Montana Invasive Species Council

Eastern Heath Snail Science Advisory Panel

Topic: Investigation of known information about the eastern heath snail (Mollusca: Geomitridae, *Xerolenta obvia* (Menke) and identification of gaps in information.

Draft Purpose: To examine the existing body of knowledge about the eastern heath snail (EHS), identify gaps related to its basic biology, monitoring techniques, control options, and best practices for managing pathways, and develop a containment and management strategy for populations in Belt, Montana and the outlying areas.

Draft Expected Panel Outcomes:

- Identify potential risks associated with the EHS and potential risk modeling that should be developed.
- Review the state of science about the basic biology of the EHS and identify gaps in knowledge.
- Identify gaps and challenges associated with containing and managing the EHS.
- Identify information / efforts that could help address those gaps / challenges.
- Provide input and guidance regarding funding sources for research and regulatory needs
- Develop management to address survey and monitoring, control options, private landowner education and outreach, and best practices for managing movement through forage, gravel, and other material pathways.
- Provide next steps to be taken by researchers, regulators and managers regarding the containment and management of the EHS.

Panelists

1. **Helena Brodie,** Agricultural Entomologist, South Australian Research and Development Institute
2. **Jeni Cena**, Pest Biologist 2, Washington Department of Agriculture
3. **Jeffrey Littlefield**, **Ph.D.,** - Research Scientist, Montana State University
4. **Nathan Luke**, Surveillance Coordinator, Australia Department of Agriculture
5. **Rory McDonnell, Ph.D**. Assistant Professor, Oregon State University, College of Agricultural Science
6. **David G. Robinson, Ph.D.**, National Malacologist, USDA APHIS National Malacology Laboratory
7. **Amy Roda, Ph. D**., Entomologist, USDA APHIS-PPQ Center for Plant Health Science and Technology
8. **Brian Sullivan**, Plant Safeguarding Specialist, USDA APHIS PPQ

Questions for Panelists:

Basic Biology and potential risk of the Eastern Heath Snail

1. What is known about the basic biology of the EHS?

2. What information is unknown about the basic biology of the EHS and necessary to determine the best control methods or strategies?

3. In the 2009 Cowie et al. risk assessment, *Xerolenta obvia* ranked 12 on the simple scale and 16 on the proportional scale. What do these risk ratings mean and how does the rating for *Xerolenta obvia* compare with snails that are established elsewhere and whose biologies and impacts are better known?

4. Does the ranking of the EHS (Question 3) merit a different risk assessment based on research conducted since 2009?

5. Are there potential human health, livestock, and wildlife risks associated with this species?

6. What habitat or habitat limitations determines the snail's potential distribution and establishment elsewhere in Montana, in the U.S and North America?

7. What economic crops and cropping practices (i.e. no-till) might most be impacted by the EHS if it were to establish?

Survey and Monitoring for the Eastern Heath Snail

1. What early detection tools are available for monitoring of the Eastern heath snail and/or similar species of snail? What survey methods are available to monitor established populations?

2. Are there any classifications for various densities of snail and the associated impact?

3. What are the major obstacles to effectively monitoring movement of this species across the landscape?

4. When and how often should monitoring take place?

5. What is the best way to distribute this information and to train the public and land managers to identify and report invasive snails?

Control Methods for the Eastern Heath Snail

1. What is the recommended control method for landowners to use when controlling invasive snails on their property?

2. Can the EHS and/or similar snail species be eradicated in small outlier populations? If so, what is the recommended eradication method for small outlier populations?

3. Are there regulatory obstacles or restrictions to the use of any molluscicides or biological controls for the treatment of this species in Montana?

4. What are the best options if the EHS population expands onto new landscapes and has new impacts? How do we prepare for that possibility?

Managing Pathways

1. What are the key pathways for the introduction of the EHS and other invasive land snails?

2. Are there proven regulatory actions to prevent the spread of invasive snails through commodities such as gravel, forage, etc.? Are there proven education and outreach methods and or messages to educate this sector?

3. What non-regulatory actions can be taken to address the movement of invasive land snails?

4. What agricultural commodities (wheat, barley, hay, sugar beets, dry peas) would be at risk for exporting if the EHS or similar snail species are present? How could we best mitigate this risk?

Other

1. Considering the Montana Department of Agriculture has unfunded authority for invasive snails, what funding opportunities are available for research, monitoring, control, and regulatory management of the EHS?

2. What would "trigger" a quarantine/regulatory action by either the State or the Federal Government?