The Sea Star

Newsletter of the Wasatch Marine Aquarium Society

July 2004 Issue

New Logo Here

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Greetings….and salutations!

This club has exploded! With the expansion in members it has become increasingly difficult to meet the needs of all the various members. However, this growth has also allowed us to bring in more guest speakers, have a great BBQ and it puts us in a position to have an astounding first. The Reef Tour this year is FREE! That's right, never before have we not asked for a minimal donation to support the club and the Reef Tour. Keep your eyes posted to your emails and the message board.

If you are new to the club, or the hobby you will undoubtedly find other members with larger tanks. So what did we do…we looked for information on those tanks. Sit back and enjoy!

Looking Back …

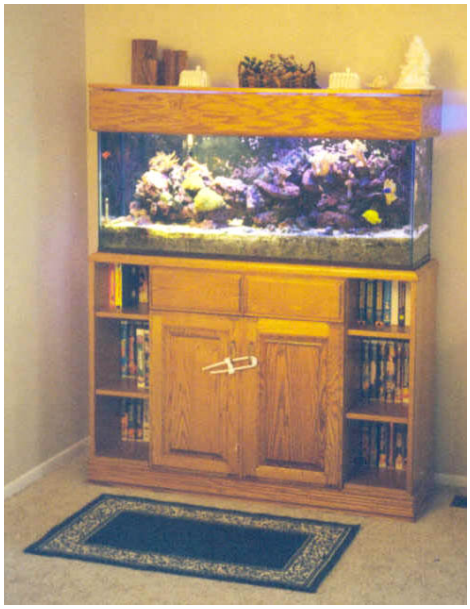
By: Shane Heil

Shortly after my wife and I married, her parents came to visit and brought a small load of her childhood treasures. I looked through the box with little interest until I happened onto a small fish tank. I didn't really know what I was looking at but my wife was more than happy to explain. If she had known then what that five gallon aquarium would lead to I'm sure she would have kept her mouth shut. But, as fate would have it, she didn't and we set up our first aquarium that night.

Our first attempt at aquatic life was not fish, but rather a small snapping turtle. I was fascinated watching the turtle hunt and eat goldfish. I also found myself spending more and more time staring at fish at the local fish store. My wife never got used to the term 'feeder' goldfish and I eventually donated the turtle to a friend's aquarium. I was disappointed to see the turtle go but I was excited to fill my tank with something other than feeders. I happily kept marble hatchets, kuhli loaches, sword tail mollies, angels, betas, and many other fish in that small tank. I eventually broke down and bought a ten gallon aquarium to expand my new hobby.

I was content with my small freshwater aquarium for a few months. My mollies were breeding and fish life was good. Then – I happened into a store near my mom's new house. That's the first time I saw blue devil damsels. The colors of these fish were incredible! I immediately realized that I had to set up a saltwater aquarium.

I began to shop around for a larger aquarium. I spent several days visiting the fish stores from Logan to Sandy. I finally found a used fifty five gallon aquarium and brought it home. I couldn't believe how big it was! Unfortunately, I really didn't know what I was doing. The internet was very new and there wasn't much information available about setting up a saltwater aquarium. So, I relied on the salesmen at the fish stores. I realize now that this was not the best method, but I did end up with a system that could support blue damsels!



My first saltwater aquarium was fifty five gallons with a US Aquarium twelve gallon sump – complete with bio-balls and built in skimmer. I had been successful with an under gravel filter on my fresh water tank, so I set up my salt water tank with a DIY under gravel filter. I used egg crate as a filter plate and used a power head to pull water from under the plate. The lighting consisted of two 150 watt halogen bulbs mounted in a home made hood. This system was moderately effective, but I had problems keeping all but the hardiest fish alive. Nearly every fish I introduced contracted ick and died. I tried everything; medication, fresh water dips, cleaner wrasses but nothing seemed to help my poor fish.

I was fortunate to find a web-site authored by a local reef keeper that promised a bullet proof reef. I disassembled my entire tank and set it up again following the instructions. I attribute my early success with salt water fish to Tom Miller's expertise and his web-site. After removing the under gravel filter and installing a plenum, my problems with ick disappeared. I was finally able to keep fish healthy. My enthusiasm and more importantly, my wife's enthusiasm, increased as I brought the hemorrhaging of my wallet under control!

