



macroalgae removal

earthwatch
AUSTRALIA

 JAMES COOK
UNIVERSITY
AUSTRALIA

Background

- when corals die, seaweed can quickly move in
- Once established, seaweed is a strong competitor against corals
- Can lead to shifts in reef community from coral to seaweed



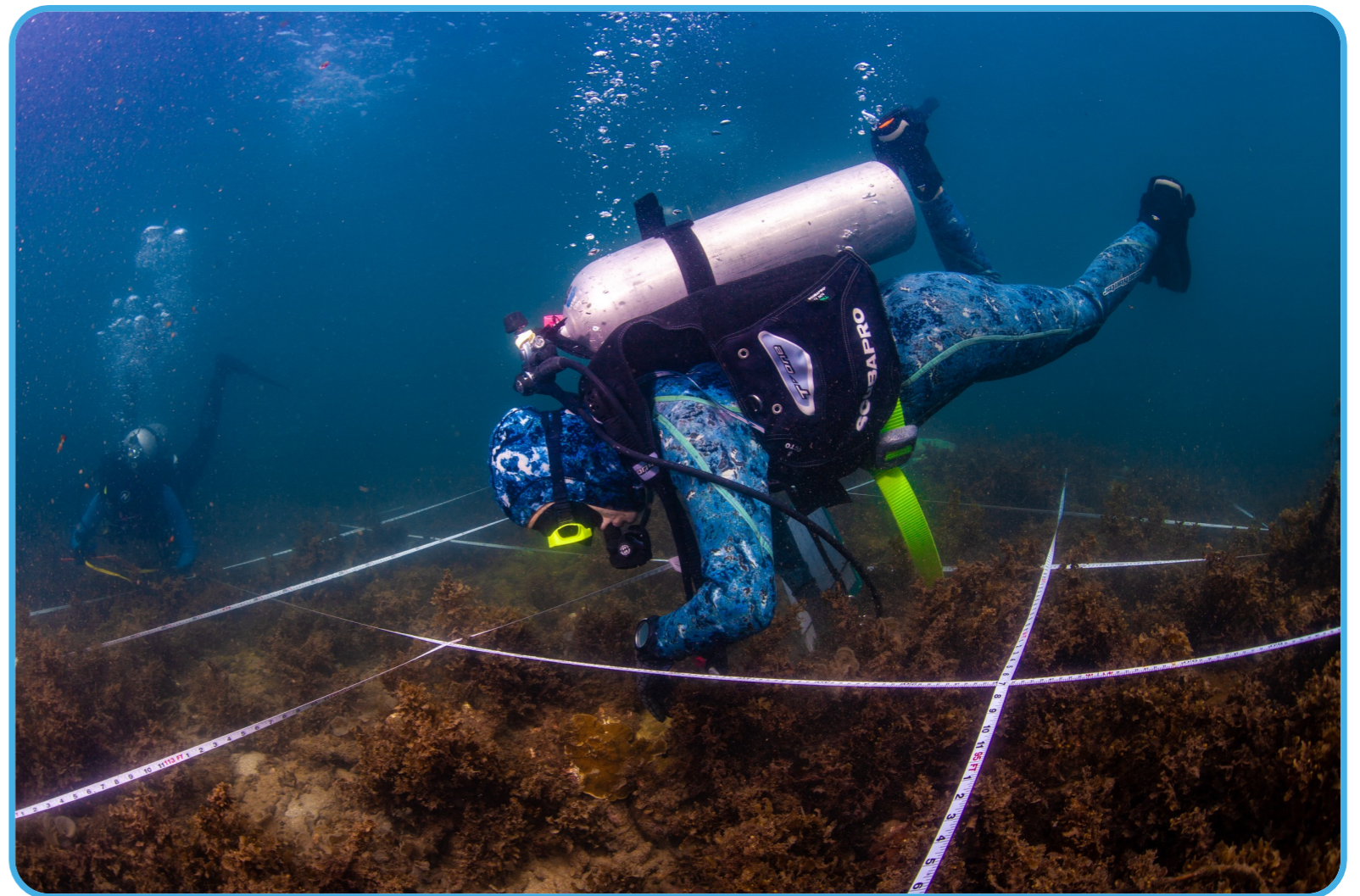
Background

- theoretically, removing the seaweed could help corals bounce back
- not well tested on GBR, unknown what the effects are on different reef members



