



By Peter Cunningham & John Cunningham

<http://www.salt-water-aquarium.com>

<http://www.aquaristsonline.com>

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Legal Notices And Disclaimer

As much as we would love to believe that everyone who reads this guide will follow the advice given and benefit from it, unfortunately this cannot be guaranteed.

We cannot guarantee that you will actually read this guide and follow the information given. Even if you do read this guide and follow the information given we cannot guarantee that your aquarium will be a success. We also cannot guarantee that any livestock purchased will survive, that your corals will grow and that no accidents will happen.

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Introduction.

Firstly, congratulations on acquiring this guide. I am sure that this guide will alleviate any fears you may have about purchasing livestock online.

Marine fish keeping and marine reef keeping is a fantastic hobby to be involved in – one that is both challenging and rewarding. I hope that you find this guide useful and will assist you in making your purchases via the internet.

We decided to split this guide into two sections. The first one giving the required information so that you can confidently purchase online and the second section which details how to be safe when online.

We personally feel that it is a shame that we had to add the second section but nowadays on the internet as well as other places you need to be careful.

The second section details how to make your purchases online as safe and secure as possible as well as protecting both your identity and that of your personal computer.

Anyway on with the guide...

It was not long ago that the majority of marine saltwater purchases were made at fish shops which were local to the aquarist. Purchasing such items online was not even considered. People would not hesitate to purchase equipment online but purchasing livestock in that way was not really heard of. Recently however, this has all started to change and people all over the world are actively looking to purchase their livestock on the internet.

So why have people like you started to investigate going online for new purchases?

There are numerous reasons as to why both marine fish keepers and marine reef keepers are now starting to acquire livestock online:

1. The inability of local fish shops to be able to locate and purchase the rarer and more colourful varieties of livestock which are now available.
2. Lack of stock and variety at their local fish shop.
3. No local fish shop nearby.

4. Aqua cultured corals and captive bred fish
5. More choice of live rock
6. Cost
7. Convenience

There are of course many more reasons as to why people like yourself go online in order to purchase livestock for the aquarium.



One of the reasons which is heard of quite often is that there is simply more variety available online. Whilst the majority of local fish shops do have the ability to be able to get fish, corals etc in upon request this does depend upon whether their wholesalers holds and ships these items. Each fish shop does not use the same wholesaler or distributor and it is quite common nowadays for them to use multiple wholesalers so that they can introduce extra variety to their client base. When marine livestock arrive in a country they are sorted as soon as they arrive to go to the relevant fish shops etc who have ordered them – what's left is either available to the general public or remaining fish shops. Unfortunately this does lead to the smaller fish shop getting slimmer pickings.

I have actually been in a marine wholesalers when a shipment arrived – loads of boxes full of livestock. The lights were turned off and special red lighting was turned on so that the livestock would not get stressed. The boxes were carefully unpacked and checked. Once checked lots of bags full of fish, corals, invertebrates etc were simply re-boxed up, heat packs added and shipped out to the dealers. What was left was made available for dealers and on some occasions the general public can come and hand pick what remains. Don't get me wrong there was a lot of livestock

remaining (and some very nice ones to) but the prize picks had all gone. It was simply amazing how much came in and out again so quickly.

This guide is designed so that if you do decide to purchase items online (or mail-order) then you know what to expect from the seller and what your rights are. This guide also details what to look for when purchasing online, how to choose the right reseller and much more.

Note : Throughout this guide when livestock is mentioned this term relates to fish, corals, live rock and live sand unless specified differently.

Considerations.

There are of course things which need to be considered prior to purchasing livestock online.

What is your reason for purchasing online?

As discussed in the introduction to this guide there are various reasons people purchase online but you need to think to yourself about ***your*** reasons for doing so.

This is important because for example if the reason is cost then you may not be aware of the shipping costs which are involved for shipping animals. It could be that you are attempting to source a fish as you have not seen one at your local fish shop, however have you asked if they can obtain one for you?

One of the things which you really need to consider and one of the things I am very passionate about is to leave animals on the reef where they belong and to purchase captive bred fish and aquacultured corals. The variety available in both of these areas is very large and getting larger and larger all the time. If either aquacultured corals or captive bred fish are available them I highly recommend that you consider these items so that we can protect the reefs.

You can have a beautiful tank which is your own perfect little eco-system whilst protecting the very reefs all marine hobbyists are so passionate about.



Is your tank ready for the introduction of new animals?

Quite often people look to the internet to stock their tank, sometimes for the introduction of their first inhabitants. It is imperative that your tank has completed the biological cycle and that your parameters are stable.

If you are having a few problems with the stability of parameters at present – for example maybe your nitrate levels are a bit too high then I would not recommend purchasing any livestock until you have located the problem and resolved it. There should not be any ammonia or nitrite readings whatsoever.

The shipping of livestock is an exceptionally stressful time for them; this stress in turn can bring out diseases in fish, loss of colour in corals etc. With this in mind your tank needs to be of a mature status and have stable parameters (Suggested parameters are shown in the table below) All the aquascaping should be complete and the water flow, lighting etc should already be setup.

<i>Parameter</i>	<i>Fish Only</i>	<i>Reef</i>
<i>SG</i>	1.020 – 1.025	1.023 – 1.025
<i>Temperature</i>	72 – 78 F	72 – 78 F
<i>pH</i>	8.1 – 8.4	8.1 – 8.4
<i>Alkalinity</i>	8 – 12 dKH	8 – 12 dKH
<i>Ammonia</i>	Undetectable	Undetectable
<i>Nitrite</i>	Undetectable	Undetectable
<i>Nitrate</i>	< 30 ppm	< 10 ppm
<i>Phosphate</i>	< 1.0 ppm	< 0.3 ppm
<i>Calcium</i>	350 – 450 ppm	425 – 480 ppm
<i>Magnesium</i>	1150 – 1350 ppm	1250 – 1350 ppm
<i>Iodine</i>	0.06 ppm	0.06 ppm
<i>Strontium</i>	4 – 10 ppm	8 – 14 ppm

Is price an issue?

When you first look on the internet the prices shown may appear to be lower than the prices shown in your local fish shop, however don't forget that there will be shipping costs. It may be feasible to team together with other marine keepers to make a larger order if possible so that the shipping costs can be shared between all.

How will you introduce the livestock?

It is recommended that no matter where you purchase fish from that you use a quarantine tank.

Unfortunately less than 5% of marine fish/reef keepers actually utilise a quarantine tank. Did you know that every time a new inhabitant is introduced to your aquarium there is a risk of introducing diseases and parasites to the aquarium which could in turn affect the existing inhabitants of the tank? There is also the opposite side in the effect that the fish purchased has been under a considerable amount of stress due to shipping which will therefore make it susceptible to any diseases etc you may already have in your aquarium. This may sound a bit strange but you may have a small amount of parasites in your aquarium or a type of disease already which your current inhabitants have built up immunity to – any new purchase will not have this immunity.

Quarantine Tank Information

Basically a quarantine tank gives you the opportunity to protect the livestock in your display tank whilst also giving the new purchase time to recover from shipping and regain their health.

The main reason that the majority of fish keepers do not run a quarantine tank is down to the extra cost and maintenance involved. Don't forget though that a quarantine tank does not need to be large and it certainly does not need to be expensive. Quite often when people start to use a quarantine tank and see the benefits that it brings them they often wonder how they ever did without one.

As talked about above the prime purpose of a quarantine tank is to protect you existing inhabitants and give your new fish time to regain its health, however it also needs to become adjusted to the new water. The water quality in your tank will be different to that of the wholesalers/retailers.

Also don't forget that a quarantine tank does not need to be used purely as a quarantine tank – it can also be used as a treatment tank. Treating the entire display tank for a problem which is only affecting a few fish is not recommended. Using the quarantine tank as a treatment tank as well will allow you to treat the fish in their own area without damaging any other species in the display tank or impacting the water quality in the display tank in any way.

Another good use for them is to use them as an area to place fish which are being harassed or bullied in the main tank.

If you do decide to use a quarantine tank, which I recommend, then a small 20 odd gallons or so tank would suffice. It does not need to have anything fancy in it. Basic requirements are lighting, heater, an internal filter to provide the filtration and some rocks and/or plant life so that the fish can feel safe. A skimmer is not normally a definite requirement for a quarantine tank; however the addition of a small cheap one could be beneficial.

It is recommended that water changes are performed on a quarantine tank at frequent intervals to keep the water polished.

The majority of fish keepers who do use a quarantine system tend to keep their new purchases under quarantine for 2 – 4 weeks. During this time they can be treated for numerous diseases as required or just observed closely. Remember that if you do decide to dose the quarantine tank and also keep corals and/or invertebrates in your main display tank not to use a copper based treatment as this is deadly for corals and invertebrates.

