

The Invasive Species Times

LEK vs. USGS:

Comparing information from fishermen with government-collected data regarding the range of an invasive species of fish, northern snakehead (*Channa argus*), in the Philadelphia region

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Introduction

- Invasive species can harm the balance of the food chain (1).
- The federal government attempts to document the spread of invasive species. For example, the United States Geological Survey (USGS) maintains the web-based Nonindigenous Aquatic Species (NAS) information source. But invasive species can proliferate at a faster rate than the government can track (2, 3).
- Local ecological knowledge (LEK), knowledge about a natural resource from people who live or work outside, is an alternative strategy for tracking invasive species, using information from fishermen who are out there every day (3).

Background

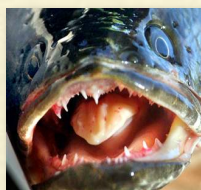
- Northern snakehead (*Channa argus*) are aggressive predatory fish indigenous to Asia (5, 6).
- Snakeheads survive well out of water and are reputed to “walk” on land, which allows them to spread quickly between bodies of water (7).
- Snakeheads were first spotted in the Chesapeake in 2002, and in Philadelphia in 2004 (6, 8).

Methods

- Interviewed eight fishermen from the greater Philadelphia about where they have caught snakehead.
- Mapped out reported snakehead locations based on interviewee responses.
- Compared interview data with USGS data.

References

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Figures 1a-c: Snakehead fish (*Channa argus*)
Photo credit: fishwild.ut.edu, ianecapital.streerwe.co, USGS NAS

Acknowledgments

This project would not have been possible without the help of many individuals. We are especially grateful to our interviewees! We thank K. Fruit, C. Herdegan, T. Hines and H. Jones at Mastery, C. Filosa, E. Kwitny and M. Provost at Rutgers, A. Baker, A. Gordon, D. Karmad, S. Yahn and T. Zimmerman for methodological support, A. Benson at USGS, and M. Friedman and R. Horwitz for the original project idea. T. Young was supported by a Rutgers University graduate assistantship and a Graduate Research Fellowship from the National Science Foundation.



Results

- Three of our interviewees reported catching snakehead in six locations in Philadelphia and nearby New Jersey.
- The USGS NAS map included reports of snakehead in eleven different locations in the same area.
- Five of the interview report locations corresponded with locations reported by USGS; two were in locations not documented in the USGS data.

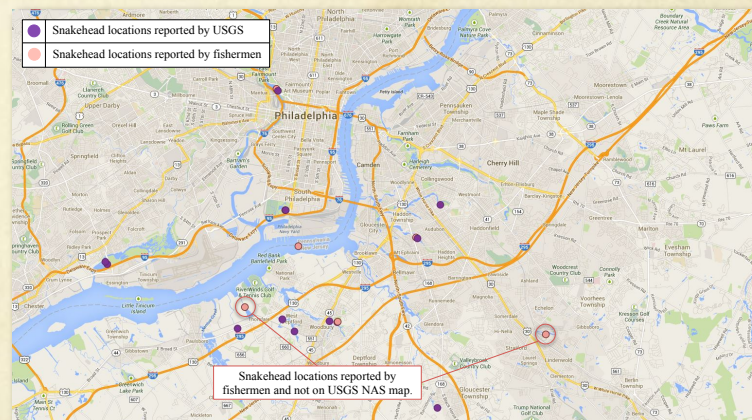


Figure 2: Map of Philadelphia region showing snakehead reports from fishermen interviews (pink dots) and the USGS NAS web site (purple dots).

Discussion

- LEK can provide more information on the range of invasive species than verified government data.
- However, data from the fishermen may be less reliable than the results found by the USGS because the information is not verified.
- The LEK can provide government with useful starting point for where to look for invasive species.