

# ***Marine Tank Information***

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Keeping marine fish is not harder than keeping freshwater fish, as many people believe. It will just take some extra steps, like adding salt and checking the salinity level, and taking time when adding new fish. But imagine the rewarding experience of setting up your own miniature coral reef where shrimp and crabs can climb, corals can grow, and special rock called live rock can contain so many types of creatures that you'll never know what you might see the next time you peer into your own underwater kingdom!

## **General Diet**

Marine fish thrive on a diet that includes a variety of different foods. A good quality flake food, frozen brine shrimp with Omega 3 or Spirulina, plus other types of frozen foods that offer different plant and meat products are important to offer. Some fish, like tangs, also need algae or dark lettuces like romaine given to them daily to keep them healthy. Do not overfeed, but do give fish many types of foods to eat. In reef tanks, corals and other filter feeding invertebrates will also need liquid foods that include phytoplankton added three or so times per week.

## **Vitamins/Supplements**

In a reef tank, supplements are important for live rock and invertebrates to survive and grow. These can include a vitamin supplement, calcium, iodine, strontium, molybdenum, etc. Most are added one to three times per week.

## **Housing**

It is best in a marine fish tank to only keep one medium sized fish (approximately two to three inches) for every eight to ten gallons of water, especially in reef tanks. For live rock and for invertebrates that need good lighting such as soft corals, the tank should have at least 3 and preferably between 4 to 5 watts per gallon of combined actinic (blue) and 10,000K full daylight bulbs. Many hard corals and clams will need even stronger lighting. Light bulbs need to be replaced, sometimes as often as every six to eight months, as they will lose intensity over time (usually obvious by the corals not looking as full or growing as fast). Temperature should be kept between 75 and 78 degrees using a good quality submersible heater and/or aquarium chiller as needed. A temperature higher than 80 degrees will harm some corals, like leathers. The lights should be kept on 12 hours a day (matching what it is like in the tropics) during the daytime, and off at night (moonlights may be used at night). Fish need to sleep just like we do, and some invertebrates only come out to feed at night. pH should be kept between 8.2 and 8.4 and should not be allowed to fall below 8.0. Salinity, which is tested with a hydrometer, should be between 1.020 to 1.022 for fish only tanks and between 1.022 to 1.024 for reef tanks. When first setting up a new tank, especially a larger one, give the salt a good three to four hours, or even better overnight, to dissolve completely before testing the salinity level. If only changing a small amount of water, wait approximately one half hour before checking salinity, mixing the water and salt in the bucket a few times during that half hour period. Salinity of water in the bucket can

be changed quickly by adding fresh water to bring it down or salt to bring it up. But if the tank has livestock in it and the salinity gets too high, which often happens due to evaporation, fresh water must be added slowly to bring the level down. Use water conditioner in any tap water before the water is placed in the tank.

### **Filtration**

Generally, there are three types of filtration; mechanical, chemical, and biological. Live sand beds of up to two inches, or Plenum systems which have very deep live sand/gravel beds with plates are biological in nature and remove ammonia, nitrites, and nitrates (for plenum only). Live rock is also biological and for full benefit the tank should have at least one to two pounds of rock per gallon. Although live sand and live rock are mainly seen in reef tanks, fish only tanks will do better if live rock and live sand are used in them as well. Hang on filters, sumps, and canister filters can have a biological, chemical, and mechanical filtration available. Usually bioballs, wheels, or blocks are used for biological, foam, sponges or pads are used for mechanical, and carbon or other types of media that remove organic wastes are used as the chemical filtration. Protein skimmers are very useful in both fish only and reef tanks to remove organic wastes before they are broken down, although like carbon and other chemical removing media, can remove important nutrients as well. It is important not to over skim a reef tank. Refugiums, both hang on and sump types, are a type of filtration where lots of macroalgae are kept along with thick sand beds and can be very useful for removing nitrates and phosphates, which not only keeps waste down but helps keep “bad” algae from growing in the tank. Note that fish only tanks will tend to use stronger mechanical and chemical filtration than reef tanks. Reef tanks also must use water pumps, such as powerheads with a protective cover like a sponge, to make a lot of current in the tank (at least one powerhead for every 15 gallons or so). Current is extremely important to keep corals healthy.

