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Anthropogenic activities have influence on wild animal populations. Sika deer (*Cervus nippon*) in Japan currently face no predators because Japanese wolves (*Canis lupus*), the only predator for deer, became extinct, in 1890 in Hokkaido Island and in 1905 in Honshu Island, through the intensive predator control against livestock loss [1]. A combination of severe winter conditions and overexploitation of deer due to the consumptions of furs, meats, and antlers contributed to the deer population decline in the late 19th century [2]. However, the harvest regulations, including restricting female harvests, between 1950s and 1980s ameliorated the population decline. The deer populations also positively responded to the additional food availabilities from the expansion of farmlands, pastures, and plantations which were developed near their habitats during the same period. As a result, the distribution of deer habitats and their abundance have greatly recovered since the 1980s [3]. Even though the restoration of deer populations was successful, deer were subjected to nuisance animals causing severe damage to agriculture, forestry, and regional ecosystems. Therefore, evaluating deer populations is important information to the sika deer management. I constructed records including hunter population and captured deer populations in Japan from 1975 to 2014. The hunter population in Japan from 1975 to 2014 has decreased from 518,000 to 194,000 (Fig.1). On the other hand, the number of captured deer individuals between 1975 and 2014 has increased from 15,000 to 586,000. We developed the harvest-based Bayesian model to estimate the deer population [4]. Estimated population size in 2015 was 3,040,000 [5]. Sika deer populations have increased in last three decades. The unmanaged deer populations can generate negative effects on the agriculture, forestry, and ecosystem. Hunting and/or culling is a tool for resource management and ecosystem conservation. Encouraging the recruitment of hunters and establishing the culling regimes are important for wildlife implications in Japan.
Figure 1. Changes in sika deer harvest and number of hunters in Japan.
The gray bars indicate the number of sika deer (Cervus nippon) harvested by hunting, the white bars indicate that by culling, and the black line indicates the number of sport hunters (Data from Ministry of the Environment, unpublished).

References