REP 1995-105

The Wildlife Society
Second Annual Conference Abstracts.
September 12-17, 1995. Portland,
Oregon.

JAEGER, MICHAEL M., and P. SULTANA. Seasonal impact of golden jackals on bandicoot rats in Bangladesh: can predation reduce preharvest rat damage. USDA Denver Wildlife Research Center, and Department of Environmental Science, Policy, and Management, University of California, Berkeley, CA 94720 USA (MMJ); Bangladesh Agricultural Research Institute, Vertebrate Pest Section, Joydebpur, Gazipur 1701, BANGLADESH.

Golden jackals (*Canis aureus*) are abundant in Bangladesh where they are known to prey on poultry and livestock. However, jackal predation potentially impacts rat damage, the country's most important vertebrate pest problem. The objectives of this study were (1) to determine whether jackals remove rats from cereal crops, and if so, (2) to estimate the impact on reducing rat damage. Jackal scats, rats, and crops were sampled monthly for 1 year at two 4,800-ha sites representing the principal agroecological zones of Bangladesh. At both sites, bandicoot rats (*Bandicota* spp.), the principal rodent pests of preharvest cereals, were most concentrated during February and March when 90% of their burrows were in wheat fields, representing 11% of the total area. At this time, bandicoot rats were particularly common in jackal scats. A model was developed to predict the amount of wheat saved during the 45-day period from booting until harvest. Rat damage was reduced 23% assuming (1) 1 pair of jackals/km^2, (2) 1 adult rat/burrow, (3) 75 g wheat destroyed/rat/day, and (4) a linear increase from 1 to 3 of rats consumed/jackal pair/day corresponding to the increase in rat density in wheat during this period. Values used in these assumptions were based on research findings. We conclude that jackals may be an overall benefit to agriculture in Bangladesh.