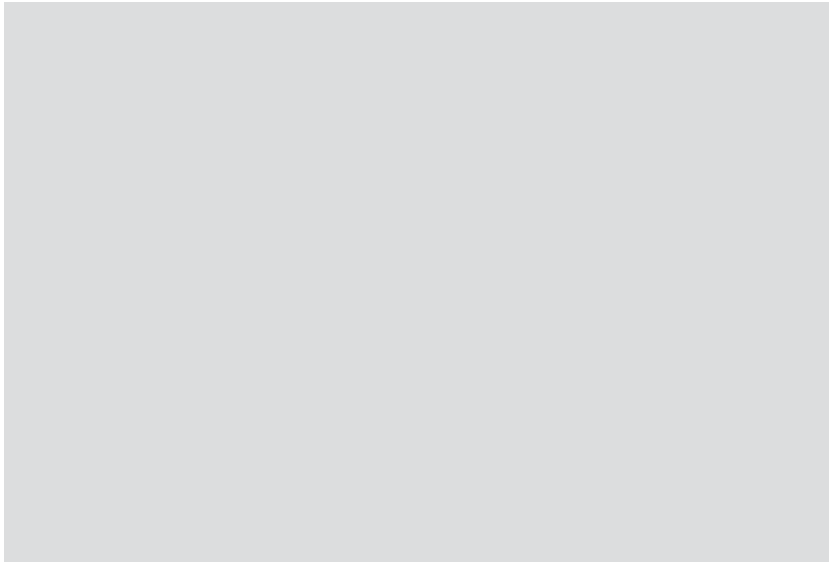


Over the last 40 years, the extent to which humans negatively impact wildlife has become clearer. [The Living Planet Report](#), published in 2014, estimated that since 1970, populations of living vertebrates — fish, amphibians, reptiles, birds and mammals — declined by as much as 52 percent as a result of habitat loss and degradation. In addition, researchers recently estimated that the extinction rate today is eight to 100 times greater than the natural extinction rate ([Ceballos et al. 2015](#)). In fact, 44 of the 74 largest terrestrial herbivores such as elephants, rhinoceros, tapirs and camels have become threatened with extinction, a situation that could lead to the potential collapse of multiple ecosystems around the world ([Ripple et al. 2015](#)). After habitat loss and degradation, scientists believe that overexploitation of wildlife is the second leading cause of biodiversity loss ([Primack 2014](#)).

Overexploitation of wildlife — which includes over-harvesting, poaching and trafficking — threatens 25 percent of endangered vertebrate species in the United States and over 75 percent of endangered

vertebrate species in China ([Yiming and Wilcove 2005](#)). Although an accurate count is difficult to obtain, the number of illegal wildlife items re -



Credit: Hal Korber

▲ A Pennsylvania Game Commission officer uploads data into the state's records management database. Among the state agencies conducting research today, most of the work centers on non-forensic topics such as development of GIS and database management systems to analyze reported poaching violations.

1) quantifying reporting rates of wildlife crime (e.g., effectiveness of turn-in-a-poacher hotlines); 2)