

What is a wet/dry trickle filter supposed to accomplish??

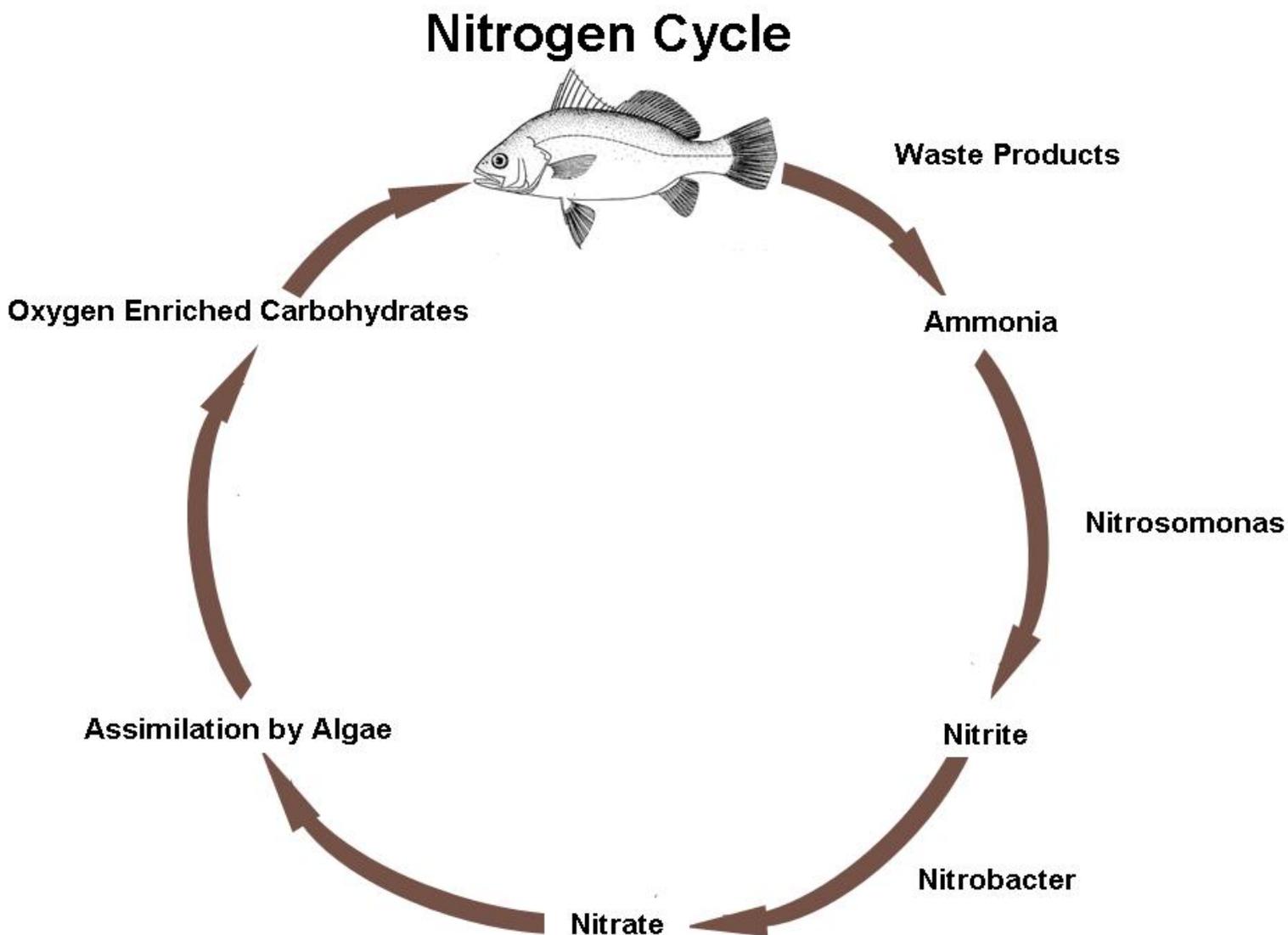
Aqua-Link ADP Wet dry/Refugium design completes the Nitrogen Cycle in the proper order.

