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University of California Riparian Revegetation Evaluation

The ecological restoration of riparian corridors within the north coast region of California began in the 1970's and is now a booming endeavor; however, project monitoring of long-term success is minimal, and the need for site evaluation is great. Landowners, government agencies, and consultants need realistic expectations to make informed decisions about the success or failure of these projects. Our survey sets out to determine if present habitat conditions at chosen restoration sites are the result of specific practices at the reach scale, or if they are a function of landscape scale parameters, such as watershed position and voluntary recruitment. The project is a collaborative effort between the University of California Cooperative Extension, resource agencies, consultants, private landowners, and watershed groups involved in riparian restoration projects. Over the next two years, we will conduct a cross-sectional survey of existing riparian projects in Marin, Sonoma and Mendocino Counties. Sites will range from 5 to 30 years in age and are limited to first, second and third order streams with exclusionary fencing and revegetation. Each site will be characterized by quantifying: 1) project goals, design, installation, and maintenance; 2) site management; 3) site physical conditions; 4) vegetation age-class, location, and composition; and 5) benthic macroinvertebrates. Project design, installation, and maintenance information will be evaluated by species selection, irrigation practices, and plant protection. Site management will assess grazing intensity and timing for both pre- and post-project site utilization. Site physical conditions will characterize geomorphology, soil and watershed position, including channel width and depth, site drainage area, entrenchment, substrate particle size, soil texture, and other parameters at the reach and landscape scales. Data collected will be statistically analyzed for correlations with current floristic and benthic macroinvertebrate communities. Metrics such as species abundance and diversity, vegetative cover, and intolerant verses tolerant macroinvertebrates will be calculated. We plan to survey over 150 sites in the next two summers, which will result in a substantial dataset by the end of 2003 and lead to much needed improvements in the effectiveness and efficiency of riparian restoration practices. Our recommendations concerning riparian site potential and management will be summarized for local restoration clientele and landowners, while our results will be made available in pier-reviewed publications.