

## A “Proper” Fish House

Several years ago, John Parker visited my house while on a trip to the states. Since we’d known each other for several years, but had never met in person, it was a delight to spend time with John chatting about goldfish and koi. John was keen to see my fish and to discuss our various breeding strategies. I pointed out to John that I was no longer seriously breeding fish due to time and space constraints, and that the occasional spawn that occurred was more of chance occurrence, rather than a planned event.

John observed my fish keeping set-up, as well as my routine maintenance tasks. It was after observing me lugging about buckets of water, starting siphons, and generally making a mess of things that John suggested that I setup a “proper” fish house. I told John that I’d love to have a “proper” fish house, but that I was prohibited from building one outside due to local ordinances. In response to my reply, John asked why I didn’t locate the fish house in the basement. After all, a basement was as good a place for a “proper” fish house, as well, a fish house.

I forgot about John’s suggestion until I visited Gary Hater’s house a few years later. Gary has been in the fish hobby for as long as I have; we are both veterans of the goldfish world. In the interests of full disclosure, Gary is a true “master” breeder of goldfish, while I dabble in producing fish here and there.

A visit to Gary’s house was very informative. Several years prior to my visit, Gary decided that he’d had enough of siphons, buckets, postponed water changes, etc. He decided to redo his fish house and automate as much of the water change process as he could. He separated his fish room, which contains over fifty tanks and tubs, into two sections. He then drilled water discharge holes into each tank and tub, and fitted each one with an automated switch which would allow the tank to drain when he flipped a switch. He then ran water fill lines to each aquarium and tank, so that he could fill each one automatically, after an appropriate amount of water had been drained from each tank. No siphons, no buckets, and no excuses to delay water change.

Still, after I returned from Gary’s house, other projects called (redoing the koi pond several times comes to mind), and I didn’t think of the fish house project was quite some time. Well, finding that I had less and less time for water changes and becoming more and more frustrated with the practice of toting around bucket after bucket of water, I decided that it was time to construct a “proper” fish room.

Once I decided to redo the fish room, I took inventory of the various filters, lights, aquarium stands, etc. that I’d accumulated over the years. I must admit, it was quite an

eclectic combination of junk I'd gathered-up over the years. Unfortunately, almost nothing matched and everything was one-off. I decided there and then that as a first order of business, I would get rid of the various stands, filters and lights, and try to standardize everything. My first job then, was to construct a stand for my various aquariums, so that they would all be one the same level. The first picture, presented below, shows the stand, along with the aquariums which are situated on the stand.



**Aquarium stand**

The stand was constructed from pressure-treated 8 x 8 landscape timbers that were left over from a previous project. Once the stand was constructed, I decided to construct the water removal system. Rather than drill each individual aquarium as Gary had done, I purchased power heads for each aquarium, and attached these to a piping system which drained into my sump pump housing. I installed cut-off valves from each power head to prevent the aquarium from continuing to drain, once power to the power head was turned-off.





**Drain from power heads to the sump pump housing**

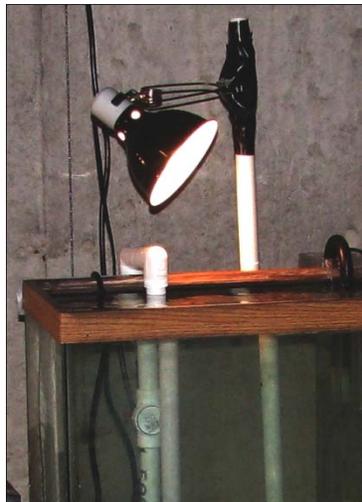
Once the water removal system was completed, I built a water filling system for the set-up. The filling system was composed of a fifty foot run of  $\frac{3}{4}$  inch PVP pipe from the sink at the other end of the basement to the aquariums. Each aquarium had its own fill pipe, with a cut-off valve on each pipe, to allow me to fill one aquarium at a time.



**Detail of fill pipe, along with cut-off valve**

Once the fill pipes were delivered to each aquarium, I had to replace the various filters that I'd accumulated over the years. My first decision was to remove the various canister filters, along with their bio-wheel attachments, that I'd used over the years. I hated cleaning the canisters, and I'm convinced that they became anaerobic over time. I purchased new power filters, and resurrected an old wet-dry filter that I'd used some ten years ago, as the main filter on the 55 gallon aquarium. My decision to use power filters as well as the wet-dry filter was predicated on the fact that I could now do more frequent water changes, which would eliminate the need for more filtration.

After setting up the stand, water removal and filling systems, and installing new filters, I turned my attention to the lighting. I'd accumulated dozens of lights over the years, ranging from exotic-looking incandescent lights to fluorescent lights of various shapes and sizes. I decided to remove the fluorescent lighting (except for the work area behind the aquarium stands) and purchase a series of clip-on lights, which I attached directly to the stand. These fixtures could accommodate incandescent or fluorescent bulbs, and were attached to a timer.



**Detail of light fixture**

The aquarium portion of the project was at last complete. In addition to the four aquariums that I maintain, I have two large tubs that I use to house Shubunkins and other single tail fish. The tubs are 90 and 200 gallons, respectively. They are difficult to maintain, since I have to add and remove water by hand. My first order of business was to plumb these tanks so that I could add and remove water easily. I drilled a hole in each container, and placed a bulkhead fitting on each tub. I then attached the bulkhead to a discharge tube, and plumbed the discharge tube to drain into the sump pump housing on the opposite side of the basement. To prevent each tub from draining completely, I attached a cut-off valve on each plumbed outlet.



**Detail of plumbing for 90 gallon tub**



**Detail of plumbing for 200 gallon tub**

The water fill unit consists of a hose mounted from the sink, which allows me to fill each of the tubs, along with the 3,000 gallon koi pool, which is also located in the basement (the koi pool is used for over-wintering koi).



**Detail of koi pond**

It has taken some time, effort and money (approximately \$200 for all piping, lumber, lights and filters), but the results are well worth the effort. I can now perform a partial water change (approximately 20%) on all the aquariums in less than 10 minutes. Each of the tubs takes approximately 5 minutes for a water change, and the koi pond approximately 20 minutes. Not only don't I have to siphon and carry water, I no longer get wet. Thanks, John, for suggesting that I build a "proper" fish house.