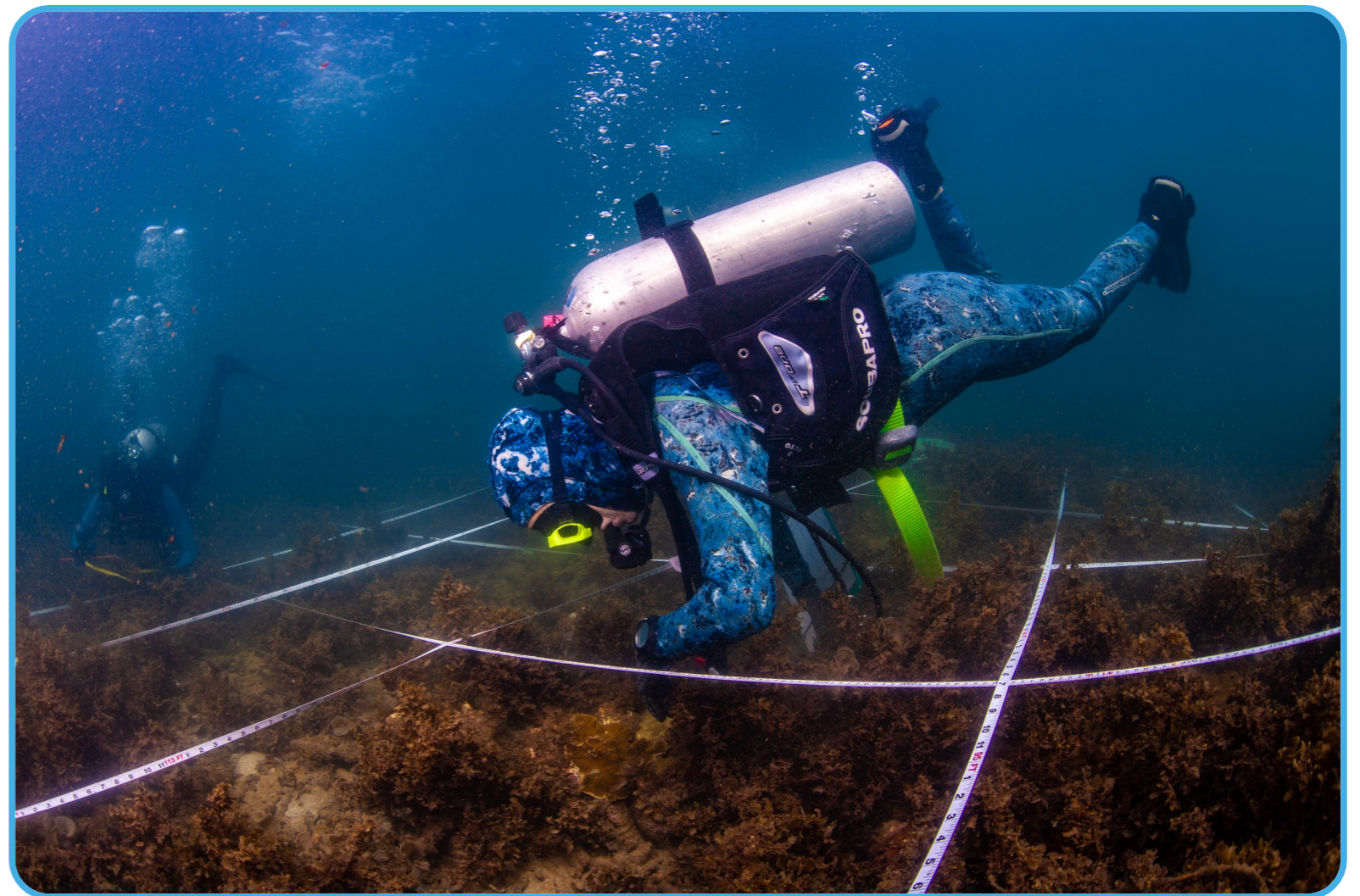
What work/monitoring do you do on Magnetic Island?