The halogen lighting was not ideal, but I began to keep soft corals, invertebrates, and anemones. Many of my corals came from the local fish store, but some were bought from WMAS members following my first reef tour. Shortly after I learned how to propagate corals and I began to off set the cost of my tank by trading with other hobbyists and fish stores.

Even with the smaller aquariums I have owned, I have always felt that the entire set-up has to be aesthetically appealing. It is important to me that the stand and hood look as good as the inhabitants. For me and most others, an aquarium is the largest piece of

furniture in the house. It is also the most viewed piece of furniture so it has to look good both inside and out. I kept this in mind as I began to plan my next tank.
I planned the set up of my 120 gallon aquarium for almost a year before I purchased a single component. Although the halogen lighting was capable of supporting soft corals, it was wholly inadequate for SPS coral. I didn't want to be limited by lighting, so I chose a metal halide / VHO combination to provide illumination. I was limited by the size of my living room however, so I purchased a tank to fit my wall. Each piece of the system was selected for cost and quality. I was preparing the perfect tank!

During the Christmas break of 2001 my dad and I built my stand and hood to fit my new 120 gallon aquarium. I transplanted the inhabitants to my larger tank and quickly converted my now empty 55 gallon aquarium to a sump. I plumbed the system, added some additional live rock and turned everything on. With the added lighting and additional water movement, the corals flourished. It was then that I acquired my first SPS corals. With some help from other WMAS members I learned what was required for these demanding animals. I have also learned that there is no such thing as the perfect tank. Even with all my preparation, there are still things that I would now do differently.

Of course there are many other chapters to this story. Some experiences I'm proud of and some that I would just as soon forget. I'm sure the next ten years will include more experiences from each of these categories. The more I learn about maintaining an aquarium I realize how dynamic the hobby can be. There are many ways to be successful and just as many ways to measure your success. The important thing is to provide an optimal environment for the organisms you choose to keep. Whether you keep a small tank with a snapping turtle or an elaborate coral reef aquarium, the main point is to enjoy yourself and, well, I guess there is no and – just enjoy.

Considerations for Buying a Large Tank

By Rex Niedermyer
Reprinted with permission from The Saltwater Enthusiasts Association of the Bay Area *(*SEABay)
www.seabay.org and Aquarticles

Some of the things I would think about before choosing a large tank are the following:

1. Power access
A large reef tank requires a lot of power unless you use natural lighting, and even then it can be substantial. My 240 gal. reef uses close to 30 amps peak, which means that you will need at least two dedicated breaker circuits of at least 15-20 amps each. Significantly more than 240 gallons and you might need three. Unless you are fortunate in your current house wiring at the selected location you will likely need to add additional circuits and wiring to support a much larger tank. Also expect fairly hefty power bills of between $100-200/month just for the tank.

2. Structural support
Make sure that the location where you plan on placing the tank will support its weight. As long as the tank is not too deep (greater than 30"), or you don't plan to place the tank in the middle of the room, you should be OK for loading. If either or both of the above mentioned conditions are true, then you need to make sure the actual loading (total tank weight/foot print area) is within your floor's capability (if it is a slab floor then there should not be a problem).

3. Heating and cooling
Equipment to support a large reef tank can generate a lot of heat (assuming you are using metal halide lighting). Depending on tank location, cooling, even with a chiller, can be a problem. If you can remotely locate the chiller outside in a cool location (you do not want the chillers subjected to full sunlight as they can fail if their ambient temperature runs much above 90ºF), this can help reduce some of the heating, but between the lighting and pumps required for a large tank you will still have plenty. If your house is air-conditioned this will also help, but if not try to have a significant number of fans strategically placed to help cool the tank through evaporation, as well as your lighting system set up with a controller that can shut it off if tank temp. gets too high. (I also have my skimmer pump set to turn off if temp. is too high as the pump for that is fairly large).

