



FishLore.com  
Saltwater Aquarium  
&  
Reef Tank Book

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## CONTENTS

Foreword.....	10
Why Set Up an Aquarium? .....	12
Aquarium Types .....	14
Aquarium Electrical Safety.....	15
Aquarium Fish Cruelty Through Ignorance .....	17
The Aquarium Nitrogen Cycle .....	19
Aquarium Filter and Fish Tank Filtration .....	24
Saltwater Aquarium Types - FOWLR, Fish Only with Live Rock, Reef Tank.....	30
Freshwater Aquarium vs. Saltwater Aquarium .....	33
Saltwater Aquarium Tank Setup Guide .....	37
How To Setup A FOWLR Saltwater Aquarium.....	43
Marine Reef Tank Aquarium Setup .....	51
Saltwater Nano Cube Setup - Saltwater Reef Tank Aquarium .....	65
Moderator Ryan’s Saltwater Aquarium Guide.....	76
Starting a SW System - Part 1 - Where to start your Research.....	76
Starting a SW System - Part 2 - Bringing Nature Home (Researching Equipment) .....	82
Starting a SW System - Part 3 - Designing, Setting up and Running your system .....	90
Refugium Setup for Saltwater Aquariums.....	97
Live Rock for Saltwater Aquariums .....	100
How To Set Up a Fish Quarantine Tank.....	106
Acclimating Tropical Fish to Your Fish Tank.....	109
Aquarium Fish Care While On Vacation Tips .....	112
Aquarium Algae Control .....	115
Green Bubble Algae .....	121
Aiptasia Anemone .....	124

Aquarium Fish Tips.....	127
Aquarium Maintenance - Fish Tank Maintenance.....	132
Aquarium Light - Fish Tank Lighting .....	135
Aquascape Aquarium Design Ideas .....	139
Aquarium UV Sterilizer - Ultraviolet Sterilizer.....	143
Reverse Osmosis Filter for Aquarium Water .....	145
Protein Skimmer - What is it?.....	147
Calcium Reactor .....	152
Biopellet Aquarium Filter.....	155
Aquarium Chiller - Water Chiller .....	160
Aquarium Cyanobacteria .....	163
Aquarium Algae Scraper DIY.....	166
Aquarium Water Chemistry.....	169
Aquarium Water Test Kits - Tests For Your Fish Tank .....	172
Activated Carbon for the Aquarium.....	176
Saltwater Aquarium Supplements .....	180
Aquarium Fish Food.....	183
Brine Shrimp .....	187
How To Build Live Rock Wall.....	190
Saltwater Fish Disease Symptoms and Treatment .....	194
Common Saltwater Fish Diseases and Problems.....	195
Clownfish Anemone Compatibility Chart.....	198
Coral Reef Zones.....	201
Keeping Coral in a Saltwater Reef Tank Aquarium .....	203
Coral Profiles .....	210
Acanthastrea Coral - Acan Coral - Acanthastrea spp.....	211
Acropora Coral.....	214



Birdsnest Coral - <i>Seriatopora hystrix</i> .....	217
Blastomussa Coral - <i>Blastomussa wellsii</i> .....	220
Candy Cane Coral - <i>Caulastrea furcata</i> .....	222
Chalice Coral .....	225
Frogspawn Coral - <i>Euphyllia divisa</i> .....	229
Green Star Polyps - <i>Briareium</i> sp. ....	232
Montipora <i>Capricornis</i> .....	235
Montipora <i>Digitata</i> Coral.....	238
Montipora <i>Spongodes</i> Coral .....	241
Pavona Coral .....	244
Pulsing Xenia - Pulse Coral.....	247
<i>Ricordea florida</i> .....	250
Zoanthids, Button Polyps, Zoas .....	253
Saltwater Fish & Invertebrate Profiles .....	256
Fish Anatomy .....	256
Anemones .....	257
Bubble Tip Anemone - <i>Entacmaea quadricolor</i> .....	257
Condy Anemone - <i>Condylactis gigantea</i> .....	261
Dwarf Angelfish.....	264
Bicolor Angelfish - <i>Centropyge bicolor</i> .....	264
Coral Beauty Angelfish - <i>Centropyge bispinosus</i> .....	267
Eibli Angelfish - <i>Centropyge eibli</i> .....	270
Flame Angelfish - <i>Centropyge loricula</i> .....	273
Lemonpeel Angelfish - <i>Centropyge flavissima</i> .....	276
Potter's Angelfish - <i>Centropyge potteri</i> .....	278
Dwarf Pygmy Angelfish ( <i>Centropyge argi</i> ) .....	281
Large Angelfish.....	284

