

Chapter 4

Stock assessment of targeted fish species

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SUMMARY

- A rapid assessment of reef fish stocks bearing interests for consumption was conducted over an area spanning the communes of Touho to Ponérihouen on the Northeast coast of New Caledonia from the coastal zone to the outer barrier reef.
- A total of 186 species belonging to 67 genera and 23 families was identified over 48 study sites.
- Fish communities were mainly dominated by herbivorous species belonging to the families of Acanthuridae and Scaridae.
- A remarkable variety of parrot fishes (Scaridae) is reported with a total of 23 species observed, including two reported as rare in this area of the Pacific: *Chlorurus frontalis* and *Chlorurus japanensis*.
- The majority of reefs had community species compositions that indicated good health status.
- The difference in biomass and abundance values observed between “marketed” and “non-marketed” species reflects an unequal fishing pressure (although reduced in all areas sampled).
- Top predators (e.g. large size sharks, spanish mackerels, barracudas, job fishes, groupers and trevallies) were observed in very low numbers. The same can be said of species considered iconic (humphead wrasse and bumphead parrotfish).

INTRODUCTION

Province Nord of New Caledonia has reef and lagoon area of approximately 15,500 km² and this province is sparsely populated (45,137 inhabitants or 4.5 per km²) (ISEE 2009). The population growth remains moderate (+1.5% from 2006 to 2009) particularly in the area covered by this study. The fishing pressure on coastal fish species is thus limited (Letourneur et al. 2000) and is exercised mainly through subsistence or recreational fishing (90% according to Labrosse et al. 2000) and to a lower extent through commercial fishing. The human impact appears to be relatively low over the area and resource management measures (e.g. marine protected areas, fisheries regulations) have been already initiated or implemented by Province Nord. Studies by Kulbicki et al. (2000) and Letourneur (2000) provide a complete inventory of species and an assessment of stocks across the northern lagoon. In the process of long-term management, it is also necessary to accurately assess the status of resources over small geographic areas. This chapter lists an inventory of lagoon fish communities bearing consumption or targeted interest through a qualitative and quantitative analysis of their compositions. Exchanges with customary people during this mission, notable issues arose that indicated the local communities have a strong interest in their natural heritage and the desire to understand the elements needed for the establishment of a participatory management plan.