4. Evaporation rate
A large tank evaporates a significant amount of water on a daily basis (likely several gallons). I would try to have some sort of automated top-off system planned and plumbed unless you really like having to add this much make-up water to it every day or two.

5. Maintenance
My cardinal rule is that if maintenance is difficult to do, it will not get done, particularly for a large tank. Make sure that all pumps, outlets, filters, and especially the sides of the tank that need to be cleaned are readily accessible. I would also make sure that the tank layout and positioning allows you to reach most any point in the tank both for

maintenance as well as specimen positioning. One of the keys to making the tank accessible for cleaning, as well as getting to specimens, is to have a canopy or lighting system that is easily removed, or constructed so as to not hinder access by allowing it to be opened or hinged in some fashion.

6. Redundancy/safety precautions
Try to have back-up systems wherever possible. The cost and effort put into stocking a large tank are such that you do not want a single failure in any one piece of equipment to cause your system to crash. Use multiple pumps from the sump as well as within the tank itself for circulation. Have multiple heater units. Place the various pumps and heaters, as well as lighting fixtures, on multiple electrical circuits (you have to for a large tank anyway), so that if any one circuit trips due to short or other failure mode, not all the critical equipment will be shut down. Also use multiple GFI circuits where appropriate, to minimize the chance of electrocuting yourself as well as your tank. The ultimate in redundancy is to have an auxiliary power unit available to kick-in in case of power failure (not for the faint of heart or pocket book).

7.Cost
If you can get used stuff it's a lot cheaper, especially the tank itself (check newspapers as well as some of the online auctions such as E-bay). A 240 gallon tank itself could run you $600-1000 new depending on the extras wanted (e.g., multiple overflows, black back, etc.). Expect to pay over $1000 for lighting a 240, likely more for a larger tank. A large skimmer could cost you $1000 or so when you add the pump costs in as well. The pumps themselves will likely cost you several hundred dollars depending on how much redundancy you plan on having. Cabinet costs depend on whether you want stock or custom - if tank is much larger than 300 gallons you will likely need a custom cabinet unless you are lucky enough to find a used tank with its own cabinet.

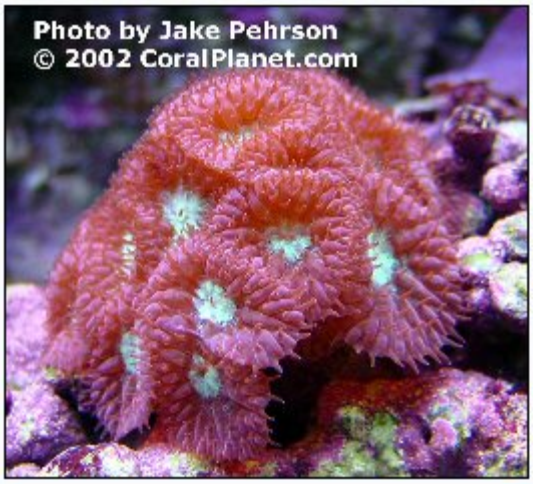
Even the above equipment costs will pale compared to the cost of stocking a large reef tank with specimens and rock unless you are very patient and willing. Stock with fragments and then wait for small to become large.

As to selling your old tank - one option would be to donate the tank to SEABay and then write it off your taxes. (We are a non-profit organization). Unless you find just the right buyer for your tank it will be difficult to get top dollar, so the net gain for a donation may be very similar to what you would get for selling it. (Of course you do have to wait for tax time to get any benefit).

Believe me, I am not trying to scare you off. Large tanks are really neat, but you should also be aware that they require more thought and planning than a more moderate sized tank such as the one you currently have. Let me know if you have any further questions and I will try my best.

rexn@lanminds.com

Coral Highlight by Jake Pehrson



Blastomussa - *Blastomussa sp.* Wells, 1961

There are only two species in the genus *Blastomussa*. *Blastomussa wellsi* which have a fairly large polyp (9-14 mm) and *Blastomussa merleti* which has a smaller polyp (5-7mm)

Blastomussa is an uncommon coral, usually found on reef slopes protected from bright sunlight and high water flow.

Blastomussa colonies are phaceloid (corallites are separated by void pace), which makes them fairly easy to propagate as each polyp can be broken off with little to no damage to surrounding polyps or the colony.

