

distances were noted. Even very young calves appear capable of wandering considerable distances.

In one case a female and a calf moved about six kilometres in one night.

Dr Ammann reported that mating in the Javan rhinoceros is a prolonged process. From the time a male picks up the scent of a female in heat and starts following her, to the moment when the two animals part, up to a week may pass. No evidence has yet been found on how much of this time the two rhinos spend in contact with one another or of the interactions that take place between them.

Knowledge of the daily distances moved by rhinos will permit a better interpretation of census results. Highly interesting is the fact that rhinos can stay in a small area of their home range for several days. Mr. Ammann suggests that it is quite possible that a certain number of rhinos are not counted on the census and the census results should be viewed as a low estimate.

Project 1649 Endau Rompin - Sumatran Rhinoceros

WWF GRANT 1979 - \$5,202

For previous report see Yearbook 1978-79 p. 103

The Sumatran rhinoceros population in the Endau-Rompin area is the largest remaining in Malaysia, with an estimated total of 10 animals. An area of 900 km² within the Endau-Rompin region has been proposed as a National Park and 490 km² of it has already been approved as a Wildlife Sanctuary by the Johore State Government. The approved area includes about 55% of the rhino habitat occupied at present. Efforts to conserve the Sumatran rhino in Malaysia are concentrated in Endau-Rompin where a study sponsored by WWF/IUCN is being carried out.

Determining the abundance of large terrestrial mammals in the tropical rain forest is very difficult. The thick vegetation, heavy rainfall, high humidity and rough topography do not allow for the use of standard census methods. The animals cannot be observed or trapped and only indirect evidence of an animal's presence in the form of tracks in the soil can be used as the basis for a census method.

Rhino tracks are located along census routes by survey teams and the tracks accurately measured. Animals can then be distinguished through track size differences and the distance between track locations.

The census used five survey teams walking simultaneously across the 400 km² study area and recording information on all rhino tracks encountered along permanent census routes. Each team consisted of three to four people chosen from a pool of officers and rangers of the Department of Wildlife and National Parks. The result of three censuses were as follows:

March 1977	8 rhinos
May 1977	5 rhinos
March 1979	8 rhinos

The results of the May 1977 census were not considered as good because of poor weather conditions and disturbance in the study area in the form of logging.

The total number of rhinos in the study area is difficult to estimate from this census method. It can be assumed that at least one or two animals are missed, thus a total of 10 animals is considered a reasonable estimate for the population in the census area. It is known that a few rhinos also occur outside the study areas, especially to the north in the Lesong Forest Reserve and to the east along the lower Endau River. The total number of rhinos in the Endau-Rompin area is estimated at 10 to 15 animals.

Rodney W. Flynn

Project 1745 Training in Rhino Field Research

WWF GRANT 1979 - \$2,200

The Directorate for Wildlife and National Parks in Malaysia is establishing a permanent organisation in the proposed Endau-Rompin National Park to monitor the rhino population and habitat. WWF supplied a grant to enable Mr Mohammed Tajuddin Abdullah, who has been appointed Deputy Director for Wildlife and National Parks to carry out this task, to gain experience in rhino field research in the Ujung Kulon Nature Reserve, Indonesia.

The rhinos in Endau Rompin have been heavily disturbed by logging in the Pahang region of the reserve. They have left their previous home ranges in the logged area. In March 1979,