Corals do not necessarily have to be placed in a quarantine tank, some aquarists do and I praise them for this. If you do not decide to utilise a quarantine tank for corals and decide instead to house them straight into your display tank make sure that you fully inspect the coral for any signs of disease and parasites. Also check the rock or whatever it is growing on for signs of problems for example bristle worms, bad crabs etc.



Live rock which is pre-cured obviously does not need to be homed in a quarantine tank and can be introduced into an existing or new aquarium. Bear in mind here that live rock is shipped damp, therefore some die off can be experienced which will cause a spike in ammonia – nitrite – nitrate, therefore it is imperative that you wait for the cycle to complete if the tank is new. If the tank is an existing setup then I recommend that you

only add small portions of live rock at a time to minimize any issues which you could experience.

Is there any risk with purchasing online?

When purchasing livestock online, as with purchasing anything there is a risk.

You do not have the ability to watch the fish in a tank swimming happily around interacting with its tank mates, observe it feeding etc – you only have a picture, probably a description and price to work on. You also do not have the ability to see the filtration room, holding tanks, cleanliness etc of the shop as you would in a local fish shop. Of course there may be pictures on the website but how do you know these are real or have just been really tidied up especially for the pictures?

When buying online there needs to be a level of trust – not just with buying fish but with buying anything. You are not talking one on one to someone – you are talking via a computer screen. Check the website for testimonials, read about the company in their ‘about us’ section, find out as much as you can about them. Check with internet marine forums for any information. If you are not completely happy yet to do business with them pick up the phone and have a chat with them.

Packaging and transportation are the biggest problems with purchasing online.

When you purchase a fish from your local fish shop it will probably be double bagged and either placed in a bag or a box for you to take home with you, however this is not possible with an online purchase. The packaging needs to be entirely different using similar methods to the way wholesalers use to transport the fish to the dealers.

Packaging of fish amongst online retailers does vary, however the norm is that the fish will be triple bagged or more using water of the recommended parameters. These bags will then be topped up with pure oxygen and properly sealed with a clip rather than being hand tied. This gives it an absolute air tight seal. The bag(s) are then placed into boxes (sometimes cooler based) which then have either heat packs or cool packs added dependant upon the weather to keep the temperature levels correct. These are then added to another box and padded up with polystyrene etc for safety. All the relevant transit stickers are then added ready for transit.

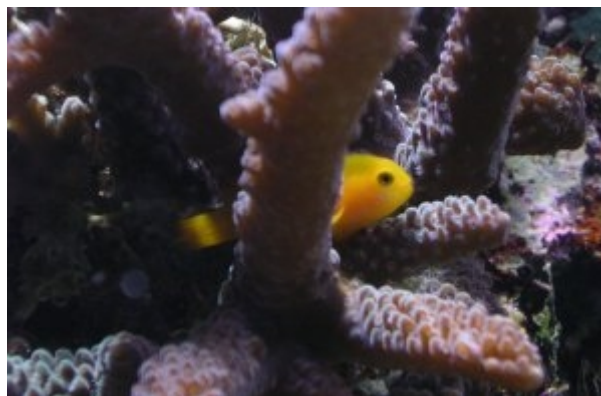
Corals are normally packaged in the same way, however there are lots of people nowadays who are packaging corals (especially aquacultured corals) in plastic bottles or jars. The coral is held in place with polystyrene so that the coral floats in the bottle and does not hit the sides.

Live rock is normally packaged wrapped in damp paper with a small amount of water in the box. This of course creates some die off in the live rock. When you open a box of live rock it really reminds you of being by the sea!

One of the biggest problems other than bad packaging is the actual transit of the package itself. You can have the best packaged item in the world but if it gets lost or delayed in transit then there is going to be trouble. You are in the hands of the retailer here as they choose the transportation firm; however the majority of retailers online will have used these transit firms for a long time and will have built trust with them. There will be times that something will go wrong – unfortunately this is inescapable.

What is the weather like?

Have a look at the weather forecast and see what the weather is going to be like. This is important as the weather in your area may be entirely different to the weather in the location of the retailer. If you are having a heat spell for example then you will need to contact the retailer and inform them of your weather so that they can package the livestock accordingly. Another good example is that the weather in the location of the retailer is -5C but in your location it is +22C. In this instance the retailer would either have to pack the box very carefully (not recommended), you would have to either choose another retailer or wait a while for the weather conditions to change.



Will someone be available to accept delivery?

When your new livestock is delivered you need to ensure that someone is available to accept the delivery and start the acclimatisation process. After the long transit time that the fish has endured the last thing you want to happen is for no-one to be in and the package is either taken away for re-delivery or left on your door step getting colder (or warmer). Always try to get a delivery time from either the retailer or the transit company and ensure that someone is available at your home.

What Can You Purchase Online.

There are numerous items which can be purchased online in relation to livestock

- Live Rock
- Live Sand
- Reef Grunge
- Wild Corals
- Aquacultured Corals
- Wild Fish
- Captive Bred Fish
- Clean Up Crews
- Plants
- Zooplankton
- Copepods
- Etc.

Let's go through these in a little more detail.

Live Rock

Live rock is a fantastic natural filtration method, a method which more and more reef keepers and fish keepers are using as the primary biological filtration method for their aquarium. There is also a great variety of live rock which can be purchased.

Live rock is normally old pieces of coral which have been knocked off from the reef face during thunder storms etc. These pieces then naturally get washed closer to shore where they become colonised by marine life – corals, sponges and millions upon millions of bacteria. This rock is then harvested and made available for the marine aquarist to purchase. The better ones to purchase in my opinion albeit more expensive is the live rock which has been manufactured. This is where rock (either man made or some other type of material) is placed back into the ocean and left. Months and months later if not years this same rock is removed from the ocean and made available for purchase.

I personally like to mix live rock and man made rock in my tanks. I put enough live rock into the system to cope with the biological filtration of the system and then either make my own live rock or use a product called reef bones. Details as to how to make your own live rock can be found at

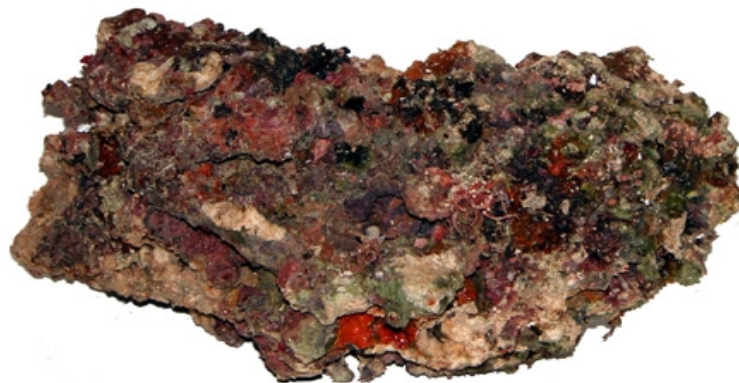
<http://www.garf.org>. I can highly recommend this website as both a great reference point and also a great place to get ideas from.

I also like to combine various filtration methods into my tanks as well as various aspects of nutrient removal; therefore in my aquariums I attempt to create diversity via filtration by having filtration methods like mud beds, cryptic zones, deep sand beds etc. This is of course not something we will be covering in this guide but it is something I hope that you are also interested in.

If this something you are interested in then [click here](#) to find out more

When looking to purchase live rock online you should attempt to check with the retailer how this rock is harvested. It should be harvested from the ocean floor and not directly from the reef face.

Live rock is sold by retailers both cured and un-cured. The curing process is performed whereby the live rock is added to a suitable container and covered in salt water, a heater, protein skimmer and water circulation is added. The curing process is normally completed in near darkness so that algae blooms do not occur. Regular water changes are performed and rock removed in between water changes so that they can be scrubbed to remove dead material. The water is continuously tested and once the ammonia readings are zero then the curing process is complete



The reason that a curing process is required is that when the rocks are harvested from the ocean there is an amount of die off from the marine plants and marine life which inhabited the rock – especially sponges which die as soon as they are removed from water. This is also the same when the rock is shipped to you – due to the reason that the rock is shipped damp there will be some more die off. Don't worry though the die off will not leave you with just some bare rock – this die off provides a very good space for other marine life to take hold and flourish on. Also

remember the reason as to why you are buying live rock in the first place – it is for its immense filtration capabilities – any life which survives and flourishes is a bonus and a nice bonus at that.

Most online and offline retailers primarily offer cured live rock for sale, however there are retailers around the world who also offer un-cured live rock.

Marine keepers are interested in un-cured live rock as you get more live rock for your money plus you can have more potential to get more variety of organisms on the rock – unfortunately in some instances bad as well as good. If you follow a proper curing process and are prepared to take the time then you will get a lot more rock than if you purchase cured.

If you decide to purchase un-cured live rock then you can either cure your live rock directly in the tank it is destined for or in some other type of container.

If you decide to purchase cured live rock then there will still be an aspect of curing to do once you receive it. As said above this is due to the die off that will occur when the live rock is transported to your home.

