



IDENTIFICATION OF WILDLIFE LAW ENFORCEMENT RESEARCH NEEDS



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Introduction

Globally, overexploitation, which includes illegal take or poaching, is the second largest source of biodiversity loss, just behind habitat loss or alteration (Rosser and Mainka, 2002). Direct take of animals and plants can occur as a legal form of controlled harvest, and is usually ecologically sustainable from a global biodiversity viewpoint when harvest does not affect long term stability, or average population size of a species (Mills, 2007). However, the illegal trade and trafficking of threatened and endangered animals and plants may be responsible for a significant portion of loss in biodiversity because their parts are more desirable on the illegal market (Johnson, 2012).

Due to the increased complexity of illegal wildlife crime, more research is needed to improve effectiveness of wildlife law enforcement efforts. Our goal is to enhance the protection of our wildlife resources by re-conducting a survey study performed in 1978 by contacting state wildlife law enforcement agencies to establish the most current and important research needs for wildlife law enforcement (Beattie and Giles, 1979).

Methods

Our survey was conducted via the internet through Survey Monkey, and was administered to the National Association of Conservation Law Enforcement Chiefs (NACLEC) which is an organization comprised of state agencies meant to sustainably preserve our wildlife. 'Nonresponses' and 'incompletes' will be followed up after 2-week intervals to complete the online survey. After the 2 week periods are over, individuals that have yet to complete the survey will be sent a hard copy of the survey in the mail. Individually typed and personally addressed reminders will go out to those that have yet to respond to either survey forms.

Results

Surveyed States Thus Far

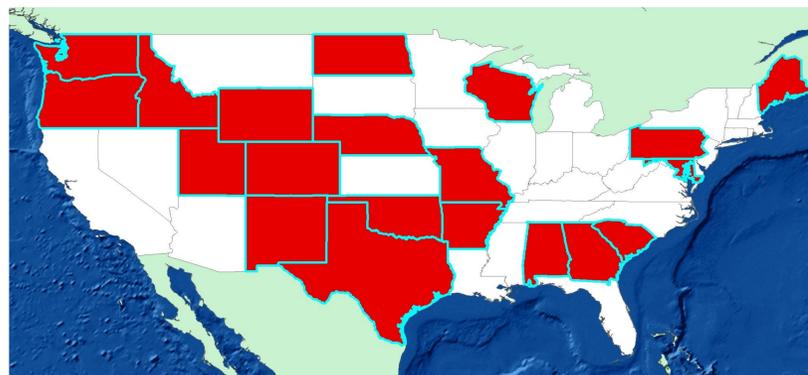


Figure 1. A map of the continuous United States. States that appear in red are where NACLEC members have responded to our survey for wildlife law enforcement research needs.

Results

Technology Used by Poachers

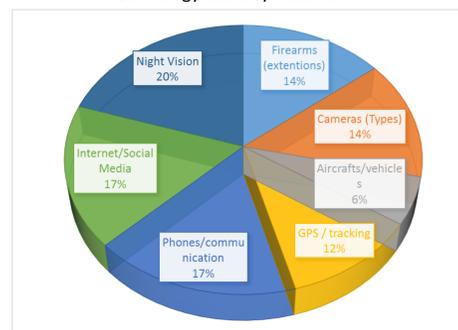


Figure 2. The percentage of different technologies used by poachers, showing the intense technological advancement in today's society.

Resources Needed

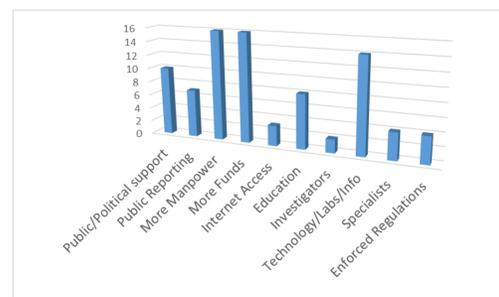


Figure 3. Resources currently needed in order to identify wildlife crimes, find and/or catch poachers and to prosecute poachers.

Forensic Research Needs

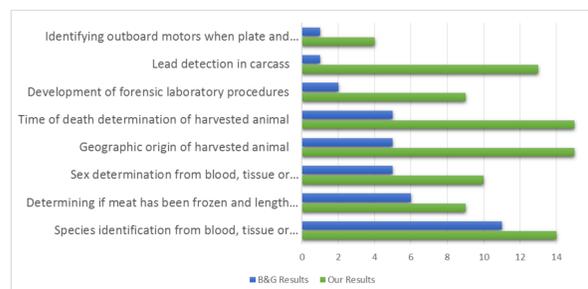


Figure 4. Current forensic research needs compared to past needs reported by Bettie and Giles (1979).

Non-Forensic Research Needs



Figure 5. Current non-forensic research needs compared to past needs reported by Bettie and Giles (1979).

Results and Discussion

Most Effective Wildlife Crime Prevention Strategy

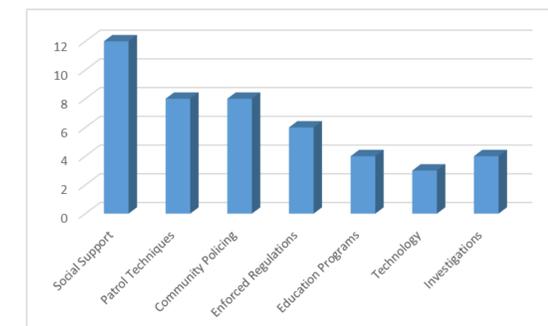


Figure 6. Based on the opinions of surveyed NACLEC members, the most effective wildlife crime prevention strategy is getting the general public involved. Among the least effective wildlife crime prevention strategies include threats of suspended privileges against violators and relying only on routine patrols.

Discussion

Information was received from 22 agencies. An overwhelming need for both forensic and non-forensic resources were documented as doubling or tripling since Beattie and Giles (1979) survey. Wildlife law enforcement chiefs indicated that extra manpower and more funds is needed specifically to identify wildlife crimes and to find wildlife violators. Our results show that while poachers are ahead of the curve using various advanced technologies, wildlife law enforcement officers are also taking advantage of technology, and are able to apprehend more violators because of it.

Based on our results, wildlife law enforcement officers identified the most need in research on social behavior of hunters (ex. thrill killings) and various types of technology uses such as body cameras and drones.

Out of the 22 agencies that responded to our survey, 6 stated that they are conducting current research projects, and 8 are planning future research projects. However, 10 agencies are not involved in either future or current research (respectively).

Literature Cited and Acknowledgements

Literature Cited

Beattie, K.H., and R.H. Giles, Jr. 1979. A Survey of Wildlife Law Enforcement Research Needs and Current Research. *Wildlife Society Bulletin* 7: 185-188.

Rosser, A.M., & Mainka, S.A. (2002) Overexploitation and species extinctions. *Conservation Biology* 16, 584-586.

Johnson, R.N. (2012) Conservation genetics and wildlife forensics in birds. *Wildlife Forensics: Methods and Applications* (ed. By J.E. Huffman and J.R. Wallace), pp. 293-325. John Wiley & Sons, Chichester, West Sussex, UK.

Mills, L.S. (2007) *Conservation of Wildlife Populations*. Blackwell Publishing, Malden, Massachusetts, USA.

Acknowledgements

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