

Reef Relocation Technologies for Impact Mitigation

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The Challenge

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- Large (heavy) non-uniform reef pieces of unknown strength
- Dynamic motions (stresses) of marine lift and transport
- Sensitivity of benthos
- Need to sever connection to bottom



Additional Considerations

- Regulatory approvals
- Receiver site selection
- Owner buy-in
- Management of risks



- Smaller mounds could be lifted by crane and placed in a splash tank on deck
- Larger pieces would need to be slung under the barge itself



Mound Stability

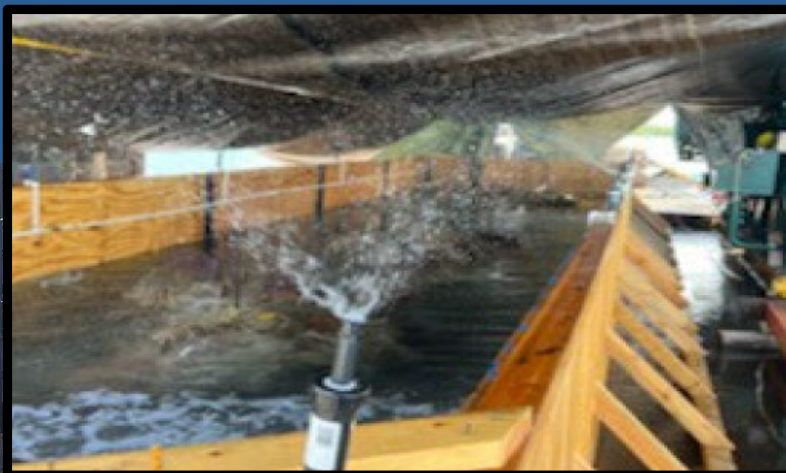
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On-deck tank



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Lifting Points

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Mound Removal

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Dep: 7.53m Temp: 30.05 C

2022-08-11 11:23 AM



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Relocation

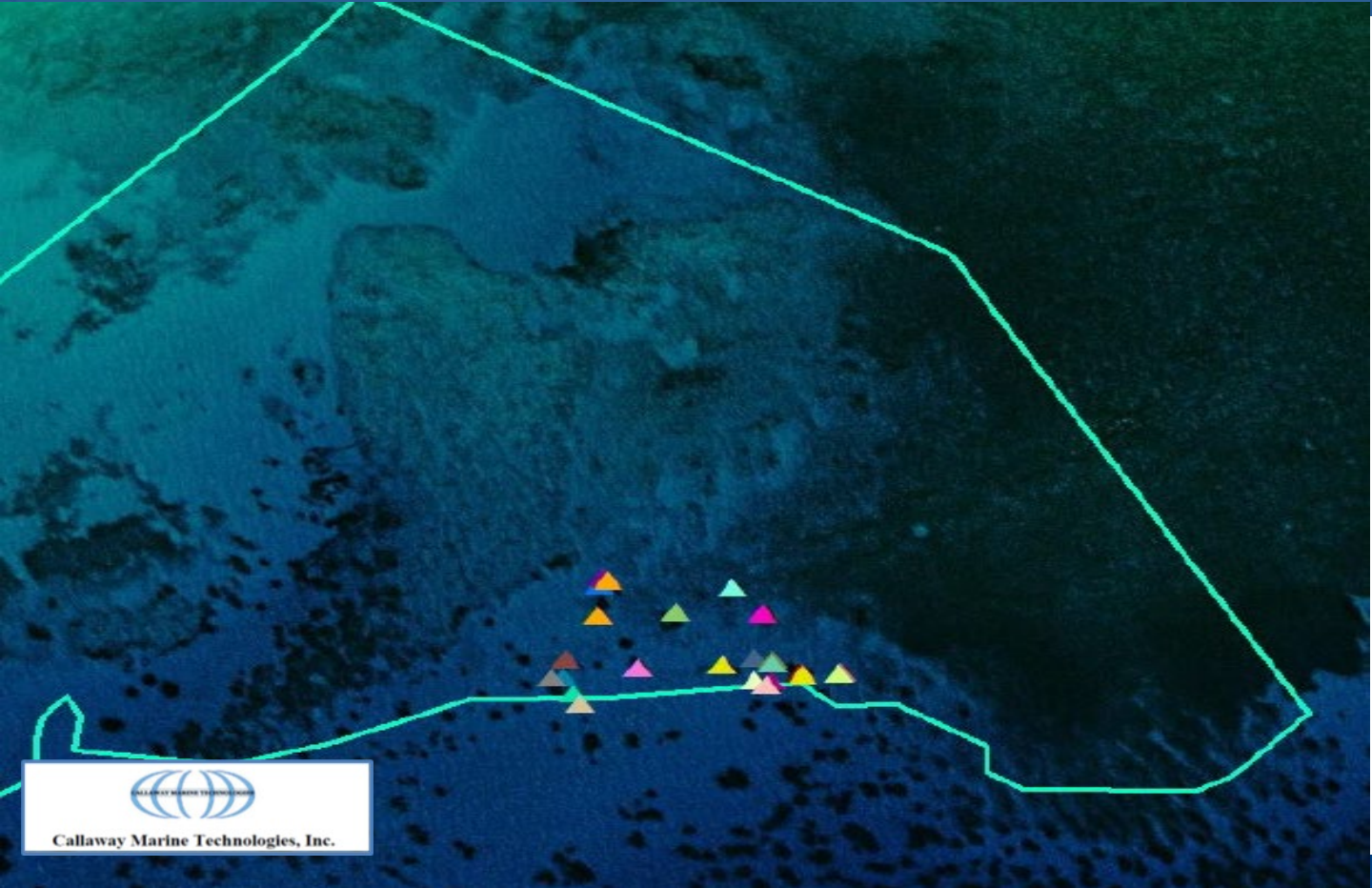
- August 24th, 2022, to September 7th, 2022
- 26 coral mounds relocated
- 1,272 sq. ft. of mound area placed over a total area of 21,122 sq. ft.



Removal Area

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Receiver Site

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Mound Dimensions

Mound No.	Coral Mound ID.	Dimensions (ft)	Area (ft ²)
1	28	9 x 8	72
2	29	11 x 9	99
3	30	14 x 5	70
4	31	7 x 6	42
5	32	7 x 5	35
6	33	6 x 6	36
7	34	6 x 7	42
8	26	7 x 7	49
9	35	13 x 7	91
10	27	9 x 7	63
11	36	5 x 2	10
12	37	6 x 6	36
13	38	9 x 5	45
14	41	4 x 5	20
15	40	11 x 5	55
16	42	4 x 6	24
17	45	6 x 6	36
18	44	12 x 5	60
19	46	6 x 4	24
20	49	11 x 7	77
21	47	7 x 4	28
22	48	10 x 5	50
23	50	10 x 7	70
24	51	8 x 6	48
25	52	6 x 3	18
26	39	9 x 8	72



Receiver site

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Conclusions

- Demonstrated proof of concept
- Initial assessments strongly positive
- Long term monitoring will be conducted



Thank You

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