Bellus Angelfish ( <i>Genicanthus bellus</i> ) .....	284
Blue Angelfish ( <i>Holacanthus bermudensis</i> ) .....	286
Blueface Angelfish ( <i>Euxiphipops xanthometopon</i> ) .....	288
Annularis Angelfish - Blue Ring Angelfish ( <i>Pomacanthus annularis</i> ) .....	290
Emperor Angelfish - <i>Pomacanthus imperator</i> .....	293
French Angelfish - <i>Pomacanthus paru</i> .....	296
Koran Angelfish ( <i>Pomacanthus semicirculatus</i> ) .....	298
Queen Angelfish ( <i>Holacanthus ciliaris</i> ) .....	300
Regal Angelfish ( <i>Pygoplites diacanthus</i> ) .....	303
Scribbled Angelfish ( <i>Chaetodontoplus duboulayi</i> ) .....	305
Anthias.....	308
Peach Anthias, Peach Fairy Basslet .....	308
Basslets.....	311
Blackcap Basslet ( <i>Gramma melacara</i> ) .....	311
Fairy Basslet, Royal Gramma - <i>Gramma loreto</i> .....	313
Blennies.....	316
Bicolor Blenny ( <i>Ecsenius bicolor</i> ) .....	316
Lawnmower Blenny, Rockskipper Blenny .....	319
Midas Blenny ( <i>Ecsenius bicolor</i> ).....	322
Butterfly Fish .....	324
Copperband Butterfly Fish - <i>Chelmon rostratus</i> .....	324
Lined Butterfly Fish - <i>Chaetodon lineolatus</i> .....	327
Longfin Bannerfish - <i>Heniochus acuminatus</i> .....	330
Raccoon Butterfly Fish - <i>Chaetodon lunula</i> .....	334
Cardinalfish .....	337
Banggai Cardinal Fish ( <i>Pterapogon kauderni</i> ).....	337
Pajama Cardinalfish ( <i>Sphaeramia nematoptera</i> ).....	341

Clownfish .....	344
Ocellaris Clownfish, Anemone Fish .....	344
Maroon Clownfish - <i>Premnas biaculeatus</i> .....	348
Tomato Clownfish - <i>Amphiprion frenatus</i> .....	352
Damselfish .....	355
Azure Damselfish - <i>Chrysiptera hemicyanea</i> .....	355
Blue Damselfish ( <i>Chrysiptera cyanea</i> ) .....	358
Green Chromis ( <i>Chromis viridis</i> ) .....	361
Blue Chromis ( <i>Chromis cyaneus</i> ) .....	364
Yellowtail Blue Damselfish - <i>Chrysiptera parasema</i> .....	367
Three Stripe Damselfish - <i>Dascyllus aruanus</i> .....	370
Dottybacks.....	373
Orchid Dottyback - <i>Pseudochromis fridmani</i> .....	373
Striped Dottyback - <i>Pseudochromis sankeyi</i> .....	376
Dragonets.....	378
Green Mandarin ( <i>Synchiropus splendidus</i> ) .....	378
Ocellated Dragonet, Scooter Dragonet .....	381
Eels .....	384
Snowflake Moray Eel - <i>Echidna nebulosa</i> .....	384
Gobies.....	386
Bluebanded Goby, Catalina Goby .....	386
Diamond Goby, Orange Spotted Sleeper Goby .....	389
Neon Goby - <i>Elacatinus oceanops</i> .....	393
Yellow Watchman Goby - <i>Cryptocentrus cinctus</i> .....	396
Purple Firefish ( <i>Nemateleotris decora</i> ).....	399
Groupers .....	402
Coral Hind Grouper ( <i>Cephalopholis miniatus</i> ).....	402