Simplified

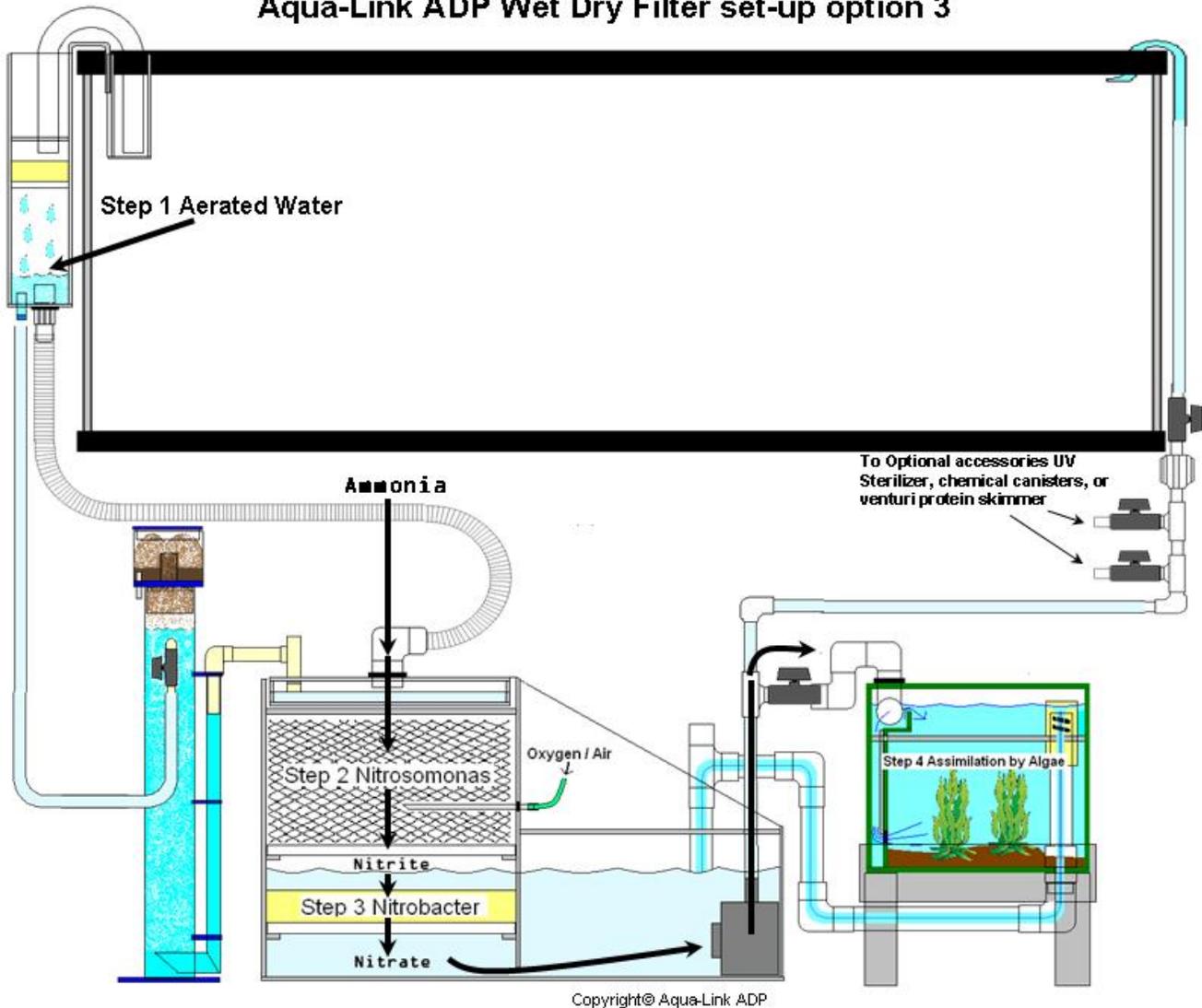
1. Aquarium inhabitants produce waste products that create Ammonia. (Toxic to inhabitants). This ammonia (Protein) being lighter than water, is skimmed from the water surface where it concentrates and floats.
2. A wet dry filter provides a large surface of area of primary bio-media which is elevated and super oxygenated. This cultivates a sufficient amount of Nitrosomonas bacteria that convert ammonia to Nitrite. (Also toxic to inhabitants)
3. The use of a secondary bio-media being submersed and deprived of oxygen, promotes growth of Nitrobacterium which converts harmful Nitrite to (nontoxic) Nitrate.
4. Water is then directed through a refugium component promoting condensed plant growth where nitrate is assimilated by algae, removing Co2, and then producing oxygen and carbohydrates being returned to be consumed by aquarium inhabitants, completing the basic Nitrogen cycle.

**Review the following 2 diagrams below to see how Aqua-link brand is designed to complete all these important steps *in the proper order* which they naturally occur.

**Also review the notes under the diagrams on the supplemental roll that a protein skimmer plays in the nitrogen cycle



Aqua-Link ADP Wet Dry Filter set-up option 3



The supplemental roll a Protein Skimmer plays in the Nitrogen cycle.

Many types of decay and the introduction of additional life are some of the many factors that will continually cause intermittent ammonia spikes in the contained environment of an aquarium. These fluctuations destabilize water quality increasing toxicity and stressing the inhabitants, in turn lowering their immunity making them sick. Aqua-Link ADP pioneered protein skimmers in mid 1980's. Being designed to work in conjunction with a wet/dry bio filter (between steps 1 & 2 above) by stripping **excessive** protein spikes as they occur until the bacteria colony in the wet/dry filter grows to meet the demand of the new bio load.