

## **Aquarium Maintenance**

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When I first started in the hobby, one of the things which I hated to do was perform routine maintenance activities. Maintenance was messy, cumbersome, and plain old hard work. As a result of my dislike of this aspect of the hobby, I rarely did maintenance. My aquarium suffered, and eventually, my fish died.

I imagine that there are more than a few people who, like me, dislike routine maintenance. Well, I've changed my mind about maintenance. It's not that maintenance is any less demanding – I've just figured out how to perform routine tasks more efficiently, and in less time.

To start with, I decided that proper maintenance was essential to a healthy aquarium – and healthy fish. Since maintenance has to be done, I might as well plan for it – just like any other project.

Planning involves purchase decisions, as well as setting-up procedures for performing maintenance. For instance, I used to buy the latest innovation in filtration systems, air pumps, etc. I wound up with several different systems, all of which required specialized supplies, which were fairly expensive since I bought in single quantities. At work, I knew that by standardizing on one design for a piece of equipment, I could cut down on the associated maintenance costs for that equipment. By maintaining one standard, I didn't have to stock a broad line of replacement parts. Well, the same principle applies when it comes to equipment for an aquarium. By standardizing on one filtration system which utilizes the same filter medium (even across different size filter canisters), you don't have to stock multiple types of filter floss, charcoal, etc. You can also generate savings by buying multiple packs (3, 6,9,12 or 24 pack units) of filtration media.

The principle of standardized equipment does not stop with filtration equipment. Purchasing standardized aquariums, hoods, stands, and air pumps also makes maintenance easier. If nothing else, if and when an item breaks, you always have an exact copy available as a substitute.

Before we begin with a discussion of actual maintenance activities, it will be necessary to purchase a few dedicated maintenance tools. A dedicated bucket will be necessary to perform water changes, gravel cleansing, etc. In the old days, I would use a bucket which was used for other chores – scrubbing the floor, watering plants, etc. This practice resulted in several dead fish, and a dedicated fish bucket eliminated the dead fish. Another handy device is an algae scrubber which is long enough to accommodate your largest tank. A gravel vacuum is indispensable (I've since eliminated gravel from my tanks – one less clean-up job!), as is an adequate supply of anti-chlorine compound (score another victory – I now have well water, no need for anti-chlorine), as well as brushes to clean filtration units. It's also a good idea to keep maintenance accessories sterilized, especially if you have more than one tank. It is very frustrating to maintain a quarantine tank, only to discover that your maintenance equipment was not quarantined.

Now for the actual maintenance schedule. I really have two schedules – light duty which is performed every week, and heavy duty which is performed every 2 – 3 weeks as conditions warrant. Before I actually perform any maintenance activities, I lay out all my supplies and prepare the areas around the aquariums with towels to prevent damage from spillage.

The light duty maintenance schedule consists of a filter change, light gravel scrub, power filter cleansing, light algae scraping, and a partial water change of approximately 10%.

The heavy duty schedule consists of a filter change and filter box scrubbing, power filter and under gravel tube cleansing, heavy gravel scrub, a partial water change of 10 – 20%, heavy algae scrubbing, and cleansing of the light fixture enclosure and top enclosure.

I generally don't check water chemistry – the water in my area is very hard and the Ph is between 8.0 and 8.5. Ammonia build-up is not a primary concern, since I have adequately functioning under gravel filters and outside power filters on all my aquariums (I have since eliminated the under gravel filters, and have started weekly water chemistry charting). More importantly, fish populations are kept within reason (2 per 30 gallon tank), so that the bioload in the aquarium is tolerable.

It might be helpful for new hobbyists to write down a check list for maintenance activities, so that each is performed on a timely basis. It might also be helpful to list the maintenance activities in the order which they should be performed. Recently, aquarium magazines have been advertising PC based maintenance and water quality schedules. I have not yet seen one, but a well designed program might also be helpful to some hobbyists.

I hope this short article will be helpful to other hobbyists who dread the thought of aquarium clean-up.

*Author's note: As mentioned above, I eliminated gravel from all my tanks. This saved time on maintenance, but required other types of filtration to be used, since the under gravel filter is popular, and enables a large colony of bacteria to develop for ammonia removal. The use of power filters such as bio-wheels, will help with ammonia removal, but tend to increase the nitrogen cycle from 2 – 3 weeks to 6 -8 weeks. I believe the extra time to establish the nitrogen cycle is well worth the time and hassle savings associated with gravel and under gravel filters. I have also located all my aquaria in the basement, and have installed sink in the basement. The re-location of aquaria to the basement has also reduced the time it takes to perform weekly maintenance. I now spend about 45 minutes on weekly aquarium (and indoor pond) maintenance – down considerably from the time this article was written.*