Jancaitis, Jean Elizabeth. *Restoration of a Willamette Valley Wet Prairie: An Evaluation of Two Management Techniques*. Master's thesis. University of Oregon. Eugene, Oregon. 2001. (Reviewed by Aimee Furber)

Jancaitis examines the effectiveness of prescription burning and woody vegetation removal in controlling the invasion of exotic species and woody vegetation in the wet prairie at Willow Creek, near Eugene, OR. As a result of settlement, large-scale agriculture, and hydrologic alteration, less than one percent of Willamette Valley wet prairie remains. As a result, it is imperative that the remaining prairie is properly managed.

The environmental forces that shape wet prairie are flooding, drought, and autumn fires. Flooding and drought are thought to play an important role in creating and maintaining highly variable microtopography which allows a high diversity of species to thrive in wet prairie. Regular fires remove woody vegetation that would naturally take over a wet prairie.

Jancaitis found that responses to intervention were species specific. Therefore, the effectiveness of burning or manual removal of woody vegetation depends on site-specific conditions and the environmental impact of fire on the surrounding environment. Nine out of 17 native species increased after one year of treatment and one decreased. Three of 10 exotic species increased and two decreased. Two years after treatment fewer responses were apparent. Thus, the effects of the treatment were short term. The study indicated that in the short term, native species benefited while exotics suffered. Consequently, the management techniques used at Willow Creek should continue to be used.

The difficulty with using controlled burns is that the management must try to base the type of fire on specific varying soil and fuel conditions as well as time the fire with the surrounding environment. The burn must wait until there is a window when the atmospheric conditions will permit a burn and for the availably of “over-committed, under-funded fire personnel” (63).

Jancaitis recommends the development of standards to measure success by. This would help to create clear goals and specific targets. Second, she recommends that the effects of fire be documented extensively with before and after date for each species. She also recommends a random sampling of vegetation blocks to allow for comparison and isolation of effects.

Critique

Jancaitis found that the practices and data collections at Willow Creek were done inconsistently, with irregular interventions, and without a control. This made her evaluation of the data difficult. However, it appears that her analysis is similar to that of many experts.

I found the study to be interesting and useful. Many times pollution is thought of in terms of industrial or urban byproducts entering a particular area. However, the introduction of non-native plants also pollutes

an area. If left untended it is possible that the exotic plants will overrun the native plants. While the study focuses on wet prairie rather than a particular stream or river, I felt that it was important to include because of contribution of the wet prairie to the diversity of the Willamette River basin. As such I feel that it is important to preserve.

While the study found that the methods used were effective it failed to mention possible alternatives. I think that this is because of the lack of information about the impact of natural and man-made forces on wet prairie. I think that more than anything the study is recommending that an effort is made to learn about the uniqueness of wet prairies to help in their preservation.

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