- macroalgae density and canopy height
- photograph benthic communities
- transects of benthic communities
- count and measure coral juveniles (on the reef and on settlement plates)



What work/monitoring do you do on Magnetic Island?

- count fish
- coral genetics
- measure turf algae
- sediment deposition
- current meters
- coral bleaching
- microscopic community development
- "assisted settlement" of coral larvae

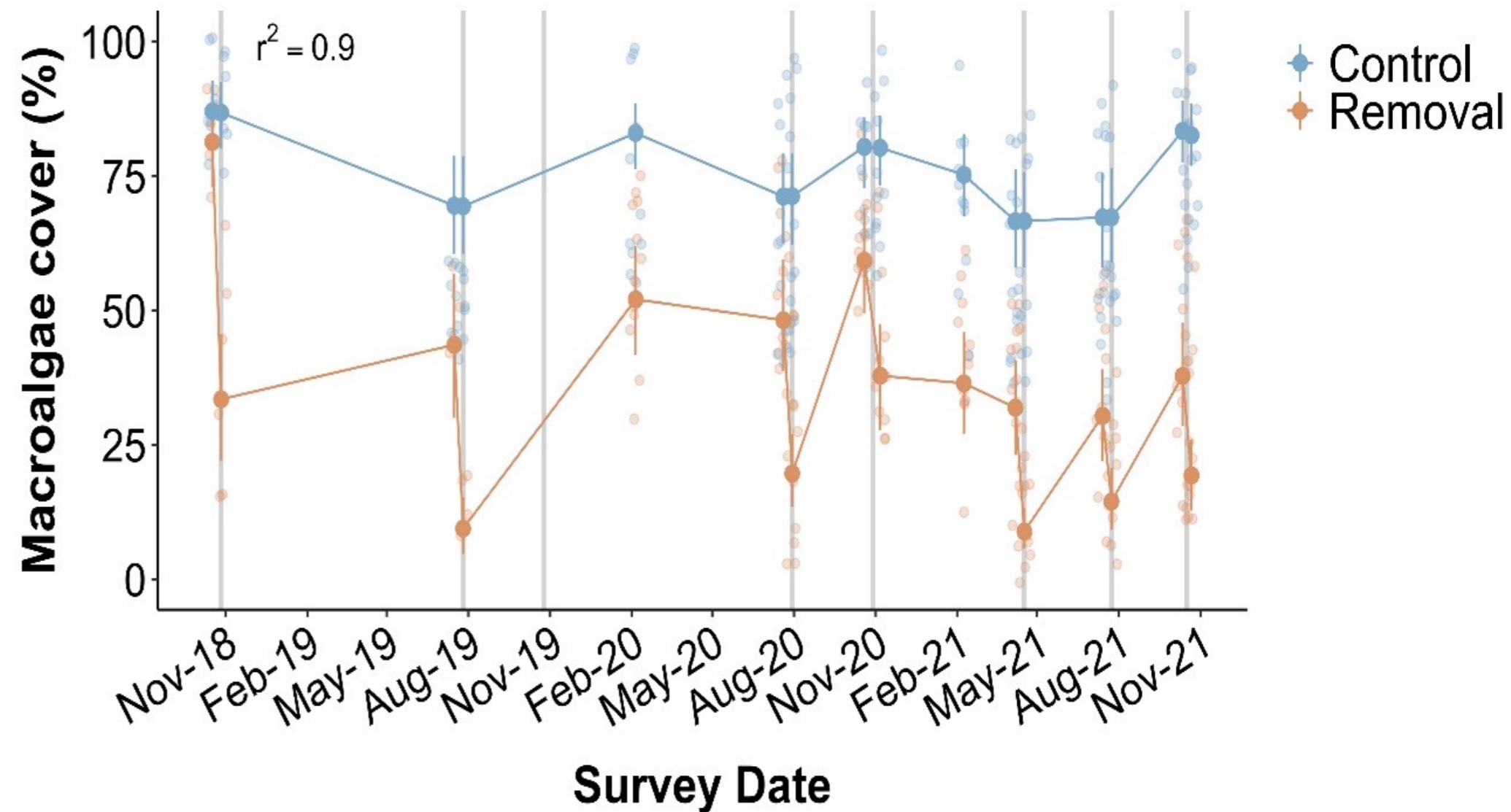


Results

