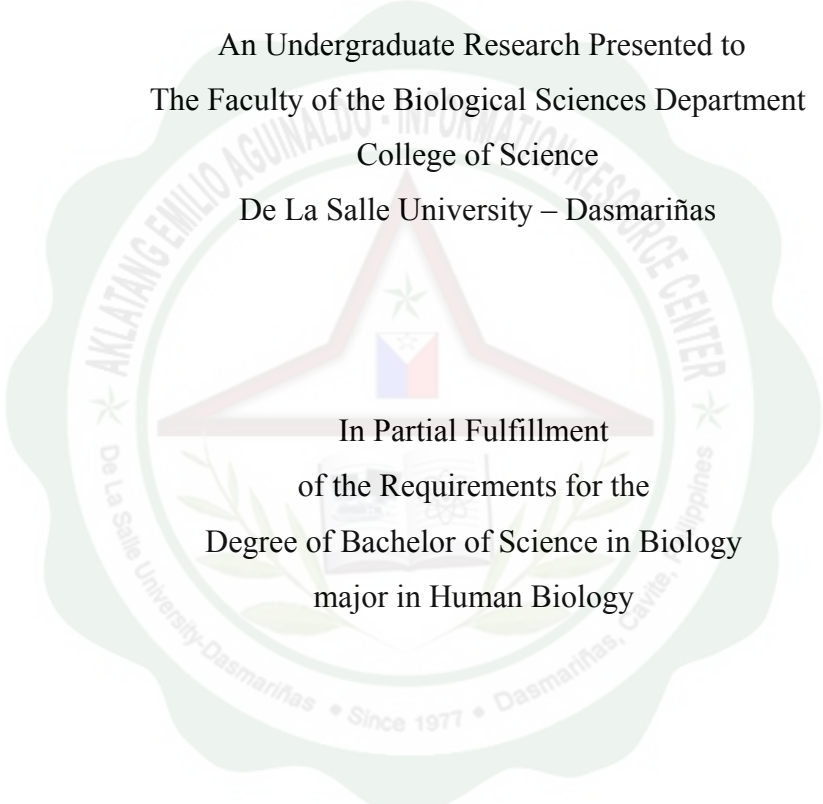**ABUNDANCE OF ZOOPLANKTON AND ITS CORRELATION WITH THE PHYSICO- CHEMICAL CHARACTERISTICS OF IMUS RIVER**

An Undergraduate Research Presented to

The Faculty of the Biological Sciences Department

College of Science

De La Salle University – Dasmariñas

In Partial Fulfillment

of the Requirements for the

Degree of Bachelor of Science in Biology

major in Human Biology

MARC WILMER ESGUERRA

IAN LORDEO GUTIERREZ

MARCH 2009

ABSTRACT

Imus River, which transverses in the municipality of Imus, is one of the most important water systems in Cavite because of its ecological and economic uses. In an effort to assess the river's ecological status, zooplankton collection and measurement of selected physico-chemical characteristics were performed. Twenty two species of zooplankton were recovered which belong to 4 phyla, 3 classes, 7 Orders, and 11 families. *Cyclops bicuspidatus thomasii, Brachionus plicatilis* and *Limnoncaea genuina* were found to be the most abundant species during the dry and wet season. *Cyclops bicuspidatus thomasii* which is a member of Class Crustacea and Order Copepoda has an importance value of 27.67 and 26.27 during the dry and wet season, respectively. It is followed by *Brachionus plicatilis* which belongs to Class Rotifera and has an importance value of 25.00 and 25.64 during the dry and wet season. Last is *Limnoncaea genuina* which belongs also to Class Crustacea and Order Copepoda has an importance value of 20.87 and 21.37 during the dry and wet season. The three least abundant species are *Evadne spinifera, Paracalanus parvus,* and *Favella ehrenbergii*. *Evadne spinifera* is the least abundant species with an IV of 7.57 during the dry season and 6.16 during the wet season. *Paracalanus parvus* is the second least abundant with an IV of 7.52 during the dry season and 7.15 during the wet season. The third least abundant is the *Favella ehrenbergii* with an IV of 8.03 during the dry season and 7.70 during the wet season. The abundance of these said species are influenced by the physical and chemical conditions of the river, their life cycle and morphological characteristics. The environment of the water is a great factor for the survival of the species. Based on the DENR Standards of 2008 and the result of the measurement of the physico-chemical characteristics, Imus River is classified under Class C waters. The river is used in fishery, recreation and agricultural purposes. A correlation between the abundance of zooplankton and the physico-chemical characteristics showed varying degrees of correlation. In the dry season, DO, pH and salinity showed a positive correlation while temperature, light attenuation, nitrates and phosphates showed a negative correlation. In the wet season, salinity, nitrate, phosphate and hardness showed a positive correlation while temperature, light attenuation, DO and pH showed negative correlation.