

BOSQUE LANDSCAPE ALTERATION OUTLINE OF BASIC PRINCIPLES

OBJECTIVES

- 1 To reorganize the Rio Grande bosque's landscape to retain, within current constraints, its historical processes and wildlife communities.
- 2 To recreate, by doing this, its former patchy mosaic of native trees and open spaces along the present-day river's narrow floodplain, while containing the distribution of invasive species.
- 3 To reduce, by having created this mosaic, the intensity of bosque wildfires both at the wildland-urban interface and within the rest of the bosque, and the landscape water depletion by bosque evapotranspiration.

BASIC REQUIREMENTS

- 1 Become familiar with the present condition of the bosque landscape, including the existing evapotranspiration rates and fire danger in different reaches, and with the management practices that affect it.
- 2 Develop flexible hydrological management options, including the ability to mimic the natural hydrograph, in order to maintain wet soils at appropriate seasons for native tree recruitment and maintenance.
- 3 Recognize that historical flooding is being replaced by wildfire as the driving force behind current bosque landscape dynamics, and implement flexible responses to both flood and fire to maximize the benefits/minimize the damages of these disturbances.
- 4 Manage the river and the anticipated patchy riparian mosaic for habitat diversity: biological diversity will follow.
- 5 Develop criteria for evaluating the desired evapotranspiration rates and fuel loads for different reaches of river to achieve the greatest diversity of habitats using the most appropriate techniques.
- 6 Construct wetlands inside – and where possible outside – the levee system, with reference to available wetland models.
- 7 Maintain the altered bosque landscape with measures that reduce evaporation from soil surfaces, minimize depletions and provide for overall reductions in the consumptive use of the riparian ecosystem.
- 8 Ensure a sustained program of bosque research and monitoring.

SUGGESTED APPROACHES

- 1 Remove dead and down and invasive trees to the extent possible within protocol for variable densities.
- 2 Thin out stands of native trees, while retaining sufficient dense young-growth native forest patches for habitat, and leaving enough standing dead for wildlife.
- 3 Create uneven-aged stands of native trees by overbank flooding, pole planting, selective watering, landscape lowering, and side-channel construction.
- 4 Create an irregular and internally thinned woodland patch mosaic of varying density with relatively large, interspersed open spaces (native grasslands and shrublands).
- 5 Expand the use of citizen volunteers by using appropriate sources of training, supervision and management, to assist with various aspects of bosque landscape alteration.
- 6 Do the same with ecosystem monitoring by using ongoing and anticipated monitoring programs and protocols.
- 7 Adaptively manage the bosque landscape, in an ecosystem-based manner that integrates recreation uses with fire protection and the other objectives stated above.
- 8 Create communication and teamwork opportunities among the many groups working on the bosque – top-down, bottom-up, and lateral.
- 9 Develop outreach programs that will enhance decision-makers' understanding of bosque processes.
- 10 Conduct periodic external evaluations of the ecological outcomes of bosque landscape alteration.

