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Power outages and your aquarium

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People in South Florida are familiar with power outages. The power losses bring some inconvenience, but for aquarium owners who may have a sizable investment in tropical fish, such an occurrence represents an emergency. Every aquarium owner needs to have a plan and a few necessary pieces of equipment available to deal with the "lights out" occurrence.

First, understand the difference between a localized outage and a general outage. The localized power outage occurs when a fish tank's main power source is disrupted, either because the power cord becomes unplugged or because a fuse has blown or a circuit breaker has tripped. Make sure all the plugs for the aquarium are securely fastened and protected from traffic and children's hands.

A tripped circuit breaker can be fixed easily, but above all it's necessary to identify the source of the problem. For example, a cracked heater or frozen pump motor may be the source. A simple plug-in alarm device that sounds off when power is interrupted is worth the cost in preventing accidental, localized power losses. If you have a big reef system, it's a good idea to have two or

more electrical circuits to the tank and may be necessary to operate the lights, the UV sterilizer, chiller, etc. When you spread out your pumps, heaters and air stones over these circuits, you can eliminate a disaster if one of the circuit breakers trips when you are not home.

The generalized power outage is often a result of a downed power line or damaged transformer. Most of these outages are short-term but sometimes they can last for days. It's critical to have a plan on what to do in case of such a power failure. First, when setting up the tank and before adding any fish, simulate a power outage. If you turn off all the power for several minutes, you can check your plumbing to make sure you do not have any water siphoning back that could drain your tank. When you start up the tank again, make sure that the pumps and other equipment will function properly. If equipment malfunctions, this is the time to make changes, before adding the fish.

Power outages of less than an hour will probably not affect your tank significantly; the oxygen levels or temperatures should not change significantly. How you deal with long-term outages depends on the size of the tank, the room temperature, and how densely the

tank is stocked. If you have a large or expensive tank with a sensitive fish population, invest in a portable generator. Have the generator wired into the circuit so that it goes on when the power goes out.

When the power goes out, the oxygen level in the tank begins to decrease. Factors that speed up the decrease include a heavy fish load, rising temperature, heavy plant load, feeding the fish, and an increase in fish activity. Try moving some of the fish to a lightly stocked tank. Plants contribute oxygen to a tank when under direct lighting. When darkness occurs, the plants begin using oxygen and releasing carbon dioxide. Covering the tank to decrease the light is a good idea for a fish-only tank but it is more detrimental in a freshwater planted tank.

Fish can go days without eating, so avoid feeding them during a power outage because it will increase their activity level, which increases the bacterial activity that brings a faster loss of oxygen.

Consider having a battery-operated pump/air stone or two on hand. Although it will not replace your current air stone and pump, it will add some oxygen back into the water.

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