- lots of data, lots of results

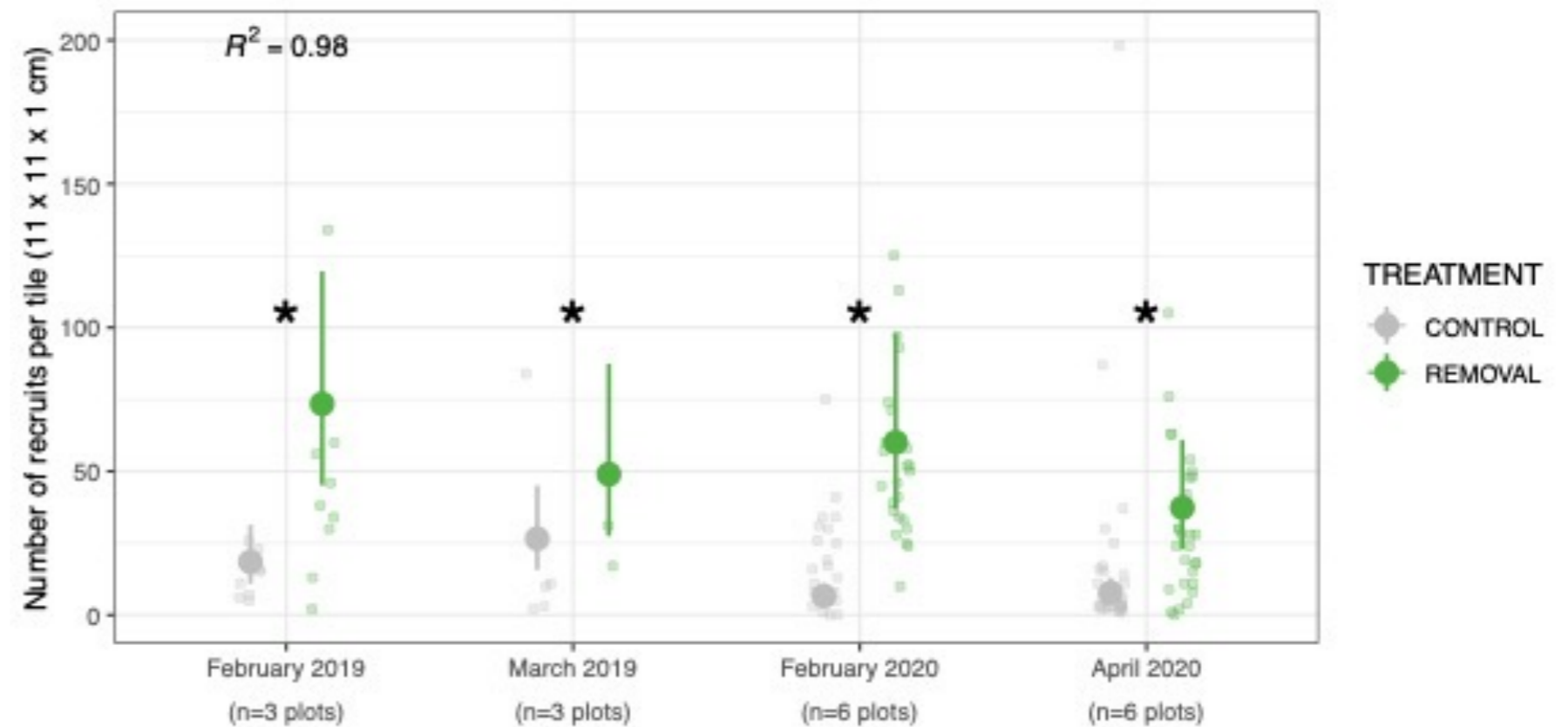
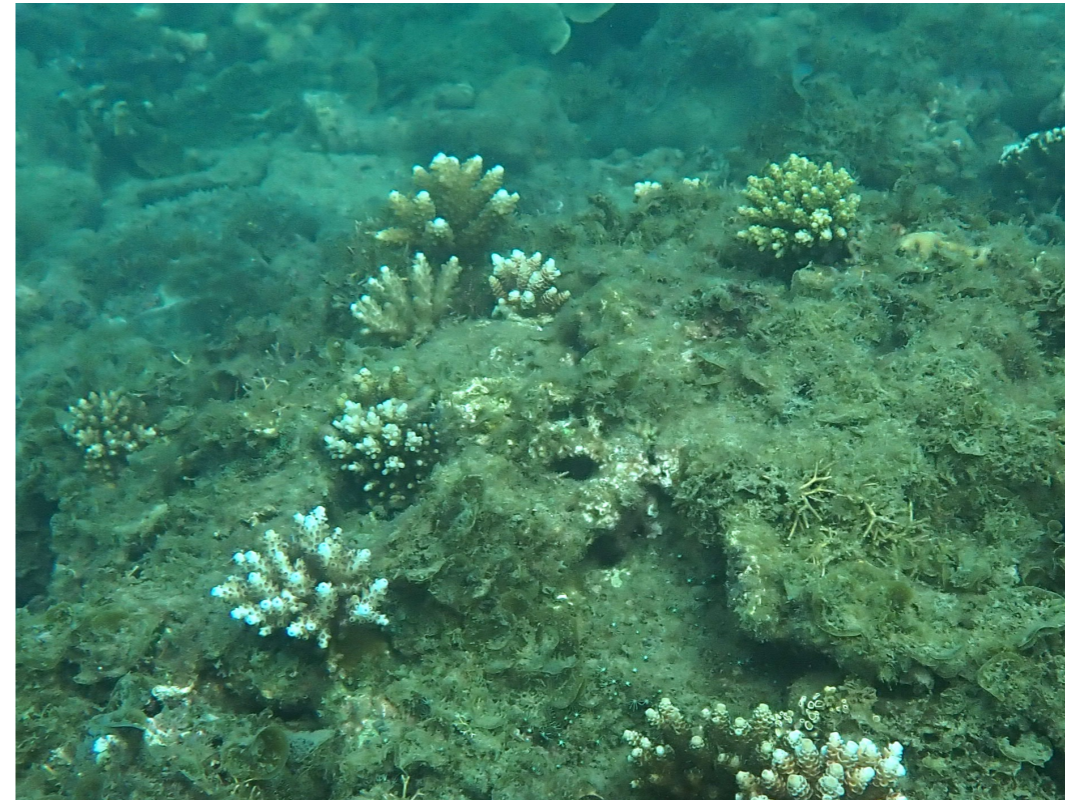
Results

- lots of data, lots of results
- take-home messages:
 - macroalgae growth is suppressed after 3 years of removal



