

Column E Explanation

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 lay person as well as scientists.

1. Registration Number: 92-R-0005 1048
2. Number 10 of animals used in this study.
3. Species (common name) Pacific Shrew (2) and Trowbridge's Shrew (8) of animals used in the study.
4. Explain the procedure producing pain and/or distress.

The study objective is to identify the abundance and variation of small mammal prey for Northern Spotted Owl. In the population assessments, trapping of small mammals is included. Based on other publications and experience of the researchers, shrews (of various species) are expected to be captured. Given their high metabolic rate, a percentage of these captured mammals are expected to die prior to being released from the trap. The next paragraph describes steps implemented as part of the research plan to minimize shrew related trapping mortality.

- All traps will be checked once a day in the morning. Traps will be opened on Monday of each week and checked each morning through Friday.
 - Traps will be closed Friday to give small mammals and technicians the weekend off. This has been found to minimize mortality due to repeated nights of confinement for some individuals that consistently return to a trap.
 - Traps are baited with a mix of oatmeal, peanut butter and molasses to provide adequate food for overnight confinement (Wilson 2010). A meal worm will be added to Sherman traps to reduce potential shrew mortality, providing in total 2-3 times shrew body weight in food.
 - Traps will include a rain shroud on the outside and poly fiber batting material inside to facilitate comfort and increase insulation (Sikes and Gannon 2011). Traps will be 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. (For Federally mandated testing, see Item 6 below)

It is estimated that shrew mortality will be 30% (McCay and Komoroski [2004] reported 68% mortality but used pitfall traps with no cover and no food provisioning). Shrews are small insectivores (6-9 grams) with high metabolic rates. Mortality of shrews in small mammal trapping is typically very high, probably because of starvation due to high metabolic rates and hypothermia due to a lowered ability to behaviorally thermo-regulate in traps (McCay and Komoroski 2004).

The mentioned mortality rates are reported from studies that did not take all of the precautions proposed in this project. The methods involve trapping for 4 consecutive days with a 3-day break, provide a food source, and insulated material for bedding, designed to address this source of mortality

6. What, if any, federal regulations require this procedure? Cite the agency, the code of Federal Regulations (CFR) title number and the specific section number (e.g., APHIS, 9 CFR 113:102):

Agency USDA CFR 9