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4. RESEARCH DESCRIPTION
Although previous *Escherichia coli* (*E. coli)* research has investigated the impact of traditional sources of fecal pollution, little research has investigated the role that free-ranging wildlife plays in water contamination. Investigation into the impact of wildlife on water quality can be undertaken through the analysis of *E. coli* deposition (fecal indicator organism). Texas has many watersheds listed as impaired (unsafe for swimming or drinking) by the U.S. EPA. Land managers and natural resource decision-makers need to understand the role of wildlife in the deposition of *E. coli* into Texas watersheds in order to successfully manage water supplies in the state and to implement effective pollution control strategies. Detailed and accurate data is the only way to address growing water supply and quality problems. Furthermore, information concerning the contribution of *E. coli* from free-ranging wildlife populations is needed to improve watershed-level contamination models and reliability of model results. Our study objectives are to identify, characterize, and quantify *E. coli* deposition from free-ranging wildlife populations into a floodplain adjacent to an impaired water body. This project will seek to clarify the spatial distribution of fecal sources, subsequent fecal deposition, and *E. coli* locations. Target species include mammalian (medium to large; e.g., white-tailed deer [*Odocoileus virginianus*], feral hogs [*Sus scrofa*], raccoons [*Procyon lotor*]) and avian (limited to roosting/colony species in direct contact with water body; e.g., cattle egrets [*Bubulcus ibis*], great blue herons [*Ardea herodias*]). Our specific objectives are 1) identify and estimate relative densities of major wildlife contributors of fecal material in the study floodplains, 2) evaluate the presence and persistence of *E. coli* levels in fecal samples from identified major wildlife contributors, and 3) estimate the approximate amount of fecal material deposited by major contributors into the watershed on a seasonal basis.

6. PROPOSED USE OF FUNDS
These funds would be used to cover several distinct needs. I consistently need research-specific books, a necessity that frankly outstrips available funds. I need field guides, statistics books, and research techniques manuals. I also require personal equipment for my research that will not be covered by available money. Things like GPS units, write-in-the-rain notebooks, equipment pack, etc. are luxuries in our current situation. This money would go a

long way towards covering these critical deficiencies. I could also use the money to help cover health insurance and tuition costs.

7. **INTENDED CAREER PATH**

My research interests are human-wildlife interactions and conflicts, sustainable rural human-wildlife coexistence, and wildlife impacts on human health. These interests provide a variety of potential avenues for my career. I could follow the road into academia and pursue these research interests from a faculty position. Ideally, such a position would be in an area of acute water conflicts such as Texas. I have also considered international governmental and non-governmental organizations dedicated to wildlife conservation in rural countries. The question of rural human and wildlife coexistence is still very much an open one in many countries. Additionally, multiple threats to human health (including wildlife) are particularly acute in some countries thus making for rich and urgent research opportunities. My increasing knowledge of the connections between water and wildlife has a place in almost any country and community. People and agencies are becoming increasingly aware of the importance and limitations of water resources. I would like to use the education I am obtaining to work with wildlife in a way that helps local people and promotes an increase in knowledge (both local and in the scientific community). I do not think that these goals are mutually exclusive. In point of fact, the scientist has the responsibility to help make things better for both ecosystems and people.