

A LIMNOLOGICAL YARDSTICK BASED ON PHOSPHORUS LIMITATION

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A new tool called a Limnological Yardstick was developed using long-term (15 to 35 years) lake chemistry data from 396 lakes collected by volunteers of the Florida LAKEWATCH program. The Yardstick can assist managers of aquatic systems with identifying where there is a great probability that phosphorus is not only the limiting nutrient, but the limiting environmental factor. When a lake's phosphorus-chlorophyll data lie below the Yardstick's lower 95% confidence interval, phosphorus may be the limiting nutrient but not the limiting environmental factor, indicating where phosphorus control strategies will most likely fail. The Limnological Yardstick cannot directly identify the limiting environmental factor(s) as this requires a thorough limnological study of the lake because each lake is an individual. Limiting environmental factors discussed are nitrogen, true color (Pt-Co units), non-algal suspended solids, flushing rate and aquatic macrophytes. The potential impacts of the limiting environmental factors on the classification of lake trophic states and eutrophication are also discussed.

PRESENTER BIO: Mark is the Director of Florida LAKEWATCH. Mark has worked at the University of Florida for 40 years participating in many teaching, research and extension projects examining relations among nutrients, aquatic plants, fish and wildlife in streams, lakes and estuaries throughout Florida.