4．論　文

小針統・杉本智・四宮明彦・河合渓・西村知（2012）：奄美大島役勝川流域における微小プランクトン群集リュウキュウアユ孵化仔魚の餌環境．水産増殖, 60.

Abstract

We investigated biomass and taxonomic composition of protist plankton in the Yakugachi River of Amami-oshima island during winter to evaluate food availability for the larvae of Plecoglossus altivelis ryukyuensis. No significant difference was found for total biomass of microbial plankton community among the stations, and diatoms composed more than half of the biomass. Biomass of dinoflagellates and naked ciliates was higher at the estuary stations compared with that at the upstream station. Calculating carrying capacity for the larvae egg-hatched after 5 days, biomass of dinoflagellate and naked ciliates at the estuary stations could support the respiratory requirements of more than 15*1000 animals/m3/day. These results suggest that biomasses of dinoflagellates and naked ciliates in the estuary of the Yakugachi River are enough for survival of the larvae.

Yousef A. E. S. M. BUHADI, Toru KOBARI, Kei KAWAI, Tomoko YAMOTO, Hiroshi SUZUKI, Satoru NISHIMURA, Takashi TORII and Joeli VEITAYAKI (2013): Food Availability for Particle-feeding Bivalves, Anadara spp. in Fiji. Pacific Science.

Abstract

We compared food availability of filter-feeding bivalves, Anadara spp., between two Fijian sites of different mangrove richness to evaluate impacts of environmental variables on Anadara spp. abundance and body size. Suspended particles including planktonic organisms and detritus were more abundant in the fishery grounds of the mangrove-rich site (MR) than in the mangrove-poor site (MP). Although no substantial difference was observed in abundance of Anadara spp., dry weights of soft tissue were heavier for animals at MR than those at MP. Respiration rates (i.e., minimum metabolic requirements) of Anadara spp. decreased with increasing animal weight. Unicellular planktonic biomass was estimated to support the Anadara community metabolic requirements (i.e., minimum food requirement) for 9.2 to 85.7 days at MR and 1.4 to 67.4 days at MP, indicating that the planktonic biomass cannot support sufficient growth of the bivalve population at some locations. These results suggest that suspended particles support increased shell sizes of Anadara spp. and that resuspended detritus is a supplement or alternative food resource for these bivalves in mangrove coral associated ecosystems.

Jokim Kitolelei, Satoru Nishimura, Takashi Torii, Kei Kawai and Toru Kobari (2014) Multilayer Rules and Governance in Fiji Coastal Communities: A Case Study of Veivatuloa Village-『Evolutionary and Institutional Economic Review』(Japan Association for Evolutionary Economics), 11(1), pp.53 ～ 66

Abstract

The efficacy of rules at the community level has helped to govern people's actions for a long time. Rules are vital for governing how a society uses its resources over time. There are multiple rules that coexist, which have a negative impact on resource utilization and management. In this study, we have explored the complexity of rules within communities, where both formal and informal rules apply, that is, multilayer rules, and examined their effectiveness at the community level. We include an analysis of the importance of community governance, property rights and leadership, traditional rules, and governmental regulations. Furthermore, we present a case study of Veivatuloa Village and describe solutions for utilizing rules for better management of coastal resources.

Keywords: Fiji, multilayer rules, *qoliqoli* boundary, *kanakana* boundary.

Jokim KITOLELEI, Takashi TORII, Joeli VEITAYAKI (2014) Challenges in Managing Fishing Boundaries in Fiji: A Comparison of Veivatuloa and Nakawakawa Fishing Boundaries -Journal of Regional Fisheries, 『Journal of Regional Fisheries』(The Japan Regional Fisheries Society) 54(2), pp.25 ～ 44

Abstract

Boundaries are defined as the first stage in the development of successful management systems for common property resources. It is important to manage fishing boundaries, as they contain wide varieties of ecosystems and species (including trans-boundary species) with different types of fishing activities. In fisheries management there has been less attention and information on fishermen knowledge in understanding their fishing boundaries. This article examines Fiji's 410 customary fishing boundaries and its understanding and the reasons for strengthening fisheries management. The aim of this article is to address the importance of understanding nearshore fisheries' boundaries, and the conflicts that arises within boundaries. This through the understanding of rightful ownership of resources, the knowledge of fishing boundaries, making decision about fishing boundaries and conflicts within fishing boundaries. Many claims and issues arise from the use of fishing boundaries that are managed by different kinship groups and other stakeholders. This study examines the understanding of fishing boundaries through two case studies. The two case studies are from the two main islands in Fiji imply that users lack understanding and knowledge of fishing boundaries in relation to resources. The study further clarifies that community understanding and knowledge of fishing boundaries is important for effective resource management. Successful fisheries management is impossible to

achieve unless fishermen understands their fishing boundaries. Analysis of boundaries is important in order to understand the impact of resource utilization of a boundary compared to others.
Keywords : fishing boundaries, resource management, communities, resource conflict