Panther Grouper ( <i>Cromileptes altivelis</i> ) .....	405
Hawkfish .....	408
Longnose Hawkfish ( <i>Oxycirrhites typus</i> ) .....	408
Jawfish .....	411
Yellow-head Jawfish - <i>Opistognathus aurifrons</i> .....	411
Lionfish .....	414
Lionfish - <i>Pterois volitans</i> .....	414
Radiata Lionfish ( <i>Pterois radiata</i> ) .....	417
Pufferfish .....	420
Porcupine Puffer Fish ( <i>Diodon holacanthus</i> ) .....	420
Rabbitfish .....	423
Magnificent Foxface Rabbitfish - <i>Siganus magnifica</i> .....	423
One Spot Foxface Rabbitfish ( <i>Siganus unimaculatus</i> ) .....	426
Seahorses .....	429
Seahorse, Common Seahorse .....	429
Great Seahorse ( <i>Hippocampus kelloggi</i> ).....	432
Tangs – Surgeonfish .....	435
Achilles Tang - <i>Acanthurus achilles</i> .....	435
Black Tang ( <i>Zebrasoma rostratum</i> ) .....	438
Blue Tang ( <i>Paracanthurus hepatus</i> ) .....	441
Clown Tang - <i>Acanthurus lineatus</i> .....	444
Convict Tang - <i>Acanthurus triostegus</i> .....	447
Mimic Eibli Tang.....	450
Gem Tang ( <i>Zebrasoma Gemmatum</i> ) .....	453
Kole Tang.....	456
Lavender Tang - <i>Acanthurus nigrofuscus</i> .....	459
Moorish Idol - <i>Zanclus cornutus</i> .....	462



Naso Tang - <i>Naso lituratus</i> .....	465
Orange Shoulder Tang - <i>Acanthurus olivaceus</i> .....	468
Pacific Sailfin Tang ( <i>Zebrasoma veliferum</i> ) .....	471
Powder Blue Tang ( <i>Acanthurus leucosternon</i> ).....	474
Powder Brown Tang - <i>Acanthurus japonicus</i> .....	477
Purple Tang ( <i>Zebrasoma xanthurus</i> ).....	480
Red Sea Sailfin Tang - <i>Zebrasoma desjardini</i> .....	483
Tomini Tang - <i>Ctenochaetus tominiensis</i> .....	486
Unicorn Tang - <i>Naso unicornis</i> .....	489
The Yellow Tang - <i>Zebrasoma flavescens</i> .....	492
Triggerfish .....	495
Blue Throat Triggerfish - <i>Xanthichthys auromarginatus</i> .....	495
Clown Triggerfish - <i>Balistoides conspicillum</i> .....	498
Niger Triggerfish - <i>Odonus niger</i> .....	501
Picasso Triggerfish - <i>Rhinecanthus aculeatus</i> .....	504
Pink Tail Triggerfish - <i>Melichthys vidua</i> .....	507
Wrasses .....	510
Pencil Wrasse ( <i>Pseudojuloides ceracinus</i> ).....	510
Six Line Wrasse - <i>Pseudocheilinus hexataenia</i> .....	514
White Belly Wrasse - <i>Halichoeres leucoxanthus</i> .....	517
Harlequin Tuskfish - <i>Choerodon fasciatus</i> .....	520
Snappers.....	523
Emperor Snapper - ( <i>Lutjanus sebae</i> ) .....	523
Comets .....	526
Marine Betta ( <i>Calloplelesops altivelis</i> ).....	526
Marine Invertebrate Species .....	528
Brittle Star - Tiger Striped Serpent Seastar.....	528

