V. Management Goals and Objectives

A. Ecological Goal and Objectives. The overall goal of the preserve system is to protect and maintain three separate viable populations of CVFTL in perpetuity. In support of that goal, the following objectives have been indentified:

1. Maintain sufficient acreage of appropriate CVFTL aeolian habitat within each of the three preserves to support viable populations.

2. Protect the processes that maintain the natural dynamics of the dune ecosystem.

3. Control exotic species that either impact the CVFTL directly, or negatively impact their habitat quality.

4. Protect and maintain a desert ecosystem, with associated native flora and fauna, that surrounds, supports and buffers the CVFTL habitat.

5. Support research endeavors that increase our knowledge of CVFTL ecological dynamics and requirements, and enhance our ability to meet our ojectives and goals.

B. Programmatic Objectives. The ability of managers to successfully meet ecological goals and objectives is at least partially dependent on a public that supports the overall goal of the preserve, or at least supports the open space that the preserve system maintains. This requires a continuous educational process for Coachella Valley city and county managers, planners and elected officials, state and federal public agency decision makers, and the voting public. A "public" that finds some inherent value in the existence of the preserve system is much more likely to support actions that give additional protection to the preserves. This may be manifested in support for additional land acquisitions, in protesting development projects that in some way compromise the preserves' integrity, or in being extra eyes and ears to try and stop illegal trepass or trash dumping in and around the dunes. An educated and supportive public become all the more important as the Coachella Valley continues to grow in population and the potential for conflicts along the edge of the preserves increases. Clearly the protection of CVFTL and other wildlife species is paramount, so on-site education and access opportunities must not conflict with that prime directive. An important objective for the preserve is to inform the Coachella Valley human community and associated public officials of the value of the preserves.

VI. Management Strategies

All management actions on the Coachella Valley Preserve System must be in response to an identified threat to the preserves and be in support of the ecological and/or programatic objectives identified for the preserves. A list of proposed management actions, tied to identified threats and/or management objectives follows. Lead agency responsibilities, where appropriate, are indicated in parentheses.

Threat: Unprotected sand sources.
Objective: Maintain CVFTL habitat and natural processes.
Management Action : At the Thousand Palms Preserve, acquire lands within the identified sand source and corridor via USFWS refuge expansion (Figure 3), CDFG-WCB acquisitions, MSHCP funding and purchase through CVFTL HCP mitigation funds. Once Acquired, new lands need to be fenced, posted, and patrolled **(CNLM, USFWS)**. There is also an acute need to work with CVWD and Army Corps of Engineers to insure that their flood control proposals are not in conflict the Preserve System's management objectives **(USFWS, CDFG, CNLM)**. At the Willow Hole and Whitewater River Preserves, acquire lands in fee or through easements in identified sand corridors. Newly acquired lands need to be fenced along preserve perimeters and patrolled regularly **(BLM, USFWS, CDFG, State Parks, CNLM).**

Threat: Sand loss without replacement.
Objective: Maintain CVFTL habitat / viable populations.
Management Action: Throughout the Preserve System, implement a remote sensing monitoring program that allows assessment of both aeolian habitat quality and quantity. With agreement from the Management Committee, develop threshold levels, beyond which management action is called for. Management may include surface disturbance in stabilized habitat, artificial augmentation (trucking in new sand), or other, yet to be determined actions. Sand fencing on the down-wind side of the preserves may need to be installed to reduce down-wind sand loss. All such management will be implemented within an adaptive management framework **(CNLM, USFWS)**. At the Thousand Palms Preserve, promote restoration of previous agriculture areas by removing barriers to sand movement **(USFWS)**.

Threat: Exotic weeds, tamarisk
Objective: Maintain CVFTL habitat / viable populations, protect natural processes, remove deleterious exotic species, promote research that benefits CVFTL management.
Management Action: Support research efforts to determine if exotic weed species have deleterious impacts on CVFTL or on overall ecosystem integrity, and on effective control measures if necessary **(CNLM)**. Monitor exotic weed population trajectories and dynamics **(CNLM, CDFG)**. Where a deleterious impact is identified, and control measures are available, implement an adaptive exotic weed control program **(CNLM, USFWS)**. Remove all tamarisk trees within preserve areas with highest priority on up-

wind tamarisk locations **(BLM, USFWS, CNLM)**. At downwind locations in CVFTL habitat, replace removed tamarisk trees with sand fencing **(CNLM, USFWS)**.

Threat: Off road vehicle trespass.
Objective: Maintain CVFTL habitat / viable populations.
Management Action: Fence and sign all CVFTL habitat areas within the Preserve System **(CNLM, USFWS)**. Conduct regular law enforcement patrols **(USFWS, BLM, CDFG, State Parks).**

Threat: Feral pets.
Objective: Remove deleterious exotic species, promote and maintain a healthy desert ecosystem.
Management Action: Remove feral animals in the most humane manner possible **(USFWS, CNLM)**. If the problem continues to increase, initiate a public education program on appropriate pet stewardship at the urban - wildland interface **(CNLM)**.

Threat: Exotic aquatic species.
Objective: remove deleterious exotic species, promote and maintain a healthy desert ecosystem.
Management Action: Focus on bullfrog control at the Thousand Palms Preserve and thin out emergent aquatic vegetation periodically to aide in exotics control **(CNLM)**.

Threat: Loss of desert pupfish open water habitat due to over growth of aquatic vegetation.
Objective: Maintain adequate amounts of open water habitat.
Management Action: Thin aquatic vegetation on a regular basis. **(CNLM, CDFG)**

Threat: Loss of wildlife corridors, urbanization.
Objective: Promote and maintain a healthy desert ecosystem.
Management Action: Acquire important habitat connections between preserves and larger protected areas **(all partners)**.

Threat: Insufficient awareness on the part of the public as to the value of the Preserve System.
Objective: Encourage public support for Preserve System.
Management Action: Continue controlled public access program on the Thousand Palms Preserve in non-CVFTL habitat areas. Provide educational literature to the interested public **(CNLM)**. Offer limited, guided public tours on CVFTL habitat (1-3 tours annually) **(CNLM, USFWS)**. If outside funding was to become available, build a short boardwalk that would allow the public access to view a small portion of the dune area (all partners). Work with the local media to provide a number of preserve positive reports each year **(CNLM)**. When appropriate, meet with elected officials to inform them of Preserve System related issues **(all partners**).