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The trophic condition of Lake Tana was conducted from 2017 to 2018. Eleven sites were chosen in total, nine on the shores and mouths of important rivers and the other two on the open water of Lake Tana during both the dry and wet seasons. Water transparency was measured using a Secchi disk and the total phosphorus was measured by the molybdate reactive phosphate method. A UV spectrophotometer was used to measure the absorbance of extracted pigment at wave lengths of 665 and 750 nm. Talling and Driver's (1963) formula was used to calculate chlorophyll a (Chl-a). The mean values for total phosphorus (mg L-1), Secchi depth (cm) and chlorophyll-a (Chl-a) were 0.48, 51.5, and 9.92 µg L^{-1}, respectively. The trophic state of Lake Tana was estimated, and the trophic state index value of total phosphorus (TSI_{TP}) was 93.38 which implies that the lake was hypereutrophic. Trophic state index values of Secchi depth (TSI_{SD}) and Chl-a (TSI_{chl-a}) were 50.42 and 53.1, respectively implying that the lake is strongly mesotrophic. The Carlson Trophic State Index (TSI_C) was estimated by the average of trophic state index values of Secchi depth (TSI_{SD}), total phosphorus (TSI_{TP}) and Chl-a (TSI_{chl-a}). Thus, according to these three trophic state parameters (TSI_C) Lake Tana was a hypereutrophic lake. This may indicate the existence of high nutrient load entering into the lake from the catchment. As a result, concerned bodies must safeguard and reduce nutrient loads before they have a negative impact on aquatic ecology.

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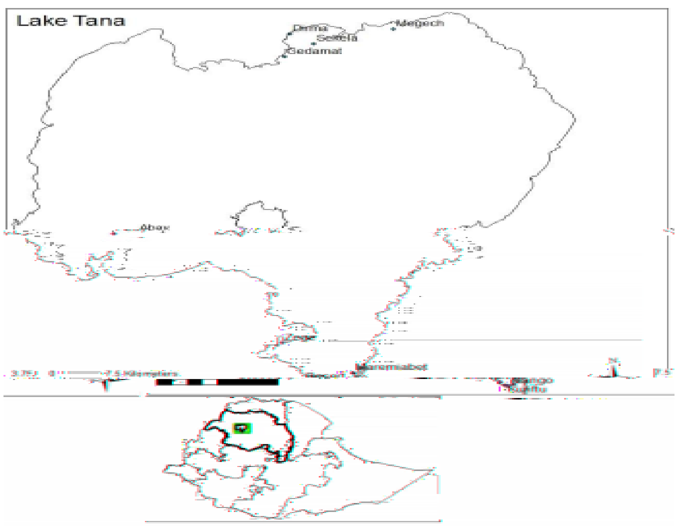
Cyperus papyrus *Echinochloa stagnina* *(Phragmites karka*

Azolla *Typha latifolia* *Nymphaea* *Ceratophylum*
Ceratophylum *(*

ɱfft q



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B q x x m m

$$\text{Chl} - \text{a}\left({}^{\mu g}/_{L}\right) = \frac{13.9(E665 - E750)Ve}{VfXZ}$$

Z = Path length of cuvette (cm)

q m

$$\text{TSI}_C = \frac{\text{TSI}_{TP} + \text{TSI}_{SD} + \text{TSI}_{Chl}}{3}$$

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m x

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q	q tt	q m	(	tt m	q	q B	fft q x

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B M V F M

MB

Background information for interpreting water quality monitoring results

Standard methods for the examination of water and Waste water

Dynamics of the Major Phytoplankton and Zooplankton Communities and Its Role in the Food Web of Lake Tana, Ethiopia.

Aquatic Ecology, 41:195-207

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