Chocolate Chip Starfish - <i>Protoreastor nodosus</i> .....	530
Coral Banded Shrimp - <i>Stenopus hispidus</i> .....	533
Hermit Crab - <i>Clibanarius</i> spp. ....	536
Emerald Crab - <i>Mithrax sculptus</i> .....	538
Pencil Urchin - <i>Eucidaris tribuloides</i> .....	541
Nassarius Snail ( <i>Nassarius</i> sp.) .....	543
Peppermint Shrimp ( <i>Lysmata wurdemanni</i> ).....	546
Red Fire Shrimp - <i>Lysmata debelius</i> - Cleaner Shrimp .....	549
Skunk Cleaner Shrimp - <i>Lysmata amboinensis</i> .....	552
Turbo Snail - <i>Turbo fluctuosa</i> .....	555
Crocea Clam - <i>Tridacna Crocea</i> Clam .....	557
Tridacna Maxima Clam .....	560
Small Saltwater Fish Tank (nano) Species .....	563
Forum Etiquette – Remember This When Posting On Forums .....	568
Aquarium Dictionary .....	573

## FOREWORD

Thanks for downloading FishLore.com's Saltwater Aquarium e-Book. It is comprised of many of the saltwater articles from the website. You can use it as a guide in setting up your saltwater aquarium or use it as a species reference when visiting the local fish store.

This e-Book is FREE for anyone to download and use. The cool part about making it an e-book means that I can keep it updated when we publish new articles or profiles on the website! Check the download page if you want to get the latest version. I'll be sure to include the last update date so it's easy to tell if you have the latest version.

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Please pardon any typos or grammatical errors. I've been in this document for many hours but I'm sure that some have slipped by. If you find any errors you can let me know by using the contact us form here: <http://www.fishlore.com/fishforum/sendmessage.php>

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If you have questions after reading through this book please join us on the FishLore forum at <http://www.fishlore.com/fishforum/>. Please note that our forum is moderated which means that we have rules that have to be followed such as no cursing, no flaming other members, etc. Read the forum rules here: <http://www.fishlore.com/fishforum/forum-announcements-suggestions/227-fishlore-forum-rules.html>

Our forum has been around for a long time now and there are a lot of great people that post on our forum. We also have a first class group of moderators that can help field forum usage questions should you have them. Be sure to thank the mods because they donate their own time to help keep the forum safe for everyone.

Thanks for reading and I hope to see you on the forum!

Mike

P.S. Be sure to check out the Freshwater Aquarium e-Book too. You can find it here: <http://www.fishlore.com/freshwater-aquarium-book.htm>

## WHY SET UP AN AQUARIUM?

You've been to the pet store and noticed the fish tanks and thought "maybe I could do that". Guess what, you can "do that" and it's not nearly as difficult as you may think.

The tropical fish keeping hobby has come a long way over the past decade thanks in part to advances in aquarium equipment and the plethora of readily available information. There are many outstanding fish and aquarium books available as well as an abundant amount of information on the internet, forums and discussion groups. Running your own tank is way easier than it was just 10 years ago.

In the past, folks would go to the pet store and buy the tank, equipment and fish all at once not knowing they were setting themselves up for failure. They would get the aquarium set up and running, put some fish in and everything would be fine for a couple of days but then the fish would start to die. Now we know better. We know about the crucial aquarium nitrogen cycle that must take place in all new tanks. We know how to properly acclimate tropical fish to our tank water and how to periodically use our aquarium test kits to test the tank water to make sure nothing is out of whack. We have better access to fish behavior and can determine which fishes shouldn't be kept together in the same tank. The information is out there, at our fingertips, at libraries, book stores and the search engines.

