

Center for Community-Based Resource Management (CBRM)

Natural Resources Institute, University of Manitoba

CBRM Database

Date:	September 30, 2014	Entry Number:	1330
Case Study Name:	Using underwater cameras to assess the effects of snorkeler and SCUBA diver presence on coral reef fish abundance, family richness, and species composition		
Authors:	P. Dearden, M. Theberge, M. Yasue		
Document Type:	Paper in Scientific Journal		
Year:	2009		
Language:	English		
Document Location:	<i>Environmental Monitoring and Assessment</i>		
Full Citation:	Dearden, P., M. Theberge, M. Yasue. 2009. Using underwater cameras to assess the effects of snorkeler and SCUBA diver presence on coral reef fish abundance, family richness, and species composition. <i>Environmental Monitoring and Assessment</i> , 163 (1-4): 531-538		
Region:	Southeast Asia		
Country:	Thailand		
Ecosystem Type:	Coral Reef, coastal marine		
Social Characteristics:	Ecotourism, community bordering protected area		
Scale of Study:	Community, National		
Resource Type:	Tourism, ecotourism, wildlife, species conservation, habitat conservation		
Type of Initiative:	Research driven project		
Community-Based Work:	Conservation, environmental assessment, monitoring, environmental health		
Keywords:	Community composition, ecological monitoring, human disturbance, marine ecotourism, SCUBA diving		

Summary:

The results of underwater visual fish censuses (UVC) could be affected by fish changing their behavior in response to the snorkeler or diver conducting the survey. We used an underwater video camera to assess how fish abundance, family richness, and community composition were affected by the presence of snorkelers (n = 12) and self-contained underwater breathing apparatus (SCUBA) divers (n = 6) on a coral reef in Thailand. The total number of families, abundance of some fish families, and overall species composition showed significant differences before and during snorkeling disturbances. We did not detect significant and consistent changes to these parameters in the presence of a SCUBA diver; however, this could be a result of lower statistical power. We suggest that the use of a stationary video camera may help cross-check data that is collected through UVC to assess the true family composition and document the presence of rare and easily disturbed species.