The die off on the rock will cause ammonia to be released into the aquarium. A lot of life does survive on the rocks though – the majority of the denitrifying bacteria will survive as they are inside all the nooks and crevices – some of the corals and invertebrates will survive as they will be in the nooks and crannies and will re-appear over time.

When you add the live rock to your aquarium when you are setting it up you must wait for all readings of ammonia and nitrite to be at zero before slowly stocking your tank.

If you are adding live rock to an existing aquarium where you have existing livestock you have two possibilities. The first one is to add it very slowly so that any die back will not affect the current inhabitants of your tank. The second is to place the rock into a secondary tank or container and not add it to your display tank until all traces of ammonia are gone.

One thing to note is that if you do decide to cure your own live rock then you must ensure that you maintain a high level of aeration and a proper temperature in the curing vat – failure to do so will mean that the

nitrifying bacteria will die which will reduce the effectiveness of the rock – probably the sole reason for the rocks purpose.

Live Sand

Live sand is sand which is collected directly from the ocean or is coral sand which has been cultured in order to make it 'live'. Basically live sand is full of beneficial bacteria and various other organisms that live in or upon it.

Live sand can be utilised as either a primary (with live rock) or secondary source of biological filtration in the home aquarium due to the bacteria. The organisms which live within the sand help to consume any organic matter which may exist in the sand bed.

Another benefit of live sand is that the organisms which inhabit the sand can also provide a valuable source of nutrition for the other inhabitants of your tank.

There are various different types of live sand currently available. This guide does not cover the different types of sand available.

Reef Grunge

Reef grunge is normally used to 'seed' a new sand bed or to give a new breath of life to an existing one.

Basically reef grunge is sold by retailers all over the world and actually given away by a lot of retailers as it helps them as much as it helps the marine keeper.

Grunge is taken from the bottom of the curing vats which retailers use and is sold on to hobbyists so that they can seed their sand beds. This is useful for sand beds as this grunge is absolutely packed with various organisms which live in or on the sand bed or have come from the live rock itself. This is of huge benefit to the sand bed as digging organisms are required in the sand bed to turn over the sand. Over time these organisms will reproduce and you will have countless numbers of organisms in your sand bed. If you are using a sand bed then this will help with the denitrifying capabilities.

When reef grunge is shipped it is normally shipped double/triple bagged in salt water filled with pure oxygen and sealed, however heat/cool packs

are not normally added to the packaging as any die off which is experienced is very quickly reproduced as soon as it is added to the sand bed.

If you do not wish to purchase reef grunge on line and are actively looking to seed your sand bed then you can always ask a fellow hobbyist if you can have a cupful of their sand bed or ask at your local fish shop. The majority of hobbyists and fish shops are more than willing to help out with this.

Wild Corals

Wild corals are sold by online retailers all over the world as well as home aquarists who are selling 'frags' they have taken and cultured and there are some exceptionally rare ones to be found on the internet.

Wild corals are farmed direct from the reefs and distributed to retailers.

Wild corals are the same corals therefore as can be found in local retailers. There are some retailers who only sell offline, some that sell both offline and online and there are some retailers who only sell online.

Aquacultured Corals

Aquacultured corals and frags are both something which I am exceptionally passionate about as I am a firm believer of leaving our reefs alone (You have probably gathered that by now!).

Aquacultured corals/frags are cuttings taken of a mother colony which are then attached to a suitable base and allowed to grow in its own time until it is of a suitable size for resale.

If you are looking to increase the stock in your aquarium or introduce something new or rare then I highly recommend that you investigate aquacultured or fragged corals. They are highly beneficial to you the marine reef keeper and the reefs around the world which we all love, admire and attempt to replicate.

Why not have a go at 'fragging' your own corals. It really is not that hard and you can sell your frags to your local fish shop / fellow aquarists or exchange for other corals. Again this is not something we will cover in this guide but is something that I am hoping to write about in the future.

Wild Fish

Wild fish as in wild corals are fish which are caught directly from the reefs. Purchasing a wild fish online is similar to purchasing a fish from your local fish shop.

The only differences with purchasing online is that you cannot physically watch the fish swimming around prior to purchase, check the packaging and the transportation of the fish.

Captive Bred Fish

Captive bred fish are again something which I am passionate about and I am so exceptionally pleased to see there are so many new captive bred fish available. The more captive bred fish that people around the world can successfully breed means the more fish which are left on the reefs.

As with aquacultured corals I again recommend that you check if any captive bred fish are available when looking to purchase fish online.

You never know you might have a successful breeding in your own system – if you do - let me know.

Clean Up Crews

Clean up crews are a requirement in any reef tank and are normally snails, hermit crabs etc.

A clean up crew is useful to keep the rock face clean (as well as the tank face). Keeping the rock face clean in a reef aquarium filtered by live rock is essential as it keeps all the little holes open allowing the water to enter. All the detritus which falls from the water column and lands on the live rock is also cleaned up.

As well as the rock face the sand in your tank (unless you run a bare bottom tank) is kept clean by filter cleaning crews.

The packaging of a clean up crew depends upon what you are ordering. There are various packaging techniques used around the world, however I am a firm believer that everything that comes from the ocean should be at least packaged in seawater. I have had a few occasions where snails and hermit crabs have been shipped to me in moist paper. I have also received snails and hermit crabs packaged in seawater. All of these animals in both

packaging solutions did survive, however as said I believe that they should have been delivered in seawater.

The likes of star fish and shrimps for example must be delivered in seawater and should never be exposed to the air.

As with the packaging of corals and fish, clean up crews should be packaged following the same techniques.

Plants

There are various types of marine plant life which is available on the internet.

If you have a fish only tank for example which has tangs in it then there is a requirement to feed them plant life. There are various types of plant life you can use which are not available online which are beneficial for your fishy inhabitants, however if you want to add some growing plant life to your aquarium there is a vast amount available.

Other uses for marine plant life are for example if you utilise a mud bed filtration system which can also use marine algae for the removal of nitrate from the water column. When creating a mud bed it is best to attempt to introduce as many varieties of plant life as you can source. If you only introduce one variety and it does not take hold and root you will have to start the planting process again which disturbs the mud bed. If you plant multiple varieties and a few do not take root then you will have some which have – plus different types of plant life remove different amounts of pollutants from the water.

There are of course people, like me, who like the look of marine algae and are looking for colourful varieties online to add to their tank.

Zooplankton, Phyto, Copepods etc

These are sold online either as pre-cultured and available for instant use or for people to culture their own stock. These are beneficial to your tank as they feed the corals and more in your tank and provide them with the nutrients which they require.

Dependant upon what you order will depend upon the packaging. There are some culture packs which can be dry shipped, however there are others which must remain frozen and therefore need to get from the

retailers to yourself in a short amount of time. As always – if in doubt give them a ring.

Choosing Where To Purchase From.

When you are ready and feel comfortable enough to purchase online the next thing you will need to do is locate an online retailer to purchase from.

This guide does not detail the best places online to purchase from, however it does detail what to look for in an online retailer.

Go online and locate as many sites as possible which sell online and deliver to your area. Once you have located these sites make a note of them. Visit each site in turn and find information about them:

- Pricing
- Shipping costs
- Availability
- What are the pictures/descriptions like
- About the company
- Testimonials
- Guarantee
- Does the site look professional
- Where does their livestock come from
- Packaging methods
- Transportation
- Is the site secure and verified

Let's go through each of these in turn and go a little bit deeper.

Price is something which is close to everyone's heart. Locate a product on the site which you know the price of already – either from a competitor's site or from your local fish shop. Check these prices to see if they are competitive. Checking the price of a damsel, clown fish etc will give you a very good idea as to their pricing strategy. If the price of an ocellaris clown for example is more expensive than your local fish shop then probably other livestock for sale will be more expensive as well.

Shipping costs are something which you have to pay close attention to online. Even though the prices online for livestock are normally cheaper than those of an offline fish shop shipping costs seriously have to be considered. You will not be able to compare the prices of shipping from the online retailer to your local fish shop for obvious reasons, however you can compare the shipping costs from one online retailer to another

online retailer. You will be surprised how different they can be. Don't always go for the cheapest one though – just because they are the cheapest does not mean they are the best. There could be a reason as to why they are so cheap.

Availability is something to be considered as you do not really want to purchase something online, pay for it only to find out that they are waiting for a delivery which is due in about 2 weeks time. There are times of course when you may need to consider this. If you are looking for a rare item then you may have to wait for it.



Check both the pictures and the descriptions of the livestock which is offered for sale. The retailer should give you a very good description of the livestock, (what it is, requirements, etc.). Some retailers utilise a generic picture of the livestock, personally I prefer to see a picture of the actual item for sale rather than a generic picture. This is quite often seen online in respect of corals but not often when it comes to fish, inverts etc. Live Rock, live sand, grunge etc will be just generic pictures, however with everything there should be a concise description with each and every product.

