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Abstract

The study analyzed the monthly variation in physiochemical parameters of Ebonyi river system. The objectives of the study were to analyze the monthly physiochemical properties of Ebonyi river system and to make necessary UHFRPPHQGDWLRQV IRU WKH JHQHUDO LPSURYHPHQW RI ¿VK PDQDJHPHQW LQ WKH FDUULHG RXW LQ HDFK ZDWHU ERG\ 7KH ¿VKHV ZHUH FDXJKW LGHQWL¿HG FRXQ to species. The species for chemical and histological analysis were taken immediately after weighing to the laboratory. &RQFHQWUDWLRQ RI PHWDOV ZHUH VWXGLHG LQ ¿VK EORRG OLYHU DQG LQ WKH since high concentrations of metals do not imply that the metal have a toxic effect (-). Toxicity of metals is mostly DVVRFLDWHG ZLWK YLWDO SK\VLRORJLFDO IXQFWLRQV VXFK DV HQ]\PH DFWLYLW and changes in tissue structures.

Keywords: Ebonyi; Oxygen; Aquatic animals; Pesticides; Mining e uents

Introduction

Fresh water is a nite resource, essential for agriculture, industry and even for human survival. Without fresh water of adequate quality and quantity sustainable development will not be possible. Because of this reason, governments of most countries see an imperative need to become involved in its over-all management. Yet in many developing countries, water resources are not being managed e ciently and in a manner that will sustain the natural qualities.

It was observed that in 2011, the monthly variation in water temperature showed that Mkpuma River consistently had higher water temperature except in April and December when higher water temperatures were recorded in Enyigba and Pond water, respectively. e water temperature in 2012 was still higher in Mkpume River in all months of sampling except in December, January and February; when higher water temperature were noted in pond water and Enyigba river (Figure 1). e pH of all study area at di erent months in 2011 was relatively the same except in May, June and July when pH of Mkpuma River was noticeably higher than those of other study areas. In 2012, in most months higher pH values were recorded in Enyigba River and Ameka Dam (Figure 2). Dissolved oxygen concentration was higher in Mkpuma river compared to those of other study areas in months of March, April, May and June in 2011. However, from July to November, higher dissolved oxygen concentrations were obtained from pond water, Enyigba river, Ameka Dam or Ebonyi river. en towards the end of the study in 2011, higher dissolved oxygen was seen in Mkpuma River. In 2012, dissolved oxygen concentration was more in Ameka dam followed by Enyigba River from March to August. Very high dissolved oxygen concentrations were recorded in Ebonyi River in November and December (Figure 3). In March and April 2011, the CO_2 concentrations of other study areas were higher than that of Mkpuma River but from May to February excluding November, higher CO_2 readings were recorded in Mkpuma River. In 2012, Mkpuma

Figure 1: Monthly variation in water temperature in study areas.

Figure 2: Monthly variation in pH in study areas.

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