**Budget Justification**

**PERSONNEL**

**Senior Personnel**

**Principal Investigator Vance Vredenburg, Ph.D.** In order to fulfill the project, PI Dr. Vredenburg requests 0.25 month of summer salary for the project. The proposed level of commitment for this proposal is appropriate to the scope of work and is required in order to fulfill the objectives of this project within the proposed timeframe. Dr. Vredenburg will manage the SFSU component of the project and will coordinate with PI Gerry McChesney, US Fish and Wildlife Service. Project management includes coordination with activities performed by PI Dr. Vredenburg at SFSU including data management, and submission of progress and final reports as well as analyses of data and preparation of manuscripts to be submitted to peer-review journals. The SFSU component includes field-collection of salamanders, pathogen disease assays for each animal, and animal housing during the initial part of the project.

**Real-time PCR assay for the chytrid fungal pathogen: at the SFSU molecular lab**–Vredenburg run samples using standard real time PCR techniques to detect disease. Vredenburg will capture and handle salamanders, collect non-harmful skin swabs from live animals, extract and amplify DNA, and analyze chytrid fungal pathogen PCR assays to test for pathogen presence. Vredenburg will estimate infection intensity (Bsal and Bd) on hosts can help predict the occurrence of a disease epidemic.

**FRINGE BENEFITS:** Fringe benefits for each of the above positions are requested based on the following calculations: PI (10.67% for intersession salaries) and graduate student (2.67%). All amounts are in accordance with current university policies and applicable collective bargaining agreement.

**TRAVEL**

**Domestic Travel:** Budgeted funds ($500) are requested to cover costs of local field work

**OTHER DIRECT COSTS**

**Materials and Supplies:** Funds ($5,000) have been budgeted for the materials and supplies necessary for carrying out the aspects of the research project. Skin swab costs are approximately $20 per swab including expendable supplies used for the swabs, vials and for the qPCR assay (e.g. Prepman, Mastermix, etc. from Applied Biosystems, International). The budget will allow for the analysis of approximately 250 swabs for both Bsal and Bd.

**INDIRECT COSTS**

Indirect costs are budgeted at 26% of Modified Total Direct Costs (MTDC), in accordance with San Francisco State University’s federally negotiated agreement dated 04/11/2011.