It is important to learn about the company, who they are, where they are based etc. Reputable online detailers should give you a lot of history about themselves, contact details etc. If they don't I personally am a bit wary as maybe they have something to hide. The about page is a page whereby they can build trust with the site visitor. There should always be a contact telephone number.

When purchasing online previous customer testimonials are very important. Hearing about someone else's experience with the company (whether good or bad) is a good read. (Note. The retailer should never ever edit any testimonials apart from spelling mistakes. Edited testimonials are very easy to spot as are made up ones.). If you are unable to locate any testimonials or references on the site consider phoning the company and ask for references. The retailer should do anything and everything they can to soothe the nervous buyer

Locate the guarantee area on the site and find what guarantee(s) they are offering. The minimum that you should accept is a "live on delivery" type of guarantee. The 'alive and stay alive' guarantees are obviously a lot better.

On the webpage have a good look around the site – it will become apparent very quickly if they are professionals or not. It will also become apparent about the care that they show for the animals. If they appear to want to hide something or are not openly disclosing something then this could be a potential risk. If and when you locate a professional dealer this will assist you as they will make a much better job of the selection, packing and delivery process.

Check the site and attempt to locate whereabouts the dealer obtains the livestock from. Not all dealers actively divulge this information directly on the internet, however if this is a requirement which you would like to know then give them a ring and ask them.

It is important to know how the dealer packages and transports the livestock to you. On their site have a look to see if you can find any information articles about this. The majority of dealers online divulge the exact methods they use to pack and the carrier which is used to transport the livestock. Again if this information is not clear on the site and it is important to you then why not give them a call and ask them?

As with any site which is on the internet you need to ensure that the payment processing (shopping cart) facility which they use is both secure and certified. Using a site which is both secure and certified ensures that your payment information is protected. If a site is not secure then your card details can be read by third parties and you are open to credit card fraud.

I am in the process of creating an area which will hopefully detail as many marine websites which sell livestock online as I can locate. I am

hoping for this to be based upon location first, then region then by what they stock, guarantee levels, contact information etc. Hopefully this will be complete by the time this guide is complete, however as I am sure you can appreciate this is a time consuming and never ending task.

I will keep you posted on the progress...

What To Expect From The Seller.

The first thing to expect from any online retailer is a professional looking site with as much detail as possible about who they are etc. Normally a site will have a page titled 'about us' or something similar. There should also be a page on their site which details how you can contact them. If the dealer does not want to divulge the information as to who they are, where they are and how to contact them then do you really want to do business with them?

Another thing to expect is that this is a business relationship and that they must be courteous, prompt and professional at all times. If you have a concern, question etc then they should respond in a timely manner.

You will probably be ordering an item from the company based upon a picture, a description or both. The dealer will pick the item from their display/holding tanks for shipping to you. They should never select an item which is not in perfect health. They should select the healthiest item that they have available and not one which has not been eating etc. The item they deliver should look like the item you have ordered. This may sound obvious but there are times when dealers do not have an item in stock so will therefore send an alternative.



With you potentially purchasing a live animal from this company then at the very least the retailer needs to and must offer some aspect of a guarantee.

Quite a few of the retailers online which offer livestock offer an 'arrive alive' guarantee, however many more nowadays are also offering an 'arrive alive and stay alive for 14 days' guarantee. Obviously the latter guarantee is better. Either way you are protected and if the item does not survive you will be able to get a credit/replacement.

If you decide to order from a company which does not offer a guarantee then all the risk is taken by yourself and if for whatever reason the livestock dies then you will not have the ability to reclaim any money spent.

I would not recommend utilising a retailer who does not offer a guarantee. Any retailer worth their salt should be proud of the work they do, their shipping techniques etc.

When You Receive Your Livestock.

Either at the time of the order or shortly after you should either be informed of or have agreed upon a date for delivery. You need to ensure that either you or someone you know is available at the property where the item is to be delivered to accept the delivery. If it is to be someone else that is accepting the delivery it is best if it is someone who is interested in or keeps a marine aquarium themselves so that they can start the acclimatisation process on your behalf.

Your item(s) should (dependant upon your purchase but fish in this example) be packed in a box and clearly marked as livestock or live animals. When you receive your package before you sign for it thoroughly check the box and check for damage.

Once you have accepted your delivery you will need to start acclimatising your new livestock as soon as possible. Naturally due to the time and money that you have invested on the creation of your own aquatic habitat you will want to do this properly.

The purpose of acclimatisation is simple; the water that the fish is packaged in may have different temperature, pH and salinity parameters than that of your aquarium. Aquatic life (especially corals and invertebrates) are very sensitive to minor changes in water parameters therefore a successful acclimatisation is a requirement for success.

There are 2 realistic ways which are recommended to acclimatise your fish to your aquarium. Neither of these should be rushed and should both be performed with the lights off on the aquarium. The lights should also remain off for a further 3 to 4 hours after the fish has been introduced to the quarantine tank or the main display tank whichever method you are using.

It is recommended that a quarantine tank be used – for further information on this see the quarantine section located under the ‘Things to consider prior to purchasing online’.

<i>Floating Bag Method</i>
Before you commence with this method ensure that the lights on your aquarium are turned off. Also ensure that the lights in the room where you

will be unpacking the fish are also turned down to a minimum. Bright lights will cause excessive stress to the fish.

After you have opened the package remove the bag and float the bag whilst it is still sealed in the aquarium for a minimum of 15 minutes. Do not open the bag at this stage. This allows the water in the bag to slowly adjust to the temperature of your aquarium. The reason for not opening the bag at this time is that the parameters of the seawater in the bag will probably be different or very different from the parameters of the aquarium.

Once a minimum of 15 minutes has passed open the bag as near to the top as possible and either attach this to the side of the aquarium or create an air pocket in the top of the bag so that the bag will float on top of the water.

Once the bag is open add half an egg cup of your aquarium water to the bag and wait 5 – 10 minutes.

After 5 – 10 minutes perform the process of adding half an egg cup of your aquarium water to the bag and wait another 5 – 10 minutes.

Continue with this process until the bag is full.

Once the bag is full remove the bag from the water and discard at least half of the water from the bag.

Re-float the bag in the water and perform the steps of adding half an egg cup of your aquarium water to the bag again until the bag is full (remember to wait 5 – 10 minutes between each water addition).

Once the bag is full capture the fish using a proper aquatic net and release into the aquarium.

Discard the water in the shipping bag – Never introduce the water from the shipping bag into your aquarium.

Leave the aquarium lights off for at least 2-4 hours after the introduction.

Drip Method

The drip method of acclimatisation is normally used for more sensitive inhabitants, however more and more fish keepers are now utilising this method.

Before you commence with this method ensure that the lights on your aquarium are turned off. Also ensure that the lights in the room where you will be unpacking the fish are also turned down to a minimum. Bright lights will cause excessive stress to the fish.

After you have opened the package remove the bag and float the bag whilst it is still sealed in the aquarium for a minimum of 15 minutes. Do not open the bag at this stage. This allows the water temperature in the bag to slowly adjust to that of your aquarium. The reason for not opening the bag at this time is that the parameters of the seawater in the bag will probably be different or very different from the parameters of the aquarium. Next move the bag from the aquarium and very carefully empty the contents of the bag into a marine safe bucket or equivalent (Do not use too big an item). Ensure that the fish is fully submerged .

You will need to use some airline so that you can setup a drip line from your main aquarium to the bucket.

In your aquarium secure the airline tubing so that it cannot fall out. On the other end (the end which is in the bucket) add an airline control valve (this will allow you to regulate the flow of water).

With the tubing in your aquarium submerged and the other end in the bucket start the syphon by gently sucking on the airline tube. This will start the syphon and water will start to pass from your main aquarium to the bucket. As soon as water begins to flow adjust the valve so that you are getting between 2 to 5 drops per second.

Now wait until the water in the bucket doubles the initial amount, pause the syphon using the control valve, discard half of the water from the bucket and start the syphon again using the control valve.

Wait until the water doubles again and then stop or break the syphon. You are now ready to introduce your fish to the aquarium.

Capture the fish using a proper aquatic net and release into the aquarium.

Discard the water from the bucket – Never introduce the water from the bucket into your aquarium.

Leave the aquarium lights off for at least 2-4 hours after the introduction.

Remember that it is imperative to be patient – the acclimatisation period should take around one hour.

Even if your new arrival appears to be dead still follow this procedure. Even though a fish may look dead on arrival there is a chance that it might not be. Some fish enter a death like pose when under stress but quickly revive during the acclimatisation period.



Never ever be tempted to add an air stone to the bag during the acclimatisation process. Although you feel this may make sense all this will do is increase the pH levels of the water and possibly expose your new fish to lethal levels of ammonia.

Fish Introduction Techniques

The introduction of new fish into your aquarium is exceptionally important – not only for the health of your new fish but also for the existing fish in your system as well.

Ensure that all fish in your aquarium are compatible with each other *PRIOR* to purchase.

