

CHAPTER 9

PRODUCTION, BIOMASS AND PRODUCTIVITY OF COPEPODS AND CLADOCERANS IN TROPICAL ASIAN WATER BODIES AND THE CARRYING CAPACITY FOR ZOOPLANKTIVOROUS FISH

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Abstract

Zooplankton production (P), biomass (B) and productivity (P/B) was estimated in three tropical Asian reservoirs and a crater lake (Lake Taal, Philippines). Two reservoirs were located in Sri Lanka (Minneriya, Udawalawe) and one in Thailand (Ubolratana). Mean zooplankton production per day was lowest for Minneriya and Udawalawe (50-90 mg dry wt m⁻² d⁻¹), intermediate for Ubolratana (ca. 100-230 mg dry wt m⁻² d⁻¹), and highest for Lake Taal (ca. 1300 mg dry wt m⁻² d⁻¹). The high zooplankton production in Lake Taal can be explained by its eutrophic state in combination with its deep mixing layer, with zooplankton present down to 80 m depth. On the basis of the total zooplankton production we estimated for each water body the carrying capacity for zooplanktivorous fish. Carrying capacity for zooplanktivorous fish production was ca. 750 kg fresh wt ha⁻¹ year⁻¹ for Minneriya and Udawalawe reservoirs, ca. 1600 kg fresh wt ha⁻¹ year⁻¹ for Ubolratana reservoir and ca. 12000 kg fresh wt ha⁻¹ year⁻¹ for Lake Taal. Although fish food

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