

Restoration planning in the context of tamarisk control in the western US

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Abstract:

There are an unprecedented number of ongoing and planned programs aimed at controlling non-native vegetation along rivers in the western US. The primary reasons stated for control efforts are to increase water yield, improve wildlife habitat and restore native vegetation. Central to all of these desired outcomes is the composition of the vegetation that occupies a site following control --i.e., water yield changes depend on ET differences between cleared vegetation and replacement vegetation, and wildlife habitat values depend on relative suitability of replacement vegetation vs. controlled vegetation. Given the central role of replacement vegetation, a key component in planning and site selection for control efforts should be consideration of the range of likely replacement vegetation types and the range of revegetation or restoration activities and associated costs that might be implemented in conjunction with non-native vegetation control. We synthesize information on different trajectories of vegetation change associated with tamarisk control and different management activities across multiple river systems in the western US. Our work will culminate in a planning framework to assist land and water managers with their efforts to prioritize sites for tamarisk control, based on the probability of converting different site types to various alternative vegetation types, and the likely associated restoration and maintenance costs.