- In your aquarium attempt to create as many hiding places

as possible for both your new arrival and existing livestock. This will reduce aggression and stress levels in your aquarium

- Maintaining excellent water conditions at all times in a marine aquarium is a must, however this is more so when a new fish has been introduced.
- When introducing fish attempt if possible to introduce more than one at a time. This will reduce the chances of any one individual being targeted by your existing fish.
- Reduce any aggression in your aquarium by feeding the existing inhabitants prior to the introduction of any new fish.
- Try to distract existing fish by re-arranging the decorations, plant life etc. This will also change any territories which have been defined. Any new fish added at this time will be in the same situation as the existing fish as new territories will be defined by all fish in the tank both new and existing.
- If you are unable to introduce more than one fish into the tank at one go then place a small mirror on the outside of the tank with the mirror surface facing inwards. The reflections of current and new fish will reduce chances of aggression.

Corals, clean up crew and plants obviously do not need to be added to a quarantine tank – they may be added straight to the display tank, that is of course unless you wish to do so, however it is recommended that you closely inspect each one including the item the coral is attached to prior to introducing them to your display tank.

Live rock is normally shipped damp wrapped in paper inside a cardboard box. Cured live rock can be added straight to any tank, it is quite normal for a small spike to occur upon introduction. Un-Cured live rock will require curing and is normally used to cycle a tank and should not be added to a tank which already contains livestock. If you are adding live rock to an existing tank do not put in too much in one go, add it slowly to minimise any spike which may occur.

What If Something Goes Wrong.

If something goes wrong and either an animal arrives dead or dies shortly after introduction you will need to contact the retailer as soon as possible and follow their guarantee guidelines. Some retailers offer an instant credit to your account or replace the animal. Others require a sample of your water to be sent prior to refund so that they can validate the parameters of your aquarium water.

As long as you have done your research on the retailer prior to purchase you should be ok in this area.

Protecting Your Computer's System

Today, more and more people are using their computers for everything from communication to online banking and investing to shopping.

As we do these things on a more regular basis, we open ourselves up to potential hackers, attackers and crackers. While some may be looking to phish your personal information and identity for resale, others simply just want to use your computer as a platform from which to attack other unknowing targets.

Below are a few easy, cost-effective steps you can take to make your computer more secure to begin with:

1. Always make backups of important information and store in a safe place separate from your computer.
2. Update and patch your operating system, web browser and software frequently. If you have a Windows operating system, start by going to www.windowsupdate.microsoft.com and running the update wizard. This program will help you find the latest patches for your Windows computer. Also go to www.officeupdate.microsoft.com and locate possible patches for your Office programs.
3. Install a firewall. Without a good firewall, viruses, worms, Trojans, malware and adware can all easily access your computer from the Internet. Consideration should be given to the benefits and differences between hardware and software based firewall programs.
4. Review your browser and email settings for optimum security. Why should you do this? Active-X and JavaScript are often used by hackers to plant malicious programs into your computers. While cookies are relatively harmless in terms of security concerns, they do still track your movements on the Internet to build a profile of you. At a minimum set your security setting for the "Internet zone" to High, and your "trusted sites zone" to Medium Low.
5. Install anti-virus software and set for automatic updates so that you receive the most current versions.

6. Do not open unknown email attachments. It is simply not enough that you may recognize the address from which it originates because many viruses can spread from a familiar address.
7. Do not run programs from unknown origins. Also, do not send these types of programs to friends and coworkers because they contain funny or amusing stories or jokes. They may contain a Trojan horse waiting to infect a computer.
8. Disable hidden filename extensions. By default, the Windows operating system is set to “hide file extensions for known file types”. Disable this option so that file extensions display in Windows. Some file extensions will, by default, continue to remain hidden, but you are more likely to see any unusual file extensions that do not belong.
9. Turn off your computer and disconnect from the network when not using the computer. A hacker cannot attack your computer when you are disconnected from the network or the computer is off.
10. Consider making a boot disk on a floppy disk in case your computer is damaged or compromised by a malicious program. Obviously, you need to take this step before you experience a hostile breach of your system.

Fighting Spam

How prevalent is Spam? According to Scott McAdams, OMA Public Affairs and Communications Department (www.oma.org):

“Studies show unsolicited or “junk” e-mail, known as spam, accounts for roughly half of all e-mail messages received. Although once regarded as little more than a nuisance, the prevalence of spam has increased to the point where many users have begun to express a general lack of confidence in the effectiveness of e-mail transmissions, and increased concern over the spread of computer viruses via unsolicited messages.”

In 2003, President Bush signed the “Can Spam” bill, in December of 2003 which is the first national standards around bulk unsolicited commercial e-mail. The bill, approved by the Senate by a vote of 97 to 0, prohibits senders of unsolicited commercial e-mail from using false return addresses to disguise their identity (spoofing) and the use of dictionaries to generate such mailers.

In addition, it prohibits the use of misleading subject lines and requires that emails include and opt-out mechanism. The legislation also prohibits senders from harvesting addresses off Web sites.

Violations constitute a misdemeanor crime subject to up to one year in jail.

One major point that needs to be discussed about this: spam is now coming from other countries in ever-greater numbers. These emails are harder to fight, because they come from outside our country’s laws and regulations. Because the Internet opens borders and thinks globally, these laws are fine and good, but do not stop the problem.

So what do you do about this?

Here are the top 5 rules to do to protect from spam:

Number 1: Do what you can to avoid having your email address out on the net.

There are products called “spam spiders” that search the Internet for email addresses to send email to. If you are interested, do a search on “spam spider” and you will be amazed at what you get

back. Interestingly, there is a site, WebPoison.org, which is an open source project geared to fight Internet "spambots" and "spam spiders", by giving them bogus HTML web pages, which contain bogus email addresses.

A couple of suggestions for you:

- A) Use form emails, which can hide addresses or also
- B) Use addresses like sales@company.com instead of your full address to help battle the problem.
- C) There are also programs that encode your email, like jsGuard, which encodes your email address on web pages so that while spam spiders find it difficult or impossible to read your email address.

Number 2: Get a spam blocking software.

There are many programs out there for this. (Go to www.cloudmark.com or www.mailwasher.net for example). You may also buy a professional version. Whatever you do, get the software. It will save you time. The software is not foolproof, but they really do help. You usually have to do some manual set up to block certain types of email.

Number 3: Use the multiple email address approach.

There are a lot of free email addresses to be had. If you must subscribe to newsletters, then have a "back-up" email address. It would be like giving your cell phone number to your best friends and your business number to everyone else.

Number 4: Attachments from people you don't know are BAD, BAD, BAD.

A common problem with spam is that they have attachments and attachments can have viruses. Corporations often have filters that don't let such things pass to you. Personal email is far more "open country" for spammers. General rule of thumb: if you do not know who is sending you something, DO NOT OPEN THE ATTACHMENT. Secondly, look for services that offer filtering. Firewall vendors offer this type of service as well.

Number 5: Email services now have "bulk-mail" baskets.

If what you use currently does not support this, think about moving to a new vender. The concept is simple. If you know someone, they can send you emails. If you don't know them, put them in the bulk email pile and then "choose" to allow them into your circle. Spam Blocking software has this concept as well, but having extra layers seems critical these days, so it is worth looking into.

Spyware & Adware

Spyware and Adware are not only an ever-increasing nuisance for computer users everywhere, but also a booming industry.

According to Webroot Software, Inc., the distribution of online advertisements through spyware and adware has become a whopping **\$2 billion** industry.

The aggressive advertising and spying tactics demonstrated by some of these programs, require an equally aggressive response from a seasoned eradicator. Sunbelt Software is such a company. A leader in Anti-Spyware, Anti-Spam, Network Security and System Management tools, they have consistently remained on the cutting-edge of anti-spyware programming since 1994.

So you might be asking:

“Why do I feel as if somebody’s watching me?”

According to the National Cyber Security Alliance, spyware infects more than 90% of all PCs today. These unobtrusive, malicious programs are designed to silently bypass firewalls and anti-virus software without the user’s knowledge.

Once embedded in a computer, it can wreak havoc on the system’s performance while gathering your personal information. Fortunately, unlike viruses and worms, spyware programs do not usually self-replicate.

Where Does It Come From?

Typically, spyware originates in three ways. The first and most common way is when the user installs it. In this scenario, spyware is embedded, attached, or bundled with a freeware or shareware program without the user’s knowledge. The user downloads the program to their computer.

Once downloaded, the spyware program goes to work collecting data for the spyware author’s personal use or to sell to a third-party. Beware of many P2P file-sharing programs. They are notorious for downloads that possess spyware programs.

The user of a downloadable program should pay extra attention to the accompanying licensing agreement. Often the software publisher will warn the user that a spyware program will be installed along with the requested program.

Unfortunately, we do not always take the time to read the fine print.

