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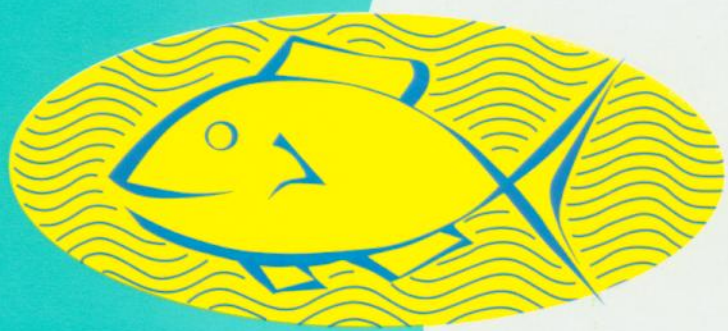

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PREFACE

Indonesian Fisheries Research Journal Volume 20 Number 1 June 2014 is the first publication of English journal of the Research Center for Fisheries Management and Conservation in 2014. The journal is expected to be a source of newest science and technology for all scientists and researchers in Indonesia and other countries. The financial for publication is provided by the Research Center for Fisheries Management and Conservation budget in the fiscal year of 2014.

This volume contains: Food composition and niche characteristic of giant featherback (*Chitala lopis*, Bleeker 1851) in Kampar River, Indonesia; The use of trophic diatom index to determine water quality in the upstream of Cileungsi River, West Java*;* Length-weight relationship, size distribution and annual CPUE's of albacore in Eastern Indian Ocean; Catch rate and catch composition of mini purse seine in Bualemo, Banggai District; Impact of fishing and habitat degradation on the density of Banggai cardinal fish (*Pterapogon kauderni*, Koumans 1933) in Banggai Archipelago, Indonesia; Cpue trends of the Indonesia's tuna longline fishery: lessons learned from a trial observer program.

We hope that all the articles on this volume may contribute significantly to the development of fishery science and technology in Indonesia. We are grateful to the editorial board for their improvement and suggestion on reviews of the manuscripts.

Editor

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CONTENS

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ABSTRACT

FOOD COMPOSITION AND NICHE CHARACTERISTIC OF GIANT FEATHER BACK (*Chitala lopis*, Bleeker 1851) IN KAMPAR RIVER, INDONESIA

Arif Wibowo
IFRJ, Vol.20, No.1, Page: 1-10

ABSTRACT

This paper provides information on the diets of *Chitala lopis* in Kampar River, Riau Province based on study implemented from Mei 2009 to November 2010. Fish species were obtained from fishermen using modified nets, traps, hooks and lines. Specimens were cold with cool box at the point of collection and transported to the laboratory. A total of 176 fish specimens were inspected and their stomach contents examined. The month-wise collection and experiments were made to exhibit the seasonal variation in food preferences, and feeding habit of the fish. Frequency of occasion and numerical methods were used in this study. The result of the analysis denoted that *C. lopis* fed on juvenile fish, shrimp, plant material, insects, worms, benthos, gravel and unidentified organism. The consumption of shrimp tends to increase due to giant featherback's size, which is related to wider mouth, energy, location (water depth) and gonad development, also there is an increased of shrimp consumption during dry season. In giant featherback, the percentage of consumed shrimps has been correspondence with sex and season, meanwhile the consumption of small fish and plant material are related to fish's size, sampling station and maturity index. Giant featherback tend to more selective consumed certain food's group when they growth.

Keywords: Giant featherback, food composition, niche, Kampar River

THE USE OF TROPHIC DIATOM INDEX TO DETERMINE WATER QUALITY IN THE UPSTREAM OF CILEUNGSI RIVER, WEST JAVA

Nuralim Pasisingi
IFRJ, Vol.20, No.1, Page: 11-16

ABSTRACT

Human activities in the watershed in the upstream of Cileungsi river have tendency to bring high organic materials to the river which determines the aquatic condition of the river. The decreased water quality because of the organic materials in the upstream of Cileungsi river would bring negative impacts towards water condition in the downstream. This study was conducted in determining the water quality in the upstream of Cileungsi river, using Trophic Diatom Index (TDI). The sampling was taken in four different sites in the river and sub-river of the upstream of the river. The sampling of ephilitic diatom organisms were taken by scraping the surface of substrate rocks using brush then soaked the materials into a sampling bottle which is containing destile water. Diatom density was measured using census method according to standard of APHA 2012. The TDI score ranged from 48.25 to 60.47, indicating that the water quality of upstream of Cileungsi river is classified from good until poor condition.

