the marine environment.

### **Why don't you just make a tyre reef or sink a ship?**

Some artificial reefs used to be made from sunken ships, tyres and similar materials. While they do work to some degree, they can have some negative impacts on the marine environment including leaching of pollutants and stability issues. Tyre reefs have also proven to be a poor settlement medium meaning reefs made from tyres show limited growth and do not promote production. Poor positioning and management of these reefs has also resulted on materials becoming separated from the reef and damaging nearby natural reefs.

### **Will these reefs attract fish from other areas?**

Artificial reefs mimic the characteristics of natural reefs. By creating new habitats, providing shelter and feeding opportunities, changing water flow dynamics and activating internal reef voids purpose



built reefs have been shown to be many times more productive than natural reef systems. It is common practice to ensure reefs are larger than 800m<sup>3</sup> in order to ensure they become habitat production devices, rather than simply drawing fish in from other areas. The 27,000m<sup>3</sup> of new habitat used to create the Exmouth reef is more than 30 times larger than the volume required for a reef to be considered productive.

### **Who paid for the reef?**

The cost of this project was \$1 million dollars which doesn't take into account the value of the donated steel structures. Western Australia's fishing licence money contributed \$300,000 toward this project through the Recreational Fishing Initiatives Fund (RFIF) while the other project funders contributed \$700,000 (NERA – National Energy Resource Australia \$500,000 and BHP \$200,000) plus contributing time and additional materials to make this project a reality.

Artificial reef experts and local WA company Subcon again helped to engineer the design, construct and install the reef.

There are many processes involved in developing and deploying an artificial reef including:

1. Site Selection Surveys and Mapping
2. Permitting and Consultation
3. Procurement, Design and Construction (pouring, fabricating, cleaning and making of the reef)
4. Deployment and Installation
5. Research Monitoring

### **Why is it called King Reef?**

Exmouth Gulf was first named in 1818 by Lieutenant Phillip Parker King, one of the early marine surveyors who sailed up the WA coast.

One of Exmouth's first Fishing Charter Operators was Mr George King, who in the late 60's and early 70's pioneered Charter Fishing from both Coral Bay and Exmouth. He ran the Vessels "Nordon" and "The Gun". The Exmouth Game Fishing club has Honoured George with the most sought after trophy for skippers being "The George King Memorial Trophy". His Whaleshark Charter Business, since sold, is still operating today.

The 'King' name has strong links to the Exmouth Gulf and Fishing Exmouth in general, so fittingly the Exmouth newest reef has been named King Reef.