Some agreements may provide special “opt-out” boxes that the user can click to stop the spyware from being included in the download. Be sure to review the document before signing off on the download.

Another way that spyware can access your computer is by tricking you into manipulating the security features designed to prevent any unwanted installations. The Internet Explorer Web browser was designed not to allow websites to start any unwanted downloads. That is why the user has to initiate a download by clicking on a link. These links can prove deceptive.

For example: a pop-up modeled after a standard Windows dialog box, may appear on your screen. The message may ask you if you would like to optimize your Internet access. It provides yes or no answer buttons, but, no matter which button you push, a download containing the spyware program will commence. Newer versions of Internet Explorer are now making this spyware pathway a little more difficult.

Finally, some spyware applications infect a system by attacking security holes in the Web browser or other software. When the user navigates a webpage controlled by a spyware author, the page contains code designed to attack the browser, and force the installation of the spyware program.

What Can Spyware Programs Do?

Spyware programs can accomplish a multitude of malicious tasks. Some of their deeds are simply annoying for the user; others can become downright aggressive in nature.

Spyware can:

- Monitor your keystrokes for reporting purposes.
- Scan files located on your hard drive.
- Snoop through applications on our desktop.
- Install other spyware programs into your computer.
- Read your cookies.

- Steal credit card numbers, passwords, and other personal information.
- Change the default settings on your home page web browser.
- Mutate into a second generation of spyware thus making it more difficult to eradicate.
- Cause your computer to run slower.
- Deliver annoying pop up advertisements.
- Add advertising links to web pages for which the author does not get paid. Instead, payment is directed to the spyware programmer that changed the original affiliate's settings.
- Provide the user with no uninstall option and places itself in unexpected or hidden places within your computer making it difficult to remove.

Examples of Spyware

Here are a few examples of commonly seen spyware programs:

(Please note that while researchers will often give names to spyware programs, they may not match the names the spyware-writers use.)

CoolWebSearch, a group of programs, that install through “holes” found in Internet Explorer. These programs direct traffic to advertisements on Web sites including coolwebsearch.com. This spyware nuisance displays pop-up ads, rewrites search engine results, and alters the computer host file to direct the Domain Name System (DNS) to lookup preselected sites.

Internet Optimizer (a/k/a DyFuCa), likes to redirect Internet Explorer error pages to advertisements. When the user follows the broken link or enters an erroneous URL, a page of advertisements pop up.

180 Solutions reports extensive information to advertisers about the Web sites which you visit. It also alters HTTP requests for affiliate advertisements linked from a Web site. Therefore the 180 Solutions Company makes an unearned profit off of the click through advertisements they've altered.

HuntBar (a/k/a WinTools) or Adware.Websearch, is distributed by Traffic Syndicate and is installed by ActiveX drive-by

downloading at affiliate websites or by advertisements displayed by other spyware programs. It's a prime example of how spyware can install more spyware. These programs will add toolbars to Internet Explorer, track Web browsing behavior, and display advertisements.

How Can I Prevent or Combat Spyware?

There are a couple things you can do to prevent spyware from infecting your computer system. First, invest in a reliable commercial anti-spyware program. There are several currently on the market including stand alone software packages such as Lavasoft's Ad-Aware or Windows Antispyware. Other options provide the anti-spyware software as part of an anti-virus package.

This type of option is offered by companies such as Sophos, Symantec, and McAfee. Anti-spyware programs can combat spyware by providing real-time protection, scanning, and removal of any found spyware software. As with most programs, update your anti virus software frequently.

As discussed, the Internet Explorer (IE) is often a contributor to the spyware problem because spyware programs like to attach themselves to its functionality. Spyware enjoys penetrating the IE's weaknesses.

Because of this, many users have switched to non-IE browsers. However, if you prefer to stick with Internet Explorer, be sure to update the security patches regularly, and only download programs from reputable sources. This will help reduce your chances of a spyware infiltration.

And, When All Else Fails?

Noticed I said "when" and not "if"? As spyware is growing in destruction and it covers easily more than 90% of the computers (that's you and me, 9 in 10!), **the only solution you may have is backing up your data, and performing a complete reinstall of the operating system!**

Phishing & Identity Theft

Who hasn't received an email directing them to visit a familiar website where they are being asked to update their personal information? The website needs you to verify or update your passwords, credit card numbers, social security number, or even your bank account number. You recognize the business name as one that you've conducted business with in the past.

So, you click on the convenient "take me there" link and proceed to provide all the information they have requested. Unfortunately, you find out much later that the website is bogus. It was created with the sole intent to steal your personal information.

You have just been "phished".

Phishing (pronounced as "fishing") is defined as the act of sending an email to a recipient falsely claiming to have an established, legitimate business. **The intent of the phisher is to scam the recipient into surrendering their private information, and ultimately steal your identity.**

It is not as easy as you think to spot an email phishing for information. At first glance, the email may look like it is from a legitimate company. The "From" field of the e-mail may have the .com address of the company mentioned in the e-mail. The clickable link even appears to take you to the company's website, when in fact, it is a fake website built to replicate the legitimate site.

Many of these people are professional criminals. They have spent a lot of time in creating emails that look authentic. Users need to review all emails requesting personal information carefully. When reviewing your email remember that the "From Field" can be easily changed by the sender. While it may look like it is coming from a .com you do business with, looks can be deceiving.

Also keep in mind that the phisher will go all out in trying to make their email look as legitimate as possible. They will even copy logos or images from the official site to use in their emails. Finally, they like to include a clickable link that the recipient can follow to conveniently update their information.

A great way to check the legitimacy of the link is to point at the link with your mouse. Then, look in the bottom left hand screen of your computer.

The actual website address to which you are being directed will show up for you to view. It is a very quick and easy way to check if you are being directed to a legitimate site.

Follow the golden rule: never, ever, click the links within the text of the e-mail, and always delete the e-mail immediately. Once you have deleted the e-mail, empty the trash box in your e-mail accounts as well. If you are truly concerned that you are missing an important notice regarding one of your accounts, then type the full URL address of the website into your browser. At least then you can be confident that you are, in fact, being directed to the true and legitimate website.

The Advancement of the Keyloggers

A keylogger is a program that runs in your computer's background secretly recording all your keystrokes. Once your keystrokes are logged, they are hidden away for later retrieval by the attacker. The attacker then carefully reviews the information in hopes of finding passwords or other information that would prove useful to them.

For example, a keylogger can easily obtain confidential emails and reveal them to any interested outside party willing to pay for the information.

Keyloggers can be either software or hardware based.

Software-based keyloggers are easy to distribute and infect, but at the same time are more easily detectable.

Hardware-based keyloggers are more complex and harder to detect. For all that you know, your keyboard could have a keylogger chip attached and anything being typed is recorded into a flash memory sitting inside your keyboard. Keyloggers have become one of the most powerful applications used for gathering information in a world where encrypted traffic is becoming more and more common.

As keyloggers become more advanced, the ability to detect them becomes more difficult. They can violate a user's privacy for months, or even years, without being noticed. During that time frame, a keylogger can collect a lot of information about the user it is monitoring. A keylogger can potentially obtain not only passwords and log-in names, but credit card numbers, bank account details, contacts, interests, web browsing habits, and much more. All this collected information can be used to steal user's personal documents, money, or even their identity.

A keylogger might be as simple as an .exe and a .dll that is placed in a computer and activated upon boot up via an entry in the registry. Or, the more sophisticated keyloggers, such as the Perfect Keylogger or ProBot Activity Monitor have developed a full line of nasty abilities including:

- Undetectable in the process list and invisible in operation
- A kernel keylogger driver that captures keystrokes even when the user is logged off
- A remote deployment wizard
- The ability to create text snapshots of active applications
- The ability to capture http post data (including log-ins/passwords)
- The ability to timestamp record workstation usage
- HTML and text log file export
- Automatic e-mail log file delivery

All keyloggers are NOT used for illegal purposes. A variety of other uses have surfaced. Keyloggers have been used to monitor web sites visited as a means of parental control over children. They have been actively used to prevent child pornography and avoid children coming in contact with dangerous elements on the web.

What are Intrusion Detection Systems?

Intrusion Detection System (IDS) are a necessary part of any strategy for enterprise security. What are Intrusion Detection systems? CERIAS, The Center for Education and Research in Information Assurance and Security, defines it this way:

"The purpose of an intrusion detection system (or IDS) is to detect unauthorized access or misuse of a computer system. Intrusion detection systems are kind of like burglar alarms for computers. They sound alarms and sometimes even take corrective action when an intruder or abuser is detected.

Many different intrusion detection systems have been developed but the detection schemes generally fall into one of two categories, anomaly detection or misuse detection.

