

Mesquite-Acacia



Mesquite bosque near Corn Creek, Clark County.
Photo by Elisabeth Ammon.

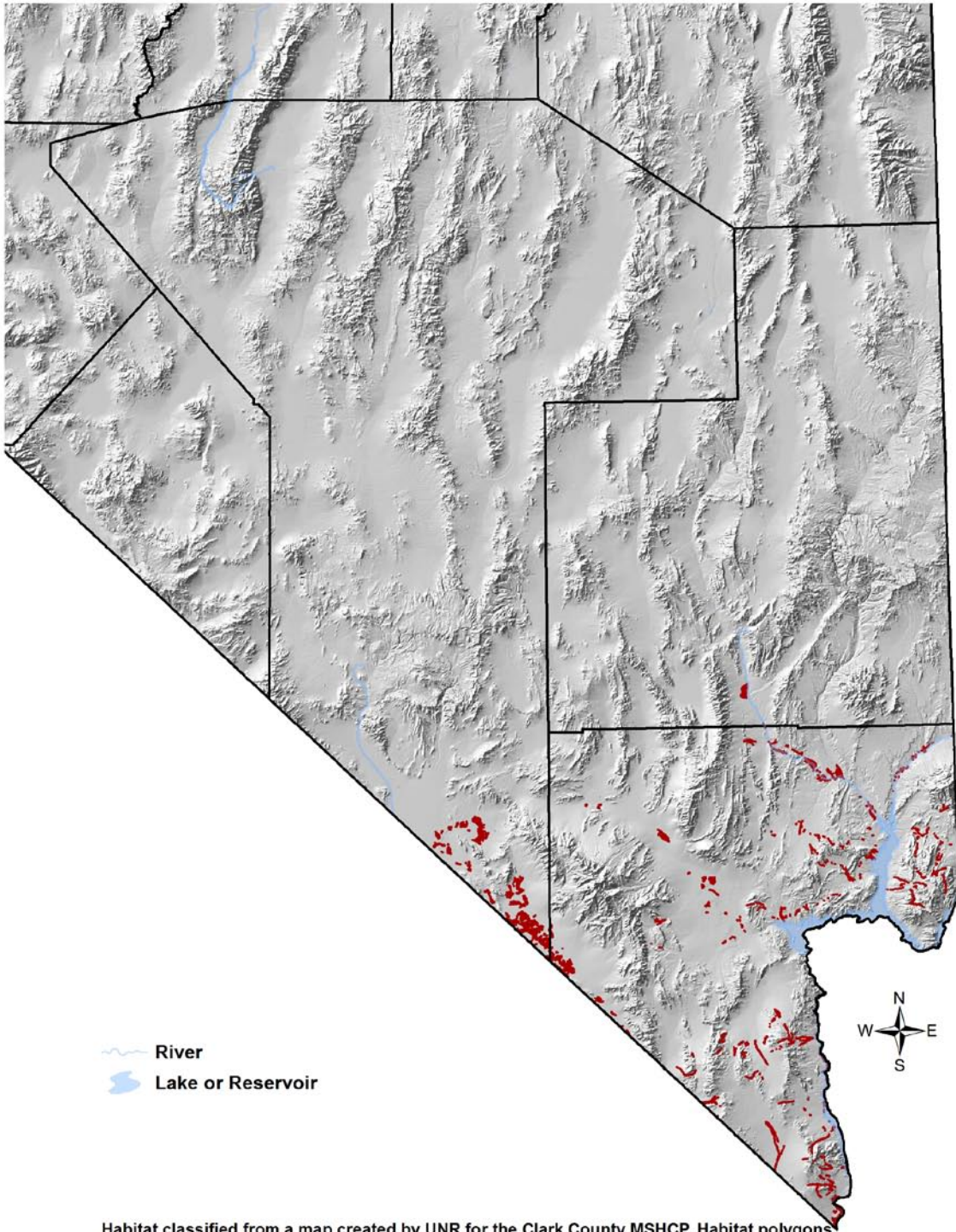
Key Bird-Habitat Attributes

Stand Structure	Multi-aged, open stands of mesquite, acacia, or both, with forb understory
Ideal Scale for Conservation Action	Whole stand (usually 16 – 32 ha [40-60 ac] or more)
Plant Species Composition	Both species of mesquite are useful, areas with tall-growing trees encouraged; mistletoe infections particularly beneficial
Plant Condition	Healthy trees that support mistletoe most useful; shrub and forb understory should be intact, particularly hummingbird plants
Distance to Riparian/Spring Habitats	Proximity of water-dependent habitat increases value to birds
Presence of Cliffs > 30 m [100 ft] Tall	Presence of tall cliffs increases value to birds