### **Sanitation/General Care**

Feed fish every day and follow directions on feeding invertebrate foods and supplements. It is best, and much less stressful to the fish, to do small water changes more frequently than large ones once in a while. Change approximately 10% of the water once a week, or as needed depending on filters used, to keep nitrates close to zero, especially in reef tanks. Test pH and alkalinity often and add buffer as needed to keep them up at the right levels. In reef tanks, it is a good idea to check calcium levels every week as well. When new fish are added, check ammonia and nitrites every two days or so for the first two weeks after introduction and change water if these levels get too high. Never add too many fish at once, especially to a marine tank, because ammonia is much more toxic in marine tanks (with a high pH) than a freshwater tank (with a neutral pH). Patience and keeping to a simple maintenance schedule will keep the tank in excellent condition.

### **General Maintenance**

Filter cartridges that contain carbon should be changed once a month as they will not work after this time. Sponge cartridges can be used until they are ratty looking, but should be cleaned and rinsed out every month in water just siphoned out of the tank.

Completely clean any filters out (except refugiums or any biomass items such as bioballs, wheels, and so on) and parts such as the impellers in any water pumps, powerheads, filters and so on at least every 3 months or as recommended by the manufacturer. Algae (which can be green, brown, or red) will grow in the tank sooner or later. Using an aquarium scraper or sponge will work well to clean the algae off the glass and other surfaces of the tank. In a reef tank keep plenty of reef safe hermit crabs and snails as they will keep live rock clean. Tangs, especially yellow tangs, are also excellent algae eaters and can be kept in any larger tank.

### **Health Care**

Fish will catch diseases whenever they become too stressed. Moving from one tank to another, not changing water as needed, overfeeding, and adding too many fish at once or keeping too many in one tank can all be causes of stress. To keep stress at a minimum, add fish slowly, do small water changes as often as needed, and don't keep too many fish in the tank. Invertebrates and corals add very little waste to a tank and more can be added to a reef tank than fish. If you take your time and keep to a simple schedule with feeding and water changes, the chances of diseases showing up in your tank will diminish greatly. If disease does break out, such as a parasite, the best option in a reef tank is to keep cleaner shrimp and tank raised neon gobies as both of these will clean parasites off fish. Treating a reef tank with any medication, even "reef safe" ones, can be risky and may kill off some of the invertebrates. If possible, fish that are showing signs of illness can be moved into a smaller treatment tank where stronger medications can be used safely and effectively. It is also best, when possible, to put new fish in a "quarantine" tank first for at least two weeks before putting in the main tank, especially if getting fish from more than one source.

### **Books**

May we suggest buying one of our fine books on keeping a marine fish tank and for more information on maintenance, water requirements, and specific fish and invertebrate facts?

### **Supplies checklist**

- fish tank (and stand if needed)
- full hood or glass cover with correct lighting
- live sand and/or live rock
- submersible heater and/or chiller as needed
- thermometer
- filters (to cover mechanical, biological, and chemical filtration as needed)
- water pumps/ powerheads (to produce currents in reef tanks)
- high quality sea salt mix and water conditioner
- test kits to check for pH, alkalinity, ammonia, nitrite, nitrate, and calcium (reef only)
- a variety of fish foods such as frozen, flake, and invertebrate liquid diets (reef only)
- vitamins and supplements (reef only to keep corals and invertebrates healthy)

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Customer name \_\_\_\_\_ Date \_\_\_\_\_

## GETTING NEW FISH CHECKLIST

Size of tank \_\_\_\_\_

How long as the tank been established \_\_\_\_\_

Nitrogen Cycle fully established – readings for:

\_\_\_\_\_ Ammonia

\_\_\_\_\_ Nitrite

\_\_\_\_\_ Nitrate

Fish in the tank now \_\_\_\_\_

\_\_\_\_\_ 30 % water change done the day before getting new fish

\_\_\_\_\_ Tank not overcrowded

\_\_\_\_\_ Smallest fish larger than the mouth of the largest fish