RAPID RELOCATION OF NEARSHORE CORALS OUT OF A DREDGE ZONE SAUDI ARABIA

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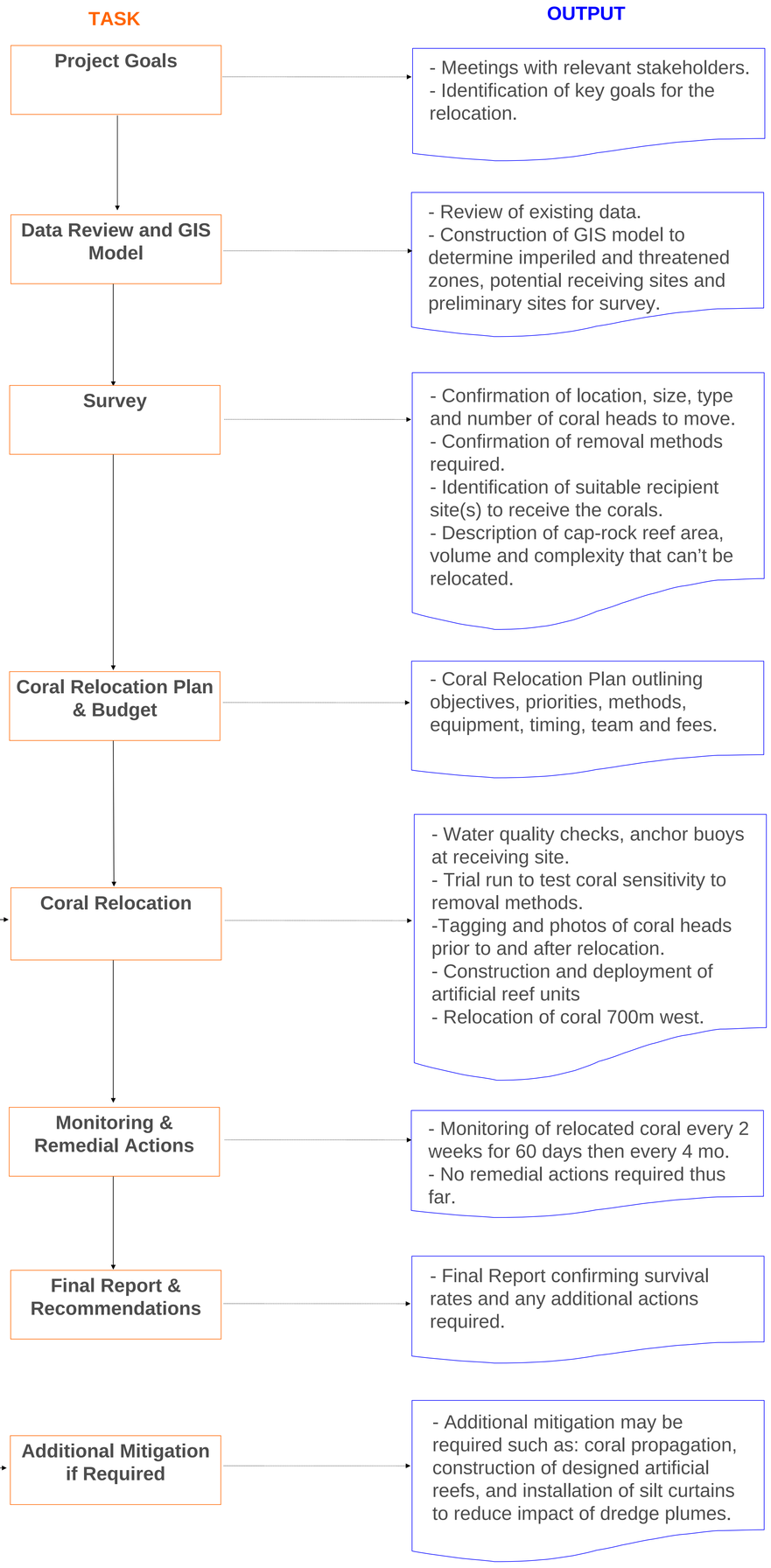
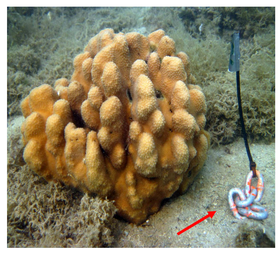
Introduction

Essential dredging works threatened the survival of a unique nearshore reef located off the coast of Saudi Arabia.

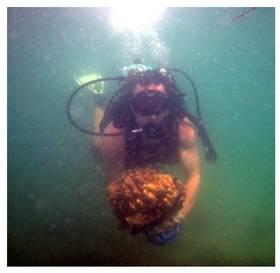
Reef Ball Australia was contracted to conduct a rapid relocation of priority coral colonies - the first such relocation ever conducted in Saudi Arabia.

This sensitive and confidential relocation had to be completed within 12 days in June-July in order to prevent delays to the dredging operation.





Example of typical coral head before removal and the tagging system used to track and monitor survival.

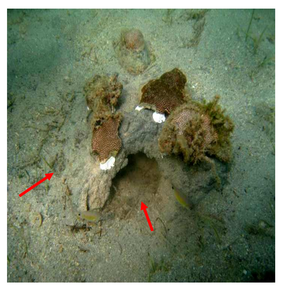


Corals were removed using prybars and chisels, placed in modified crates and carried to a staging area.

Transportation was via a 4WD and boat or underwater using lift bags. Corals were kept covered by wet towels. Max time out of water was 8 minutes.

Air temp 40 to 43C, water temp 30 to 33C

Example of replanted coral in the receiving area 700m west of dredge site. A number of the largest coral heads were spaced between the dredge site and receiving area to create a corridor.



Concrete bases were designed to blend in with the natural sand and included small caves/holes. White patches are the marine putty securing the coral fragments and are quickly covered in algae.

Table 1

Relocated Coral	No.	Species
Coral Heads (20cm – 70cm max dia)	286	~80% *Cyphastrea sp*, ~10% *Favites sp*, ~4% *Platygyra sp*, ~3% *Siderastrea savignyana,* ~3% other
Small colonies (<20cm dia)	210	Majority *Cyphastrea sp*
Large Coral Heads (>100cm dia)	14	60% *Cyphastrea sp*, 40% *Platygyra sp*
Large Coral Heads moved just outide of side cast	13	*Cyphastrea sp*
TOTAL =	**523**	
Survival at 60 days =	**100%**	

Conclusions

Over 80% of the nearshore coral within the dredge footprint were moved in 12 days using a team of 6 certified coral handlers, 2 boat operators and 4 general labourers.

At 60 days, all corals appeared healthy and showed no to only minor signs of stress from the relocation despite high summer temperatures.

Sunburn of coral tissue was found to occur if the corals were left in 1.5m of water for over 1 hour.

Keeping the crates covered with wet white towels proved effective.

A key factor in the success of the rapid relocation was having a variety of transport options including boats, vehicles and lift bags.

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CO2 emissions from all flights and concrete used for this project were offset via www.mycleansky.com as part of Reef Ball Australia's environmental policy.