Blastomussa has large fleshy polyps that can be found in many different colors, often with contrasting centers. The polyps are large enough that when fully open they can be directly feed.

Blastomussa are a little delicate until fully acclimated to a captive environment. After acclimated they seem to do quite well. Finding a captive propagated specimen will greatly increase your chances of success with this great coral.

Jake Pehrson
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Quick Facts

Common Names: Pineapple Coral, Branched Cup, Pipe Coral, Swollen Brain Coral, Moon Coral
Pronunciation: BLASS-toe-MUSS-ah
Coral Type: Large Polyp Stony
Origin: Indo-Pacific
Care Level: Easy-Medium
Temperament: Semi-Aggressive
Light Requirements: Low to Medium Light
Water Flow: Low to Medium
Temperature: 77° to 80° F
Feeding: Photosynthesis, Phytoplankton, Zooplankton, Organic Matter
Supplements: Calcium and alkalinity
Growth Rate: Medium-Fast
Propagation: Easy

Setting up my 124 Gallon Reef

By Bruce Ewald

My background with aquariums

I grew up in a house with freshwater aquariums. The freshwater Aquarium that I have in my front room is one I have had since probably 1st grade. It was torn down a few times but for the most part has always been with me. I have had a great variety of fish in this tank through the years. Including the last batch, some Lake Malawi Cichlids. They were met with an untimely death when my heater stuck and cooked the tank a few weeks ago.

I had wanted to do a salt-water tank for years, but never seriously considered it because I was told, and led to believe, it was a great expense. Well, actually it is, but not as bad as I had thought. I finally decided to start a 10 gallon, which I have had going now for close

to three years. It was amazing how little I knew about the salt water hobby, how much I would learn, and how obsessed I would become with it.

Getting Started On my 125

I was lucky enough to get the tank for free! My wife, Jen, wasn't wild about it, however being the understanding person she is, let me keep it. Even though I got the tank for free, I soon realized that the glass is one of the cheaper parts anyway.

After pricing out the stand and canopy I decided to make my own. This has saved me quite a bit of cash. I used 2x4's to build the frame, which were very cheap. Some of the other materials I used to cut down costs were wood veneers from a construction site and shelving wood to build my canopy. I believe I am still under $100 in cost for the stand and canopy. I am however not finished. I am estimating around $200 total for the cost of the stand and canopy when it is completed. Plus I have learned quite a bit about woodworking and had a great time building.

Construction of the stand

Building the canopy with cheap shelving wood

The next thing to do was add substrate and water. After doing my own research, I came to the conclusion that I did not want to add a plenum plate. I decided to go with a deep sand bed using free Utah oolitic sand. I washed it thourly and it still clouded for at least a week. I added a 1-inch layer of crushed coral to keep the sand from getting stirred up. If I had the money, I would have gone with all Carib Sea. However, since money was an issue, I used the Utah sand and I have not had any problems with it.

Next, adding the water. After my first experience with green hair algae, which is the devil, I decided not to be so cheap by using tap water. I received a Reverse Osmosis unit for Christmas last year and now I only use RO water in my tanks. I personally believe it makes a difference.

The last step was to cycle the tank. Because the tank had no life, only new water and substrate, I used one of the starter chemicals. It took I believe 6 weeks to get the ammonia down. I think it would have been better to have started out with some rock, some live sand, and some used water from a successful tank.

Tank with very little rock.

Adding the Rock

Once my tank was cycled I started out with about 30lbs of rock that I was keeping in a 35-gallon tank. There was no way I was going to afford to fill this tank with rock right away. I decided to add the rock slowly, as I could afford it. I also found that there are always people tearing down tanks, group orders on rock, and occasional deals on rock at pet stores. I have bought a number of pieces of rock, which were almost dead, at a lower price. They always color up and in a few months and look just as good as the premium pieces. Since I was adding the rock slowly, I decided to build up half of the tank first, and then tackle the other half.