Conservation Profile

Estimated Cover in Nevada	11,400 ha [28,200 acres] 0.04% of state
Landownership Breakdown	BLM = 56% Private = 27% FWS = 8% NPS = 7% Other = 2%
Priority Bird Species	Gambel's Quail Costa's Hummingbird Bendire's Thrasher Le Conte's Thrasher Lucy's Warbler Abert's Towhee (Rufous Hummingbird) (Bell's Vireo)
Indicator Species	Phainopepla
Most Important Conservation Concerns	Urban, suburban, and industrial development Invasive weeds Climate change (change in precipitation and temperature) Motorized recreation Livestock, wild horse and burro grazing Increased fire frequency or intensity
Habitat Recovery Time	25 years
Regions of Greatest Conservation Interest	Southern Nye County, Sandy Valley, Las Vegas Valley, southern Clark County
Important Bird Areas	Ash Meadows NWR Catclaw Washes Lake Mead Moapa Valley Virgin River

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Habitat classified from a map created by UNR for the Clark County MSHCP. Habitat polygons have been buffered on this map to improve visibility, and thus the extent of the habitat is slightly exaggerated. Small patches of habitat may not be visible on this map, and some areas may be misclassified.

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Overview

In Nevada, Mesquite-Acacia habitat occurs in generally small patches scattered around the Mojave Desert region. For the purpose of this plan, we do not include mesquite stands that are associated with lowland riparian corridors, which are covered in the Mojave Lowland Riparian account. Most non-riparian Mesquite-Acacia habitat occurs either within ephemeral washes or in “bosques” where trees can access upwelling groundwater. Both types of mesquite-acacia stands are important to a set of Priority species, including Gambel’s Quail, Costa’s Hummingbird, and Abert’s Towhee. Additionally birds that are primarily shrubland inhabitants may benefit from the shelter and foraging opportunities provided by nearby mesquite-acacia stands. Of all birds, however, the Phainopepla, an Indicator species in this plan, is perhaps the best-known avian associate of Mesquite-Acacia habitat. Probably the largest historical concentration of mesquite-acacia in Nevada occurred in Las Vegas Valley, where it has been converted to urban developments in all but a few remnant areas (Krueger 2000). Therefore, preserving remaining patches of non-riparian mesquite-acacia is a high priority. A critical element in determining the value of a mesquite-acacia patch for birds appears to be the presence of mistletoe infections. Birds use mistletoes directly for their berries and for nesting substrate, and they may also take advantage of increased prey density that is likely associated with them. Figure Hab-11-1 illustrates the habitat features that we believe are most important to mesquite-acacia Priority species.

Main Concerns and Challenges

The following top eight conservation concerns were identified in our planning sessions for Mesquite-Acacia habitat in Nevada:

- Urban, suburban, and industrial development
- Groundwater pumping
- Invasive weeds
- Change in precipitation and snowmelt
- Change in temperature
- Motorized recreation
- Livestock, wild horse and burro grazing
- Increased fire frequency or intensity

None of these concerns were ranked very highly, except direct loss of habitat to development. Groundwater pumping was a moderate concern, in that it could reduce the upwellings upon which mesquite bosques rely. Invasive weeds and fire can have local impacts, as can grazing, but these have not been well documented for this habitat type. Off-highway vehicle (OHV) use and firewood gathering may also cause localized habitat degradation. Climate change was listed as a concern, given that non-riparian mesquite-acacia stands exist only where they have access to elevated subsurface moisture. Under a changing climate, subsurface moisture associated with occasional flash flooding events (ephemeral washes) and groundwater upwellings could decline.

