

**2006 Tamarisk Research Conference
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Breakout Session 2: Sedimentation and Geomorphic Processes

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Synthesis

Since its introduction and spread in the 20th century, tamarisk has influenced sedimentation and geomorphic processes along many of the river channels where it is present in the western United States. Dam-induced hydrologic changes along western rivers, including changes in the magnitude, frequency, and timing of peak flows may have facilitated the spread of tamarisk and may have created positive feedbacks with tamarisk on channel processes. Current efforts to remove tamarisk from riparian areas may have unforeseen geomorphic consequences during high-flow events, including bank erosion, loss of farm land, and sedimentation of downstream reservoirs.

Knowledge Gaps, Research Needs, and Innovative Solutions

A more thorough understanding of the interactions among vegetative processes, hydrogeomorphic processes, and anthropogenic effects will elucidate mechanisms for tamarisk establishment and improve the scientific basis of tamarisk control and eradication programs. Determining causality in the relationships among tamarisk, sedimentation, altered flow regimes, land use changes, and channel narrowing is especially challenging. For example, it is equivocal as to whether tamarisk causes change in hydrogeomorphic processes or is simply a consequence of anthropogenic effects, and the relative roles of factors such as climate change and altered flow regimes on tamarisk establishment are uncertain. Continued research on linkages between tamarisk and hydrogeomorphic processes, including monitoring of changes in bank erosion, sediment transport, and downstream reservoir sedimentation following tamarisk removal, is essential. Interdisciplinary collaborations among ecologists, hydrologists, and geomorphologists are also critical to advancing understanding of tamarisk dynamics and associated restoration efforts. Establishment of a central database on tamarisk research, removal efforts, and monitoring results would facilitate information exchange among researchers and land managers. This will not only allow researchers to better understand the interaction of tamarisk and hydrogeomorphic processes but provide land managers with multiple case studies that will allow for more successful control programs.

Recommendations for Future Conferences

Conferences such as the 2006 Tamarisk Research Conference can be an important tool for facilitating interdisciplinary communication among ecologists, geomorphologists, and managers. Future conferences should promote such communication by organizing interdisciplinary presentation sessions and breakout groups, rather than segregating physical scientists (geomorphologists and hydrologists) into separate sessions. Future tamarisk meetings should also expand recruitment and publicity efforts aimed at hydrogeomorphologists, including announcements on listservs (e.g., Gilbert Club, geomorphlist) and speaking invitations to physical scientists.