Adding Fish

I started with 3 Green Chromes Damsels. I personally feel if it's a fish you don't plan on keeping, you shouldn't add it. These Damsel fish died after about a week. I am uncertain why they didn't make it. I know that the ammonia nitrite and nitrate were all fine.
I personally think that it is important to add fish very slowly. The reason why I feel this way is because I

believe it gives your bio filtration time to grow, and also causes less stress on the fish. I have for the most part been very successful at keeping fish. I have not had to many casualties. One thing I have learned is that most local fish stores are happy to sell you fish claiming they are hardy, when in fact they are not. An example of this was the powder blue tang I had. This was a gorgeous fish. Shortly after purchasing and adding this "hardy" fish to my tank it developed ich. I tried a number of ways to save it, but in the end it died. I later did some research which I should have done first. I found out that this fish is very prone to ich and is a difficult one to keep. I was also sold a Picasso Trigger for my 10-gallon tank when I was first starting out. Later I learned how large they get and about their tank requirements. My two favorite fish I have now are my Blonde Naso Tang and my Mandarin Goby.

Lighting

For lighting I am currently running two 175-watt metal halides and two 4 ft VHO actinic. The reason why I am running the four-foot actincs is because I was able to acquire this lighting through trade for side work. I am planning on upgrading my lighting to 6 ft VHO's, electronic ballast's, and two 250-watt double-ended metal halides. I have replaced the expired bulbs in my lighting and, when money allows, I will start to upgrade.

Adding corals.

This is one of my favorite parts of the Utah Reefs Message Board. Frags!!! About 80% of my corals came from 5-dollar frags or from trading. There are tons of people in the club that are more then happy to sell and trade coral frags. Its fun to watch them grow and saves tone of money compared to spending and average of $40 a coral. I have been fortunate enough to have very few corals die in my tank. The corals are my favorite part of this hobby. I am very partial to LPS.

Filtration and sump nightmares

This is were I have had some bad luck and made some mistakes. I have had several floods. I first started out with a wet dry filter set in a 20-gallon tank. This was a terrible set up, very rinky-dink. I only kept it a little while. My next setup was rubber maid containers. This worked much better. I had one for a refugium connected to another for a sump. It was ugly but cheap and it worked. I did a have a few problems at first with sealing issues. I quickly learned silicone doesn't stick to rubber maid.

A couple months later I came home to a flooded basement. The rubber maid I was using for the refugium cracked and leaked all over. I dealt with out a sump for a while until I was able to acquire a very nice setup for, yet again, doing some trade work. After I got the new sump home I realized it was not going to fit with the center supports in the stand, so I cut them out. I had accidentally left a very small piece of the support sticking up and

after filling the sump with water, it cracked. Yet another flood. I tried numerous ways to repair the sump, but after two more floods I was frustrated beyond words. What did I learn from all these floods? 1.Rubbermaid's can only hold so much water. 2.Make sure you have a very clean level surface. 3.If the bottom of a glass tank cracks, it's just not worth saving.

Conclusion

Pay now or pay later. I have skimped in a number of areas were it is going to cost me later. Example: my sump and my lighting. I honestly could leave it the way it is, however it's not what I want. The positive thing about starting out cheap is being able to enjoy this hobby now, rather then saving up all the money only to have some "emergency" consume the money. So, by piecing it together and purchasing used equipment, it has allowed me to accomplish something I otherwise couldn't have done.

You don't need to have everything at once to get started. It's nice, but it's also overwhelming that way (and harder to justify to your spouse).

Doing things yourself will save you tons of money. Mistakes are going to happen but they will make you a better hobbiest and increase your knowledge.

One last thing I wanted to say to anyone new in this hobby is that there are a lot of opinions out there. This can be very overwhelming for someone just starting out. It was for me. The best way I learned how to deal with this was by doing plenty of reading, looking at plenty of tank setups, and then diving in and making my own mistakes and triumphs. You will at some point have to take some chances and do some experimenting.