Keywords: Bioindicator, Cileungsi River Indonesia, Trophic Diatom Index, Water Quality

LENGTH-WEIGHT RELATIONSHIP, SIZE DISTRIBUTION AND ANNUAL CPUE's OF ALBACORE IN EASTERN INDIAN OCEAN

Bram Setyadji
IFRJ, Vol.20, No.1, Page: 17-22

ABSTRACT

Albacore (*Thunnus alalunga*, Bonnaterre, 1788) is one of the tropical tuna species in the Eastern Indian Ocean incidentally caught by the Indonesian tuna longliner. Scientific observer series data during the period of 2005 – 2012 showed that the catches were geographically distributed within the area bordered by 5 – 35^0 S and 75 – 130^0 E. High CPUE mainly occurred in sub area between 25^0 and 35^0 S. Some biological observations indicated that immature albacore specimens were mainly recorded in areas of south of 25^0 S while mature albacore were concentrated in the area between 10^0 S and 25^0 S. Length – weight measurements for pooled male and female was $W= 0.00008FL^{2.7271}$. The hook-rates from onboard observation showed that increasing rates occurred during 2009 to 2012. The annual landing showed that that highest occurred in 2008 and the lowest in 2011 with overall tend to decrease until 2011 and increased slightly in 2012. Series number of length frequency measurements (2005-2012) showed that the albacore were caught within the range of 40 – 135 cm FL and there was a tendency that the average size decreased gradually from 103 cmFL (2005) to 84 cmFL (2012). As a preliminary finding these estimates contribute as important element for consideration in the national and regional tuna fisheries management in the area.

Keywords: Scientific observer, length-weight relationship, size distribution, hook-rates.

CATCH RATE AND CATCH COMPOSITION OF MINI PURSE SEINE IN BUALEMO, BANGGAI DISTRICT

Regi Fiji Anggawangsa
IFRJ, Vol.20, No.1, Page: 23-28

ABSTRACT

Small pelagic fishery is the largest potential commodity in the waters of Tomini Bay which reached 64% of the total fish resources. Mini purse seine (soma pajeko) fishery is the major fishing gear that used to utilize small pelagic resources in Tomini Bay. One of the main fishing grounds of mini purse seine vessels in Tomini Bay is in Bualemo and the surrounding waters. The aim of this research was to describe mini purse seine fishery in Bualemo especially about the aspects of the catch rate and catch composition. From the analysis of the daily catch data, there was a fluctuation of the average of catch rate each month. The catch of mini purse seine in Bualemo was dominated by two main species that is malalugis / mackerel scad (*Decapterus macarellus*) and bigeye scad (*Selar crumenophthalmus*). The large amount of the young fish (juvenile) caught by mini purse seine caused by the vessels operated around FADs and the mesh size that was less selective.

Keywords: Catch rate, composition, mini purse seine, Buelamo

IMPACT OF FISHING AND HABITAT DEGRADATION ON THE DENSITY OF BANGGAI CARDINAL FISH (*Pterapogon kauderni*, Koumans 1933) IN BANGGAI ARCHIPELAGO, INDONESIA

Kamaluddin Kasim
IFRJ, Vol.20, No.1, Page: 29-36

ABSTRACT

Banggai cardinal fish (*Pterapogonkauderni*, Koumans 1933) is uncommon example of a marine fish with distributed in small range area while being in highly exploited. This fish is in high demand as an ornamental fish. However, the information on the number of density is few available. An underwater visual fish census survey was conducted in June to July 2010 at 18 fishing sites around Banggai archipelago to estimate the density of the stock and assess the impact of fishing and habitat on density. The areas are divided into three main islands, namely Banggai Island, Peleng Island, Toropot-Tumbak-Labobo Island. The lowest density index of the *P. kauderni* recorded at Kindandal village on Peleng Island, 0.014 fish/m^2while the highest abundance index of 3.0 fish/m^2 found at Toropot village at Toropot Island. In three survey sites (Bonebaru and Toropot villages) where the fishing activities are still ongoing, the density has declined compared to a survey conducted in 2004. Majority of the villages in Peleng Island have lower density compared with the other islands probably due to the degradation of microhabitat of *P.kauderni*. In many cases, microhabitat degradation might be as a result of collection of sea urchins and sea anemone for consumption by local community.

Keywords: impact of fishing, habitat degradation, density, banggai cardinal fish

CPUE TRENDS OF THE INDONESIA'S TUNA LONGLINE FISHERY: LESSONS LEARNED FROM A TRIAL OBSERVER PROGRAM

Lilis Sadiyah
IFRJ, Vol.20, No.1, Page: 37-47

ABSTRACT

In an effort to address a shortage of reliable CPUE information, and as a preliminary step to a broader observer program, Indonesia established a Trial Observer Program (TOP) for the industrial tuna long line fishery based at Benoa Fishing Port, Bali, in mid 2005. The objectives of this paper are i) to describe spatial and temporal catch and effort trends from the Indonesian Indian Ocean industrial tuna long line fishery based at Benoa Fishing Port, and ii) to provide an understanding of the fishing strategies used by different companies and of the environmental conditions that may influence catch trends. The observed effort covered areas both north and south of 20°S, with a concentration within 10°-20°S; 105°-120°E which overlaps with the only known spawning grounds of southern bluefin tuna (SBT). This data set showed that SBT comprised the lowest catch proportion, relative to the other three tuna species caught, bigeye tuna (BET), yellowfin tuna (YFT) and albacore (ALB). BET and ALB had been suggested as the main target species for the fishery, but this varied by region. The TOP data set suggests that different tuna fishing companies targeted different species and used different fishing practices, including differences in bait used, areas fished, start time of setting, and the number of hooks between floats (HBF). It is a priority to improve the spatial and temporal coverage of the observer program before the data can be considered to be representative of the fleet, particularly given the high degree of variability in fishing practices between companies.

Keywords: Trial Observer Program, longline, Indian Ocean