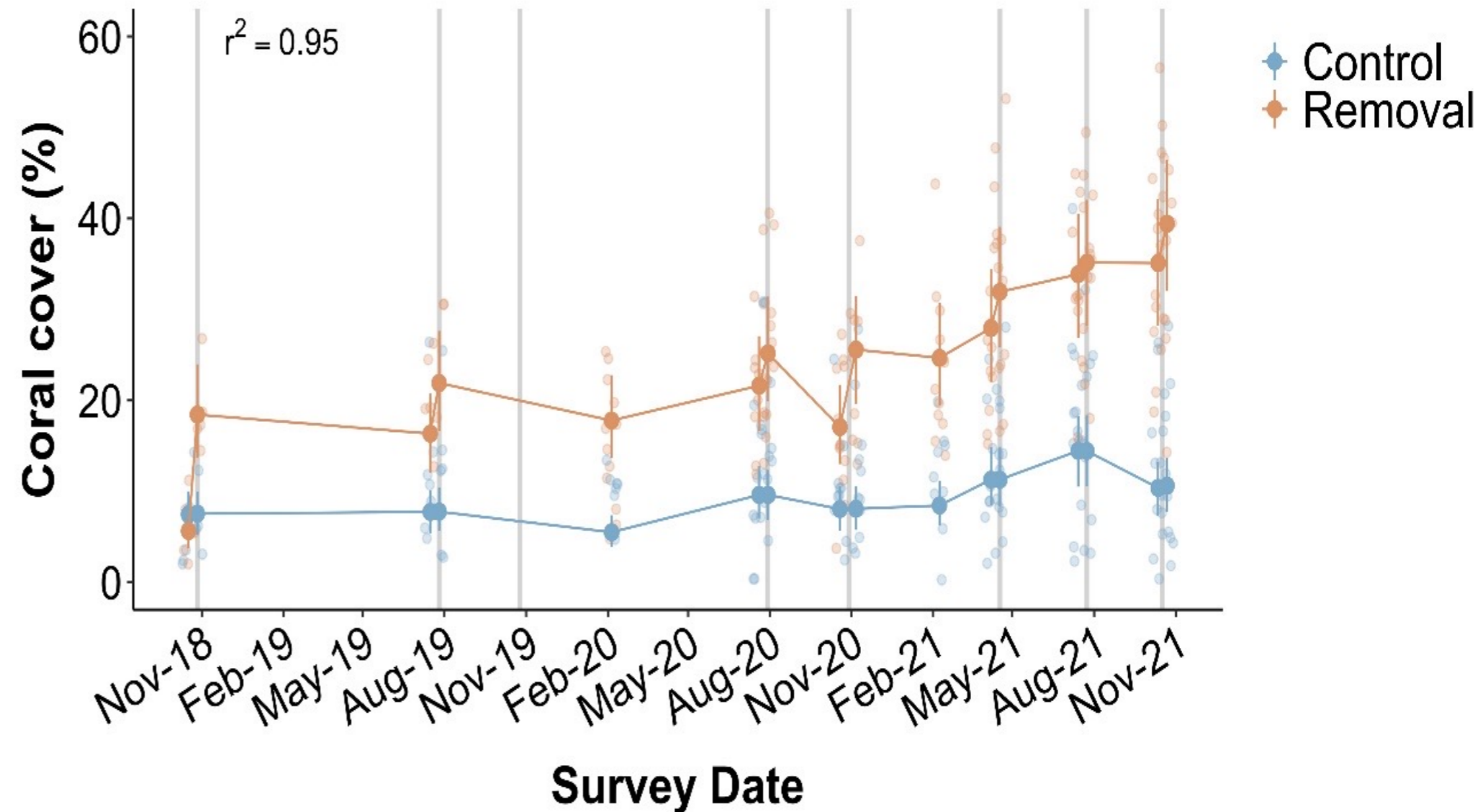
Results

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- take-home messages:
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 - baby corals settle three times more in removal plots



Results

- lots of data, lots of results
- take-home messages:
 - macroalgae growth is suppressed after 3 years of removal
 - baby corals settle three times more in removal plots
 - coral cover increased by 300% in removal plots



What are the gaps, if any?

- we would like to redo our sediment deposition surveys now that dredging has begun
- we would like to measure algae at more sites around the island, and more frequently – to find out how patchy the algae is, and look at seasonal growth dynamics
- proof of concept for transferring method to community groups

Are there any projects or ways the community could get involved?



- 3 citizen science trips per year, run with Earthwatch
- measuring algae can be done easily, with simple equipment
- third site for algae removal at larger scale?