

IRASSS “AirDuck” WATER AERATORS

General Information and Guidelines

The level of oxygen dissolved in a water body relates similarly to the level of oxygen in the air at different altitudes.

Example:

DO (Dissolved Oxygen) at sea level up to 3000m = 9.0 - 6.01mg/L

DO at 3000 - 4500m = 6.0 - 4.6mg/L

DO at 4500 - 5500m = 4.5 - 3.6mg/L

DO at 5500 - 7000m = 3.5 - 2.01mg/L

DO at 7000m and above = 0 - 2mg/L

Our experience has shown, that DO relates directly and very strongly to the ambient health and ability of a given water-body to survive adverse conditions and climatic challenges.

A few facts:

1: A DO level of 9mg/L is not the maximum DO achievable. This we believe is due to old DO meters having been calibrated in an aerated container. Modern units calibrated with air containing 20.9% oxygen (sea level oxygen) give readings >26 mg/L.

2: With implementation of our AirDuck units, we aim to achieve a minimum DO of 10mg/L but generally the units run at levels around 14mg/L and above.

3: The most effective form of aeration is bottom to surface due the fact that it places oxygen directly where it is needed most, in the silt layer.

4: This convective aeration process causes the water to de-stratify, causing a reduction of surface water temperature and thus evaporation.

5: Surface temperatures of all water bodies with the AirDuck aerator system in operation will never exceed 26 Deg C. This is proven to be the case in all water bodies treated with Air Ducks even in the torrid tropics of Singapore, Indonesia, Malaysia and the hot deserts of Australia and the Middle East.

6: Effective aeration will treat about 70% (from 0.5m - 3m deep) and 85% (to >3m depth) of all quality related problems in water-bodies.

7: An increased level of DO will not eliminate all algae problems, but will reduce them significantly. It will however, eliminate the main problems resulting from algal blooms such as fish death and foul odors etc, which relate directly to lack of oxygen.

8: Often the theory is that you need to control the environment to keep the system (water-bodies) healthy this is not the case, we found in all cases with good aeration, the system adapts to the environment.