So, with all this available information we can quickly come up to speed with running a tank in our home. There are many different types of aquarium setups but the most common types are freshwater, saltwater fish only and saltwater reef tanks. Here is a very brief intro:

### Freshwater Aquarium

The mainstay of the hobby and the most popular setup, a freshwater tank setup can be a great first tank and it will give you the necessary experience needed for branching out into other types of tanks. This setup is the least expensive in terms of equipment and livestock and is not usually as demanding as the other types. There are literally hundreds of different types of fish available so finding a species you'll like shouldn't pose a problem. You can keep live aquarium plants in your tank as well. Keeping plants may require an upgrade to your lighting system and you may have to add supplements to your tank water. Freshwater aquarium plants add another dimension of beauty to a freshwater tank.

### Saltwater Aquarium

Saltwater tanks are perceived to be more difficult than freshwater tanks. In times past, that statement may have been true but I don't think that is necessarily the case today. With the increasing use of live rock as the primary biological filter in a saltwater tank setup, the chances

of successfully running this type of aquarium have dramatically improved. A fish only saltwater tank equipped with live rock will be more expensive than a freshwater tank because you'll need to purchase live rock and a protein skimmer. Marine fish are also more expensive than their freshwater counterparts.

### **Saltwater Reef Tank**

The ultimate tank setup in this hobby has to be the reef tank setup. It's like having a small piece of the coral reef in your living room. The emphasis is on the corals and invertebrates with a limited amount of fish. These tanks are however, more expensive to setup and maintain. Equipment such as metal halide lighting, protein skimmers, live rock, testing equipment, supplements, water purification units (reverse osmosis and deionization) and sumps drive the cost of this setup. Don't forget about the ongoing maintenance costs (electricity) as well. The livestock costs for live corals, fish and invertebrates are also very expensive. This type of tank can be very demanding when first set up because you'll need to monitor the water parameters periodically and take corrective action when necessary. Even though this is the most expensive type of setup, it can also be the most breathtaking. You should do your homework (research) and figure out exactly what you want to accomplish before buying your first piece of reef equipment.

No matter what type of tank setup you choose, as long as you do your homework beforehand you'll enjoy this hobby. Research the equipment and livestock before purchasing them and you will prevent many headaches and keep some of that hard earned money in your wallet!

The satisfaction of watching fish in our home can be relaxing, educational and can be a great conversational piece all at the same time. Many kids are extremely fascinated with tropical fish and you can use this as a great learning tool to teach your children responsibility, biology and science. Teach them about the critical biological cycle that takes place called the Nitrogen Cycle. Teach them how to test the tank water for ammonia, nitrite, nitrate and pH. Show them the proper way to feed and care for the fish. Show them how to do water changes and maybe they can help out with this vital task required for keeping fish in our homes. Explain to them why we can't keep a common pleco in our 10 gallon tank. The educational opportunities abound.

If you're interested in setting up your own tank I encourage you to do some homework beforehand. Go out and purchase an aquarium book on the type of tank you're interested in, subscribe to a tropical fish magazine, browse the internet and join a tropical fish forum to increase your knowledge. This is a fun and exciting hobby that gets better all the time!



## AQUARIUM TYPES

Aquariums come in many shapes and sizes. There is surely to be an aquarium type out there that will suit you. Fish tanks can be made out of glass or acrylic and typical sizes are 10, 20, 29, 30, 40, 50, 55 gallons and larger. Some are tall, some are short. Some are rectangular or hexagons and some have bowed fronts.

An acrylic aquarium is going to be lighter, stronger and more durable than a glass aquarium. But an acrylic aquarium will scratch much easier and it can be very difficult to buff out an aquarium scratch on an acrylic tank, if at all.

