Nutrient and algae log

Track nitrate, phosphate, and algae together. Change one thing at a time, and keep both nutrients detectable.

1 / Choose a working range

Common hobby ranges [1] (not hard thresholds):
Softie / LPS / mixed reef: nitrate **~5–20 ppm**, phosphate **~0.05–0.1 ppm**
SPS-dominant: nitrate **~2–10 ppm**, phosphate **~0.03–0.08 ppm**
My targets: nitrate _____ ppm, phosphate _____ ppm

A nutrient that crashes to zero, or doubles in a week, is usually a bigger problem than any single value. Do not push either one to zero to starve algae; that can starve corals and is linked to dinoflagellate outbreaks [2].

2 / Before you treat algae

☐ Check RO/DI output: TDS should read 0 after the DI stage. Above 0 means exhausted resin, so every top-off adds nutrients [3].

☐ Retest a surprising reading, note the kit and its units, and test at the same time of day. A tank full of algae can read near zero phosphate because the algae takes it up as fast as it appears [4].

☐ Convert units before comparing: phosphorus ppb (Hanna ULR) × 3.07 ÷ 1,000 = phosphate ppm (for example 30 ppb P ≈ 0.092 ppm PO_4) [1].

☐ Review feeding, flow dead spots, lighting hours, and the skimmer or other export. Remove algae by hand and siphon it out, then make one change at a time and give it 1–2 weeks before the next.

3 / Eight-week log

Algae: write none, some, or spreading. Change made: one adjustment only, or none.

Week 1 Date: _____ NO_3: _____ PO_4: _____ Algae: _____ Change made: _____
Week 2 Date: _____ NO_3: _____ PO_4: _____ Algae: _____ Change made: _____
Week 3 Date: _____ NO_3: _____ PO_4: _____ Algae: _____ Change made: _____
Week 4 Date: _____ NO_3: _____ PO_4: _____ Algae: _____ Change made: _____
Week 5 Date: _____ NO_3: _____ PO_4: _____ Algae: _____ Change made: _____
Week 6 Date: _____ NO_3: _____ PO_4: _____ Algae: _____ Change made: _____
Week 7 Date: _____ NO_3: _____ PO_4: _____ Algae: _____ Change made: _____
Week 8 Date: _____ NO_3: _____ PO_4: _____ Algae: _____ Change made: _____

If corals pale, recede, or close up while nutrients are falling, slow or stop the export change and retest before adding anything new.

Sources & next steps

[1] Coral Compass: nitrate and phosphate targets and unit conversion
https://coralcompass.app/learn/nitrate-phosphate/

[2] Coral Compass: dinoflagellates in reef tanks
https://coralcompass.app/blog/dinoflagellates-reef-tank/

[3] Coral Compass: algae outbreaks, use water tests to find the cause
https://coralcompass.app/blog/algae-outbreak-water-testing/

[4] Coral Compass: green hair algae guide
https://coralcompass.app/blog/green-hair-algae-reef-tank/

Coral Compass: nitrate to phosphate ratio calculator
https://coralcompass.app/tools/nitrate-phosphate-ratio-calculator/