

Observations of the domestic bushmeat trade in markets in Lao PDR

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In Lao PDR, illegal domestic and international wildlife trade is common and represents a significant threat to national and international wildlife. From 2010 to 2013, surveys of wildlife markets and roadside markets and stalls were conducted by WCS across Laos to assess the conditions and volume of domestic bushmeat trade. Observations of wildlife vendors were made to record the species, condition of the animals (live, dead, parts), volume, and prices. Information on price and weight were obtained by standing near the wildlife vendors and listening to their conversations with customers. Surveys were conducted in 93 markets, including roadside markets or stalls, where wildlife were openly traded. In a total of 376 visits, 33,759 carcasses from 185 wildlife species were observed for sale. This represented an estimated total biomass of 15,855 kg. Of the 93 survey sites, 11 markets or roadside markets were identified as wildlife trade hotspots, where more than 100 animals per day were found on at least two visits. A varied mixture of mammals, birds and reptiles were observed in markets and more than half ($n = 17,756$) of individuals were wild birds. On an average day at a typical market, a visitor would likely see rodents, ungulates, carnivores, wild birds, bats (if near limestone karsts) and lizards (in the south of Laos). Wildlife was most commonly sold as whole fresh dead animals, but live animals were also common. Freshly dead wildlife was consistently more expensive than the equivalent amount of fresh domestic pork. Of the 33,759 carcasses, 6,459 (19%) were observed to be species listed by the Lao PDR Wildlife and Aquatic Law as being rare or near extinct (Category I) or species that will become extinct if management is neglected (Category II). Our data show the high magnitude of the domestic bushmeat trade in Laos. Trade has already led to the significant declines of wildlife populations in Laos and will continue to do so if the trade is not controlled. In addition, the bushmeat trade represents a threat to human health, due to an estimated 72% of emerging zoonotic diseases originating in wildlife. A multi-sector approach is needed to effectively address wildlife trade to protect biodiversity and public health.

Amphibian responses in human modified landscape at Gianyar Regency Bali

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Landscape modification affects amphibian communities and creates specialist and generalist species. This research aimed to observe the response of amphibian communities along a gradient of human modified landscapes (settlements, rice fields, non-irrigated agricultural fields, and monoculture stands) in Gianyar Regency. Observations were carried out in July–October 2014 using standard visual encounter surveys. The body condition of generalist species was also assessed. Eleven amphibian species ($n = 751$ individuals), representing four families, were found. The amphibians observed were dominated by *Duttaphrynus melanostictus* (31.8%), *Microhylla palmipes* (21.84%), and *Fejervarya limnocharis* (17.84%). There were three main habitats for amphibian communities: settlements/non-irrigated agricultural fields, monoculture stands and rice fields. Non-aquatic species had the highest diversity in monoculture stands (Shannon-Wiener index $H' = 1.12$), and lowest diversity in residential areas ($H' = 0.31$). The diversity of amphibians increased when: (1) close to water sources; (2) vegetation cover increased; and (3) the anthropogenic disturbance factor decreased. *Occidozyga lima*, a specialist species, was only found in specific habitats (rice fields), while *D. melanostictus*, a generalist species, was encountered at a high rate in all habitat types. The body condition of the generalist species (*D. melanostictus*) showed that landscape modifications resulted in an increase in abundance but a decrease in body size.