Generally, the bigger the tank the better it is because a larger aquarium will tend to have much more stable water parameters. For example, take a 5 gallon versus a 55 gallon tank. In the 5 gallon tank the temperature may fluctuate up to 10 degrees Fahrenheit every day whereas the temperature isn't going to fluctuate as much in the 55 gallon. Having more water will usually buy you more time to correct anything that should happen. Check out your local fish store or online for an aquarium that fits your needs.

Another important consideration for your pet fish tank will be the aquarium stand. It will need to be strong enough to hold the finished tank. Roughly, an aquarium will weigh at least 10 pounds per gallon. So a 55 gallon aquarium stand will need to be able to support 550 pounds! Don't skimp on the stand and make sure it's level and strong and make sure that the floor will be able to support the total weight of the tank!

By Mike Owen

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Courtesy: [Aquarticles](#)

Safety around the aquarium, electrical safety in particular, is a subject all aquarists should be concerned about. The possible fatal consequences of the combination of water and faulty electrical equipment is something we all should bear in mind. One of the basic rules of aquarium management that I have seen in several aquarium books is to turn off all electrical power to the aquarium before putting your hand in -the water. However, hands up all those who have ignored this rule; I bet there are not too many hands still down.

The amount of current needed to give a person an electric shock is surprisingly low. With a 240 volt supply, a current of only 10 milliamps through your body to earth can give a painful shock, and a current above 50 milliamps is likely to be fatal. Not very much when a 200 watt beater draws something like 800 milliamps. While the possibility of a dangerous failure in modern commercial aquarium equipment is very, very slight, nevertheless a risk still exists. I've never seen any report of a person being killed by a shock from their aquarium in Australia but I have seen a report in an English newspaper of this happening, and have vague recollections of reading that several people die each year in the U.S.A. by electric shocks from their aquariums.

If your aquarium equipment is plugged into a normal household switchboard, with standard circuit breakers, it is highly unlikely that they will cut-out in the event of a fault in the equipment leading to a possible leak to earth of the low magnitude needed to cause a bad shock. Fortunately there is a simple, but unfortunately fairly expensive, safety measure which can be taken. This is to install a CORE BALANCE EARTH LEAKAGE CIRCUIT BREAKER, or ELCB for short, into the wiring system for your aquariums.

These devices work by continually monitoring the current in both the active and neutral wires of the circuit, and if a fault develops in the circuits leading to the leakage of current to earth, then the device instantaneously breaks the circuit. They are set to break the circuit only above a certain current loss, since some home appliances such as water heaters and freezers naturally have small current losses. The cut-off level ranges from 10 milliamps to 30 milliamps, with 30 milliamps being suitable for the aquarium.

Three types of ELCB are available. The first is wired into the main switchboard of a house and can give protection to all power points in the house, not just the aquarium power point. I'm not

sure of the cost of this in Canberra, but with installation by a qualified electrician, it could be around \$200 or more.

The second is a wall mounted model, which is a straight replacement for a standard wall socket and looks very similar. Installation is straight forward and most would feel confident about doing the work themselves. The only possible complication is if the socket is part of a ring circuit with more than three wires going into the socket. If in doubt, get an electrician to do the installation. The cost of a wall mounted model is about \$80 at one of the specialist electrical shops at Fyshwick. They are rarely to be found at the general hardware stores.

The third type of ELCB are portable models. These are self-contained units which plug into a standard socket and into which you plug your aquarium equipment, similar to an extension cord. They have the advantage of being able to be used wherever needed around the house, for instance with power saws hedge trimmers etc. but are quite expensive. The only one I've seen in Canberra was over \$100. If you would require a wall mounted model to be installed by an electrician they may be worth considering, but their portability is largely wasted in an aquarium setting because it is virtually never free to use for other applications.

The choice of whether to install an ELCB or not is up to the individual. They are expensive; \$80 would buy a nice power filter, let you set up that extra breeding tank, or buy some very nice fish, but what's the point if you aren't around to enjoy it. Me, I've put off buying that Eheim filter I've had my eye on for a while!

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