Anomaly detectors look for behavior that deviates from normal system use. Misuse detectors look for behavior that matches a known attack

scenario. A great deal of time and effort has been invested in intrusion detection, and this list provides links to many sites that discuss some of these efforts"

(http://www.cerias.purdue.edu/about/history/coast_resources/intrusion_detection/)

There is a sub-category of intrusion detection systems called network intrusion detection systems (NIDS). These systems monitors packets on the network wire and looks for suspicious activity. Network intrusion detection systems can monitor many computers at a time over a network, while other intrusion detection systems may monitor only one.

Who is Breaking Into Your System?

One common misconception of software hackers is that it is usually people outside your network who break into your systems and cause mayhem. The reality, especially for corporate workers, is that insiders can and usually do cause the majority of security breaches. Insiders often impersonate people with more privileges then themselves to gain access to sensitive information.

How Do Intruders Break into Your System?

The simplest and easiest way to break in is to let someone have physical access to a system. Despite the best of efforts, it is often impossible to stop someone once they have physical access to a machine.

Also, if someone has an account on a system already, at a low permission level, another way to break in is to use tricks of the trade to be granted higher-level privileges through holes in your system. Finally, there are many ways to gain access to systems even if one is working remotely. Remote intrusion techniques have become harder and more complex to fight.

How Does One Stop Intrusions?

There are several Freeware/shareware Intrusion Detection Systems as well as commercial intrusion detection systems.

Open Source Intrusion Detection Systems

Below are a few of the open source intrusion detection systems:

AIDE (<http://sourceforge.net/projects/aide>) - Self-described as "AIDE (Advanced Intrusion Detection Environment) is a free replacement for Tripwire. It does the same things as the semi-free Tripwire and more. There are other free replacements available so why build a new one? All the other replacements do not achieve the level of Tripwire. And I wanted a program that would exceed the limitations of Tripwire."

File System Saint (<http://sourceforge.net/projects/fss>) - Self-described as, "File System Saint is a lightweight host-based intrusion detection system with primary focus on speed and ease of use."

Snort (www.snort.org) - Self-described as "Snort® is an open source network intrusion prevention and detection system utilizing a rule-driven language, which combines the benefits of signature, protocol and anomaly based inspection methods. With millions of downloads to date, Snort is the most widely deployed intrusion detection and prevention technology worldwide and has become the de facto standard for the industry."

Commercial Intrusion Detection Systems

If you are looking for Commercial Intrusion Detection Systems, here are a few of these as well:

Tripwire

<http://www.tripwire.com>

Touch Technology Inc (POLYCENTER Security Intrusion Detector)

<http://www.ttinet.com>

Internet Security Systems (Real Secure Server Sensor)

<http://www.iss.net>

eEye Digital Security (SecureIIS Web Server Protection)

<http://www.eeye.com>

Surfing the Web Anonymously – Questions to Ask

When you surf the web it is possible to learn information about you even when you don't want to advertise who you are. This is true even if your system contains no virus or malware software.

Specifically information that is easily available online includes your IP address, your country (and often more location information based on IP address), what computer system you are on, what browser you use, your browser history, and other information. It gets worse.

People can get your computer's name and even find out your name if your machine supports programs like finger or identd. Also, cookies can track your habits as you move from machine to machine.

How do people get this basic information about you?

When you visit another web site, information about you can be retrieved. Basically, information is intercepted and used by others to track your Internet activities.

How do you stop this from happening?

First of all, it is possible to surf the web anonymously and thereby stop leaving a trail for others to find. Note that this is not fool-proof, but it makes it much harder for people to know who you are. There are products called anonymous proxy servers that help protect you. The anonymous proxy server replaces your Internet address for its own. This has the effect of hiding your IP address and making it much harder for people to track you.

How do I get an anonymous proxy server?

There are many vendors who sell anonymous proxy servers. There are also free proxy servers available to you. Two such products are ShadowSurf and Guardster. Guardster (<http://www.guardster.com/>) offers various services for anonymous and secure access to the web, some paid as well as a free service. ShadowSurf (<http://www.shadowsurf.com/>) ShadowSurf provides anonymous surfing at their site for free. Go to it and you will find a box to enter a URL that you want no one to track. There are many others, but here are two that are frequently used.

Another interesting product, given the recent news about the Google search engine filtering its findings for the Chinese government, is Anonymizer (<http://www.anonymizer.com>). This company, among others, recently (Feb 1st, 2006) pressed that it "is developing a new anti-censorship solution that will enable Chinese citizens to safely access the entire Internet filter-free"

(http://www.anonymizer.com/consumer/media/press_releases/02012006.html).

Does an anonymous proxy server make you 100% safe?

No. Still, you are much better off if you use such technology.

What other things should I be concerned about when trying to keep my private information private?

Three other items come to mind when trying to keep your information private. First, you can use an encrypted connection to hide your surfing. This article does not go into detail on this, but search the web and you will find a lot of information on this. Secondly, delete cookies after each session. Third, you can configure your browser to remove JavaScript, Java, and active content. This actually leads to limitations, so you need to think about the cost/benefit of this course of action.

Computer Viruses... And Anti-Viruses

Every day new computer viruses are created to annoy us and to wreck havoc on our computer systems. Below are ten viruses currently cited as being the most prevalent in terms of being seen the most or in their ability to potentially cause damage.

New viruses are created daily. This is by no means an all inclusive list. The best thing you can do is to remain vigilant, keep your anti-virus software updated, and stay aware of the current computer virus threats.

Virus: Trojan.Lodear

A Trojan horse that attempts to download remote files. It will inject a .dll file into the EXPLORER.EXE process causing system instability.

Virus: W32.Beagle.CO@mm

A mass-mailing worm that lowers security settings. It can delete security-related registry sub keys and may block access to security-related websites.

Virus: Backdoor.Zagaban

A Trojan horse that allows the compromised computer to be used as a covert proxy and which may degrade network performance.

Virus: W32/Netsky-P

A mass-mailing worm which spreads by emailing itself to addresses produced from files on the local drives.

Virus: W32/Mytob-GH

A mass-mailing worm and IRC backdoor Trojan for the Windows platform. Messages sent by this worm will have the subject chosen randomly from a list including titles such as: Notice of account limitation, Email Account Suspension, Security measures, Members Support, Important Notification.

Virus: W32/Mytob-EX

A mass-mailing worm and IRC backdoor Trojan similar in nature to W32-Mytob-GH. W32/Mytob-EX runs continuously in the background, providing a backdoor server which allows a remote intruder to gain access and control over the computer via IRC channels. This virus spreads by sending itself to email attachments harvested from your email addresses.

Virus: W32/Mytob-AS, Mytob-BE, Mytob-C, and Mytob-ER
This family of worm variations possesses similar characteristics in terms of what they can do. They are mass-mailing worms with backdoor functionality that can be controlled through the Internet Relay Chat (IRC) network. Additionally, they can spread through email and through various operating system vulnerabilities such as the LSASS (MS04-011).

Virus: Zafi-D

A mass mailing worm and a peer-to-peer worm which copies itself to the Windows system folder with the filename Norton Update.exe. It can then create a number of files in the Windows system folder with filenames consisting of 8 random characters and a DLL extension. W32/Zafi-D copies itself to folders with names containing share, upload, or music as ICQ 2005a new!.exe or winamp 5.7 new!.exe. W32/Zafi-D will also display a fake error message box with the caption "CRC: 04F6Bh" and the text "Error in packed file!".

Virus: W32/Netsky-D

A mass-mailing worm with IRC backdoor functionality which can also infect computers vulnerable to the LSASS (MS04-011) exploit.

Virus: W32/Zafi-B

A peer-to-peer (P2P) and email worm that will copy itself to the Windows system folder as a randomly named EXE file. This worm will test for the presence of an Internet connection by attempting to connect to Google or Microsoft. A bilingual, worm with an attached Hungarian political text message box which translates to "We demand that the government accommodates the homeless, tightens up the penal code and VOTES FOR THE DEATH PENALTY to cut down the increasing crime. Jun. 2004, Pécs (SNAF Team)"

Trojan Horse – Greek Myth or Computer Nemesis?

We have all heard the term Trojan Horse, but what exactly is it? A Trojan Horse is a destructive program that masquerades as a harmless application. Unlike viruses, Trojan horses do not replicate themselves, but they can be just as destructive. One of the most dangerous examples of a Trojan is a program that promises to rid your computer of viruses but instead introduces viruses into your computer.

The Trojan can be tricky. Who hasn't been online and had an advertisement pop up claiming to be able to rid your computer of some nasty virus? Or, even more frightening, you receive an email that claims to be alerting you to a new virus that can threaten your computer. The sender promises to quickly eradicate, or protect, your computer from viruses if you simply download their "free", attached software into your computer. You may be skeptical but the software looks legitimate and the company sounds reputable. You proceed to take them up on their offer and download the software. In doing so, you have just potentially exposed yourself to a massive headache and your computer to a laundry list of ailments.