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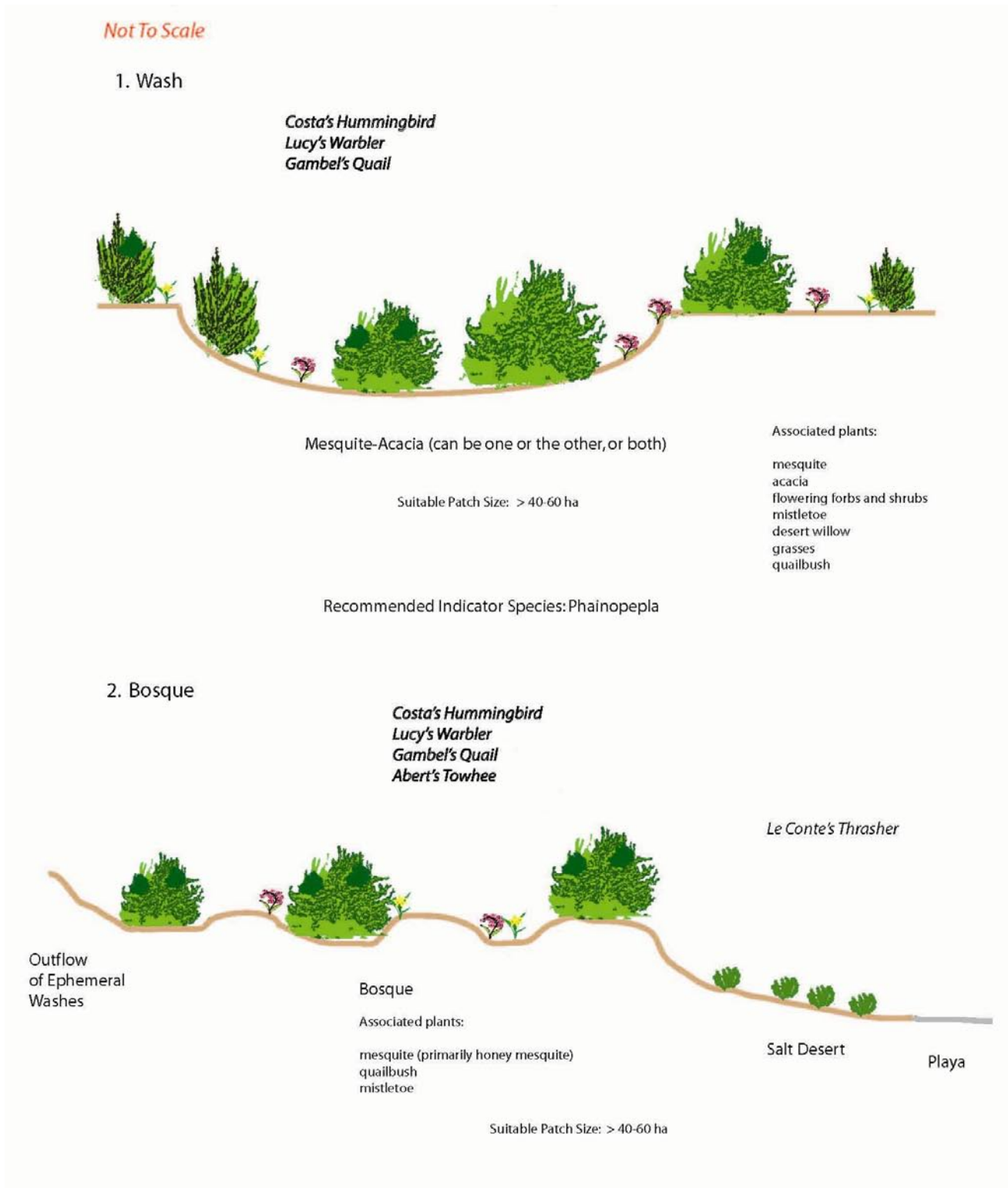


Figure Hab-10-1: Idealized mesquite-acacia landscapes to maximize the number of mesquite-acacia associated Priority bird species.

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Conservation Strategies

Habitat Strategies

- **Manage at the scale of a whole stand** (usually about 20 ha [50 ac], but larger patches are more valuable) with the goal of maintaining healthy trees, mistletoe infections, and intact understory plants, particularly forbs and shrubs that provide hummingbird resources
- **Prevent habitat conversion** to the extent possible in remaining mesquite-acacia stands
- **Recreation** should be managed to keep motorized uses away from mesquite-acacia stands to the extent possible. Established trails may be placed to avoid the healthiest stands, and alternate shade opportunities may be provided
- Evaluate effects of **local groundwater pumping** on mesquite-acacia viability and pursue opportunities to keep it at non-impact levels
- Urban or rural settlements attract **feral cats and other subsidized predators**. Feral cat colonies should be discouraged in mesquite-acacia areas where possible
- Proximity to **water** (riparian areas, desert springs, wet meadows) and presence of **cliffs** > 30 m [100 ft] tall raise the priority level of a site for bird conservation
- Management of **invasive plants** is useful for this habitat type, as they degrade habitat integrity and may increase fire risk
- Maintain **grazing and OHV use** at levels that do not permanently impact the shrub and forb understory or cause soils to be unnaturally exposed
- The majority of priority bird species nest between **April 1 and July 1**, and some of them are particularly sensitive to nest disturbance. This is the time period when disturbances should be minimized

Research, Planning, and Monitoring Strategies

- **Mitigation opportunities** should be sought throughout the historic range of mesquite-acacia, both for future impacts and for past habitat conversions
- **Monitor mesquite-acacia stands** for adaptive management in light of climate change effects and increased demands on groundwater
- Study **effects of OHV use** on priority landbirds and habitat integrity
- Continue **long-term monitoring of landbirds** statewide through the Nevada Bird Count

Public Outreach Strategies

- **Promote responsible OHV uses and low-impact recreation**, such as hiking, bird-watching, and photography

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Female Phainopepla. Photo by Scott Page.