Sedimentation Rate Report

Report Number: SR_1-7/2020 (Rev 1.1)
Report Date: 8th July 2020

Table 1: Sedimentation Rate measurements at Reclamation Site

Trap ID	Installation Date	Retrieval Date	Sedimentation Rate (mg/cm^2/day)
T-2	31-May-20	14-June-20	18.63
T-4	31-May-20	15-June-20	263.04
T-6	30-May-20	14-June-20	11.09
T-7	30-May-20	14-June-20	4.96
T-11	30-May-20	15-June-20	8.30

Notes: *During this monitoring period reclamation of the temporary work site on the southeastern corner of Gulhifalhu, and construction of sand bund on the eastern reef flat was ongoing.*

Table 2: Sedimentation Rate Measurement near sand borrow area

Trap ID	Installation Date	Retrieval Date	Sedimentation Rate (mg/cm^2/day)
T-21	1-June-20	14-June-20	54.06
T-23	1-June-20	15-June-20	28.34
T-24	1-June-20	15-June-20	13.22

Notes: *Baseline sedimentation rate was not measured at T21, T23 and T24 during Environmental Impact Assessment (EIA) for this project. Hence measurements taken at T21, T23 and T24 will serve as baseline against which future monitoring will be carried out.*

Abbreviations: *mg/cm^2/day: Milligram per centimeter square per Day*

Revisions	Description
Rev 1.0	Notes added for more clarity
Rev 1.1	- Results table spilt into two; Table 1 for measurements at the reclamation site, and Table 2 for measurements near sand borrow area - Additional clarification on T21, T23, and T24. - Monitoring location map added

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Materials and Method

Materials

- Sediment trap (5 cm internal diameter PVC pipe, 11.5 cm long sealed at one end, with baffles placed in the top of the pipe to prevent entry of fishes
- Iron rods

Methodology

- The iron rod was hammered into the substratum, so that it is vertical and firmly secured. Three sediment traps were attached to the rod with cable tie. The base of the trap was 20 cm from the substratum, and the traps were tied to the rod in a way that rod does not protrude above the opening of the pipes.
- The traps were left for a fourteen-day period and retrieved. On occasions when the weather did not permit this, traps were retrieved the earliest when the weather permitted. The traps were sealed prior to removal from the rod, to prevent loss of any material. The sample were dried in oven (at 60 °C) and weighed to the nearest milligram (mg).
- Sedimentation rate is calculated as mg of sediment per cm^2 per day, using the following formula, where Sediment Weight is average dry weight of the sediment samples, and "r" is radius of the trap opening.

$$Sedimentation\ Rate = \frac{Sediment\ Weight}{Number\ of\ day\ \times\ \pi r^2}$$

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Monitoring Sites

Site ID	Description	Latitude	Longitude	Depth
T2	Gulhifalhu (N)	4.18785°	73.4684°	2.5 m
T4	Gulhifalhu (NE)	4.182291°	73.475565°	3 m
T6	Gulhifalhu (SE)	4.172121°	73.478178°	5 m
T7	Gulhifalhu (SE)	4.172238°	73.474390°	5 m
T8	Gulhifalhu (S)	4.17332°	73.467003°	5 m
T9	Gulhifalhu (S)	4.174529°	73.461196°	3.3 m
T10	Gulhifalhu (SW)	4.176124°	73.454658°	5 m
T11	Villingili (NW)	4.176084°	73.483121°	10 m
T19	Feydhoo Finolhu	4.211618°	73.481556°	3 m
T20	Olhuhaa	4.217497°	73.458640°	2.5 m
T21	Bangau	4.222450°	73.429949°	2.7 m
T22	Kurumba	4.226931°	73.517007°	2.5 m
T23	Dhiyaneru	4.231697°	73.471358°	2.5 m
T24	Kandinmafalhu	4.238414°	73.457170°	2.5 m

Notes:

- *Depending on phase of reclamation any two sites between T6, T7, T8, T9 and T10 will be selected for monitoring purposes. During Round 1, the chosen sites were T6 and T7*
- *Sedimentation Rate monitoring sites are shown in Figure 1*

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Figure 1: Sedimentation Rate monitoring location map