(02/21/04)

Acanthurus triostegus

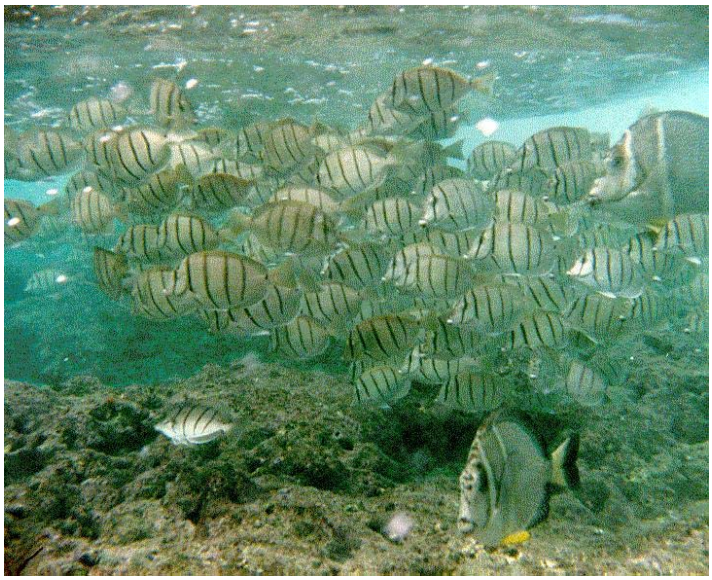
By Adam Blundell

This issue's feature fish is the *Acanthurus triostegus*. I have chosen this fish for many reasons: 1- I like these fish, 2- My wife loves Tangs, 3- They are highly underrepresented to the hobbyists, 4- As tribute to my visit in March to the Marine Ornamentals conference in Hawaii.

This fish is commonly called the Convict Tang, so named for its jailbird stripes. The fish has 5 vertical black bars on an off white body. The first bar passes over the eye, and the fifth bar is towards the anterior portion of the body. A small patch, resembling a small sixth stripe, is often seen on the dorsal side of the caudal peduncle. The body coloration is variable and may be yellowish-white or even light grey. Like all the other Acanthurids this fish is highly laterally compressed. The body shape is oval, and the eyes are aligned high on the head opposing each other.

The Convict Tang is the most abundant surgeonfish (tang) in all of Hawaii. In fact they are so common that they are called Manini in Hawaiian, which roughly translates into "common item". The sheer numbers of these fish quickly seen while snorkeling or diving often overwhelm visitors to the Islands. For several centuries these fish were an important food source for many Pacific Islands, including Hawaii. They are very abundant near shorelines where they can be found grazing on algae. They possess comb like teeth that are used to scrape algae from rocks and substrate. Because of this, these fish are well adapted for near shore habitats, and are far more common in those areas than they are on typical reef settings. Their affinity and dependence on algae make them a fantastic selection for home aquaria. In addition to being useful herbivores, they are also far less aggressive than other tangs. Their lack of aggression is partly because they do not have well defined caudal peduncle spines (scalpels) as do other tangs. In fact their scalpels are so highly reduced that they are only visible on the larger, full-grown individuals. Rather than using physical measures for defense, these fish will hide within rocky areas while young, and as adults will depend upon schooling. It is for all these

reasons aquarium care should be centered on providing the fish with adequate algae and rock hiding places.



Side Notes:
Although common in Hawaiian waters, Convict Tangs are not popular in the aquarium hobby. One reason for this may be the restrictions prohibiting the collection of juvenile individuals in the Hawaiian waters.

Top Ten Signs Someone is an Aquarium Hobbyist...

by Lisa Englander

First published in Aquarium Fish Magazine. Reprinted with permission from Aquarticles

10. They own more than two articles of clothing with fish on them.

9. Their children's names are Barb, Molly and Oscar.

8. They cut their honeymoon short because they don't trust Grandma to take care of their fish.
(OR they spend all their time collecting algae)

7. They spend their Saturday nights doing partial water changes.

6. They only time they wash dishes is when they need the sink to clean their tanks.

5. Their friends say, "You really need to talk to someone." So they join an aquarium club.

4. It occurs to them that if they get rid of their husband's favorite recliner, they'd have the perfect place to put another aquarium.

3. There's nothing to eat in the refrigerator, unless you like bloodworms!!
(OR GSL Brine Shrimp)

2. There's not one aspirin in the house, but if you ever get ich, they're prepared!

1. They can hardly wait for the next SeaStar!