

"Can One have too much Filtration", the answer is yes, let us explain; as many Reef Keepers can attest to, if your aquarium has multiple aerobic bio filters or even mechanical filters that trap organic debris but are not cleaned/changed often your tank can become what is commonly called a "Nitrate Factory". Although high nitrates are not such an important factor for many tropical fish (long term exposure is still harmful though), high nitrates over 20 ppm or even less are harmful to many delicate reef inhabitants.

It is important to counter your aerobic bio filtration (which removes ammonia & nitrites but results in ever increasing nitrates) with water changes, use of micron cleaning filters, live plants such as Hornwort, products such as Purigen or Matrix, de-nitrifying filter methods such as the use of live rock crumbles (marine tanks only), volcanic rock or similar that allows for anaerobic de-nitrification while not producing Hydrogen Sulfides.

Important parameters include:

- PH (stability is what is most important), KH (50 ppm or higher, depending on the fish kept, much higher in SW, etc.
- Ammonia is more toxic at a higher ph (at pH under 6.5, ammonia begins to convert to less toxic ammonium)
- Ammonia (0),
- Nitrites (0),
- Nitrates (below 40-50 ppm for FW, below 15-20 ppm for SW),
- Positive mineral ions which affect Redox as well. A GH of 100+ ppm (depending on the fish kept) provides the needed calcium and other important mineral cations for proper osmotic processes and healing from infections and wounds.
- A balanced redox (*a water chemistry parameter that more recent research is proving its importance in disease prevention!*)