

## USDA Column E Explanation, Year: 2014

This form is intended as an aid to completing the Column E explanation. It is not an official form, and its use is voluntary. Names, addresses, protocol, veterinary care programs, and the like are not required as part of an explanation. A Column E Explanation must be written so as to be understood by laypersons as well as scientists.

1. Registration Number: 92-R-0005
2. Number of animals: 235
3. Species (common name): shrews & voles
4. Explain the procedure producing pain and/or distress.

Trapping is a procedure that potentially causes pain and/or distress despite ongoing efforts to prevent this outcome. Small mammals such as shrews and voles have a high metabolic rates and are known to have high mortality when captured. We have classified 85% of expected shrew captures in Category E because we expect a high rate of mortality due to their high metabolic rate and low reported survival in live traps (rates up to 95% in studies reviewed by Stromgren and Sullivan 2013). Traps include food suggested in previous studies to provide adequate food for overnight confinement (Wilson 2010), trap modifications to prevent predation, and are placed with a rain shroud on the outside and poly-fiber batting material inside to facilitate comfort and increase insulation (Sikes and Gannon, 2011). Traps are placed under logs or at the base of trees to minimize exposure to inclement weather.

5. Provide scientific justification why pain and/or distress could not be relieved. State methods or means used to determine that pain and/or distress relief would interfere with test results.

The primary goal of small mammal trapping is to determine if annual variation in the abundance of small mammals correlates with vital rates (annual survival and number of young produced) of animals such as northern spotted owls. This is one of the least understood relationships that has the potential to influence spotted owl population trends, and has been identified as an important research need (Anthony et al. 2006, Forsman et al. in press). Trapping grid captures generate important estimates for small mammal abundance. Efforts used to maximize survival rates include the addition of food & nesting materials in traps, and placement & timing of traps and checks to reduce inclement weather issues. Researchers hope to improve survival rates from those that have been published. The same is true for any other species potentially experiencing trapping morbidity or mortality.

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