

Smart Landscaping

Reducing Nutrient Runoff *by Ed Rosenthal, CEO of Florikan ESA*



Our ecological system is unique in the world and one of our great treasures, and this ecological system not only contributes to our environmental health but also to its economic health. It also serves as the habitat for diverse species of aquatic, avian, and mammalian life. If our ecological system is endangered as a result of adverse changes in water quality and in part by the quantity, distribution, and the timing of flows of nutrients into the Bay, we must adjust our behaviors to curb such long term destructive activities.

On a global basis, correlations have been demonstrated between total phosphorus inputs and harmful algal blooms (HAB) in freshwaters and between total nitrogen input and HAB in estuarine and marine waters. HAB produces a nerve toxin which kills marine life. The victims include bottlenose dolphins, sea turtles, manatees,

pelicans, and myriad other fish species. Tourism and the associated hotel, restaurant, fishing, and boating industries are also being impacted negatively. If the massive fish kills continue, they could cripple our local economy.

A contributing factor leading to the escalation of HAB in our bay and estuaries could be nutrient runoff. A solution is to reduce the input of nutrients and be proper stewards of our natural resources. This starts with all of us. The first step is awareness and education. Always read an MSDS sheet or fertilizer label before pesticides or fertilizers are applied to your lawn or garden (by yourself or your lawn service contractor).

Reducing nutrient runoff begins with **common sense use of nutrients**. Take soil tests before applying nutrients – how else can you know what you need? Soil tests are simple and inexpensive. A good source for tests is www.al-labs.com. Second, **use low P (Phosphate) fertilizers** on all established turf and ornamentals. Only newly planted sod and seedlings need Phosphate for root development.

Third, **apply fertilizer only once or twice per year**. Use controlled, timed-release fertilizer. Controlled-release fertilizers are available at mass merchandisers in nine-month (Florida longevity!) blends. Grass and plants generally do not grow as much in the winter and don't need much fertility. Fourth, **apply fertilizers in the early spring** – do not apply during the summer rainy season. And fifth, **use a 10- to 15-foot border between turf and water bodies**.

Why are these steps so important? First, they just make good sense. But in a published research article by Dr. Pat Glibert of the University of Maryland entitled "Escalating worldwide use of urea – a global change contributing to coastal eutrophication," it is cited that "Although urea (nitrogen) is commonly assumed to be retained in soils, there is growing evidence of urea transport to sensitive coastal waters.

There is also mounting evidence that urea differentially stimulates the growth of some types of phytoplankton in coastal waters and that it may, under some conditions, promote a shift in phytoplankton species to organisms that are more noxious to the ecosystem and to human health."

In Florida, researchers continue to evaluate whether or not there is a relationship, which can be proven scientifically, that nutrients exacerbate HAB in Florida coastal waters. Scientists do appear to agree overall that there is an increase in frequency and size of HAB in Florida waters and that the blooms appear to be worse near the shore. There has been discussion that the Florida HAB research will include the use of urea sensors and will strive to develop a Strategic Response Strategy. Work will be done to find a way to inhibit the growth of red tide, such as with bleach, ozone, copper sulfate, biological control, enhanced grazing, and physical barriers.

And what about prevention? As an economically viable, short-term alternative to try to mitigate red tide, reducing nutrient pollution near shore is certainly valid. Despite the controversy in scientific circles, we can certainly learn from actions taken around the world that it is not too late for reversing environmental damage. Many regions have witnessed reductions in HAB incidence when nutrient controls were put in place.

A homeowner can have a green lawn but not at the expense of damaging our irreplaceable environment. Reducing nutrient runoff is a "precautionary" principle. Protection of our natural resources can no longer be an optional extra – it is a pressing concern that must be addressed. Our future well-being requires wiser stewardship of our natural resources. One of the most basic actions is to reduce nutrient runoff.

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