When a Trojan is activated, numerous things can happen. Some Trojans are more annoying than malicious. Some of the less annoying Trojans may choose to change your desktop settings or add silly desktop icons. The more serious Trojans can erase or overwrite data on your computer, corrupt files, spread other malware such as viruses, spy on the user of a computer and secretly report data like browsing habits to other people, log keystrokes to steal information such as passwords and credit card numbers, phish for bank account details (which can be used for criminal activities), and even install a backdoor into your computer system so that they can come and go as they please.

To increase your odds of not encountering a Trojan, follow these guidelines:

Remain diligent.

Trojans can infect your computer through rogue websites, instant messaging, and emails with attachments. Do not download anything into your computer unless you are 100 percent sure of its sender or source.

Ensure that your operating system is always up-to-date. If you are running a Microsoft Windows operating system, this is essential.

Install reliable anti-virus software. It is also important that you download any updates frequently to catch all new Trojan Horses, viruses, and worms. Be sure that the anti-virus program that you choose can also scan e-mails and files downloaded through the Internet.

Consider installing a firewall.

A firewall is a system that prevents unauthorized use and access to your computer. A firewall is not going to eliminate your computer virus problems, but when used in conjunction with regular operating system updates and reliable anti-virus software, it can provide additional security and protection for your computer.

Nothing can guarantee the security of your computer 100 percent. However, you can continue to improve your computer's security and decrease the possibility of infection by consistently following these guidelines.

Who are the Players in the Anti-virus Industry?

Everyone in the United States has heard of the leading anti-virus vendors Symantec, McAfee, Computer Associates, and Trend Micro. These companies have market-leading presence in the United States.

Microsoft, as well, has plans to become a key player in this market. Microsoft acquired intellectual property and technology from GeCad software in 2003, a company based in Bucharest, Romania. They also acquired Pelican Software, which had a behavior based security as well as Giant Company Software for spyware and Sybari Software, which manages virus, spam, and phishing filtering.

A lot of discussion has centered on whether Microsoft will come to own a dominant position in the anti-virus market by simply bundling its technologies with its operating systems at no charge. This is a similar technique applied in other markets such as word processing and Internet browsers.

Of course there are a number of anti-virus vendors who also play in this market. There are many companies with great market presence in other countries that are beginning to become more widely known. These vendors include GriSoft out of the Czech Republic, Sophos in the United Kingdom, Panda Software out of Spain, Kaspersky in Russia, SoftWin in Romania, F-Secure in Finland, Norman in Norway, Arcabit in Poland, VirusBuster out of Hungary, and AhnLab in South Korea.

It is not clear where the industry is heading and everyone in this market faces a rapidly changing landscape. The amount of effort to find and provide fixes for viruses is staggering. Malicious programs are getting

more complex and the number of them is increasing. Many companies may find themselves without the resources to match the efforts of those truly bent on creating havoc.

Some virus companies are getting off hundreds of new samples a day! Moreover, the new viruses are getting "smarter" in that they propagate themselves quickly and they often hide themselves and are smart enough to move around in a system by renaming themselves in an effort to make it hard to remove them.

Protection You Can Afford

All in all, there are numerous ways you can lose the information on your computer. Your child decides to play Chopin on your keyboard, a power surge, lightening, a virus, or even simple equipment failure. Therefore, backing up the contents of your hard drive is an absolute MUST. By regularly making backup copies of your files and storing them in a separate location, you can typically get some, if not all, of your information back in the event your computer crashes.

While a regular backup to floppy, CD, or zip drive will save your files, wouldn't it be great if you could create an exact copy (a drive image) of your hard disk? That means backups of all your files, programs, and user settings. This would definitely save you time when it came to reloading. Acronis may be able to help.

Acronis True Image 9.0 is a robust disk-imaging utility software that copies the entire contents of your hard drive including data and operating system files, personalized settings, and more, onto another disk or disk partition. Its layout is easy to use and navigate. It also includes wizards which can walk you through both backing up and restoring your computer. Highlighted features include:

Secure Zone — allows you to save data to a special hidden partition located on your hard drive which would eliminate the need to purchase an extra hard drive.

PC Cloning — you can upgrade to a new system disk without needing to reinstall the operating system and applications, or configure user settings.

Acronis Snap Restore – lightening-speed restore of your PC from an image. You can start working in seconds while your system is still being restored. Acronis provides a free test-drive of its product and a 30-day money back guarantee. When you are ready to purchase, you can either download for \$49.99, or if you so desire, order a boxed version for \$59.99. With Acronis True Image Home 9.0, you can rest easy that your family pictures, personal documents, tax returns, resumes, and other important information will not be lost forever.

Final Words And Acknowledgements

I hope that you have enjoyed this guide, I certainly enjoyed writing it. Hopefully this guide will shed some insight into purchasing marine livestock online and remove or reduce any worries or concerns you may have.

I have purchased various items on the internet over the years and have had both good experiences and bad experiences. I can honestly say that none of the bad ones has put me off purchasing items online or via mail order. This is an area which is getting better with time. As stated the main problem is with the transportation of the livestock, however that said dealers are starting to get stricter with the people whom they entrust to deliver the items and the transportation companies are listening.


Purchasing online does not have to be a bad experience. In fact as long as you protect yourself then it can be a very convenient method to purchasing things online. In fact it can help you to purchase things which otherwise you would not have been able to purchase in your local area.

Simply put when on the internet when you are shopping – use your common sense.

Put it another way would you give your credit card to a stranger on the street – no of course you wouldn't.

Hopefully this short guide will provide with the information you need so that you can be both safe and secure on the internet and expand the diversity of life in your aquarium.

With warmest regards,



John Cunningham



Peter Cunningham

[Aquarists Online](#)
[The Salt Water Aquarium](#)

Resources

The Aquarists Guide To Starting A Saltwater Fish Aquarium



This guide is for aquarists who are interested in keeping a fish only aquarium.

There are some fish which cannot be kept with corals and/or invertebrates. Also in some instances there are aquarists who only want to keep fish - any why not - they are all beautiful.

This guide details everything that you need to know so that you can start your very own fish only saltwater aquarium. From the equipment you need, how it all works, what filtration methods there are available and how to put it all together - everything you need all in one handy guide. As with the reef aquarium guide every aspect is covered so that you can make up your own mind as to what is best for you and your fish. We appreciate that everyone's requirements are different which is why we have attempted to cover as many as possible.

[Click Here For Further Information](#)

The Aquarists Guide To Starting A Saltwater Reef Aquarium



This guide was created for potential aquarists who are hoping to keep their very own saltwater mixed reef aquarium.

It is not surprising that so many people are interested in keeping a reef tank. With all the amazing corals that can now be kept in captivity. From soft corals which sway beautifully in the currents, hard corals with the fantastic structures and colours and reef fish going about their daily business on their 'home reef' - a true pleasure to behold.

This guide details everything you need to know about various aspects of reef keeping all the way through to a step-by-step guide as to how to

start up. We are firm believers that there are numerous ways to perform anything when it comes to salt water aquariums, therefore we have included as much information as we possibly can so that you can learn everything you need and then make up your own mind as to what is best for both you and your aquarium inhabitants.

[Click Here For Further Information](#)

The Aquarists Guide To Marine Aquarium Care And Maintenance



Starting a saltwater aquarium is only the beginning of this hobby. Once you have got started and have researched everything you need to know then you are going to have to start caring for and maintaining your aquarium.

This is an aspect of this hobby which must not be neglected.

With the correct care and maintenance performed on your aquarium then with time your aquarium will grow into a thing of beauty which will be the centerpiece of your home.

This guide details all the aspects which you will need to cover when it comes to this essential aspect of this hobby. This guide has been written in such a way so that you will be able to learn exactly what you need to perform and why you need to do it.

[Click Here For Further Information](#)

Filtration Methods For Use Within The Home Marine Aquarium



At the very heart of each and every aquarium is the filtration system. This filtration system has to be both efficient and effective, if not then the aquarium is destined for failure.

In any aquarium system but especially a saltwater aquarium system there are many ways to perform the required filtration.

It is for this very reason that we compiled this guide. This guide includes information as to numerous ways in which you can filter your aquarium. Not just the primary filtration but also methods of other filtration which you can apply to your aquarium system so that you have numerous ways to export nutrients from your aquarium.

This guide covers some basic filtration methods but also covers some more advanced methods. This guide is written in such a way that aquarists of any level can understand and implement the filtration method(s) of their choice.

[Click Here For Further Information](#)

Reef Keeping Basics By Eric V. Van Der Hope



This is a guide which gets into the mindsets of 14 separate yet very successful aquarists.

Each of these aquarists was interviewed by the author with some very good questions.

Each of these aquarists have various different approaches to the various aspects of reef keeping. It shows you how no two setups are exactly alike but they achieve the same end result - a thriving miniature reef in a home aquarium.

There is a bucket full of information in this guide. A completely different approach has been taken by the author – and it works. Practically all of the questions which you have been asking yourself are answered plus there are some fantastic photographs.

If this book does not give you the inspiration you need then probably nothing will!

[Click Here For Further Information](#)