

# The Occurrence of the Desert Fan Palm, *Washingtonia filifera*, in Southern Nevada

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Most references describing the natural distribution of the desert fan palm, *Washingtonia filifera*, make no mention of this species in Nevada (Henderson, 1951; Shreve and Wiggins, 1964; Munz, 1974). The range is said to be restricted to southeastern California, northeastern Baja California, and two sites in western Arizona (Brown et al., 1976). The one exception is Frazier's (1977) mention of palms at Rogers Spring in southern Nevada. However, no details were given as to the precise location, origin, number, or habitat of the palms. In the present paper, the locations and descriptions of four palm oases in southern Nevada are presented with a discussion regarding their origin and status.

In January of 1986, palms of the species *W. filifera* were located at Warm, Juanita, Rogers, and Blue Point Springs, all within Clark County, Nevada (Figure 1). Both mature (fruit-producing) and immature palms were found at each location indicating the trees were established and producing viable seed (Table 1).

The absence of either erect or prone dead palms, the presence of just one mature individual, and the preponderance of immature palms at both Rogers and Blue Point Springs suggest the latter two palm oases are of recent origin. Both springs are located on the alluvial toe of the Muddy Mountains and lie within 50 m of State Highway 167, Lake Mead National Recreation Area. Picnic tables have been placed near the two oases. Although both of these sites have been heavily disturbed, dense vegetation persists and is comprised of cat-tail (*Typha* sp.), arrowweed (*Pluchea sericea*), and mesquite (*Prosopis glandulosa*) in addition to the palms.

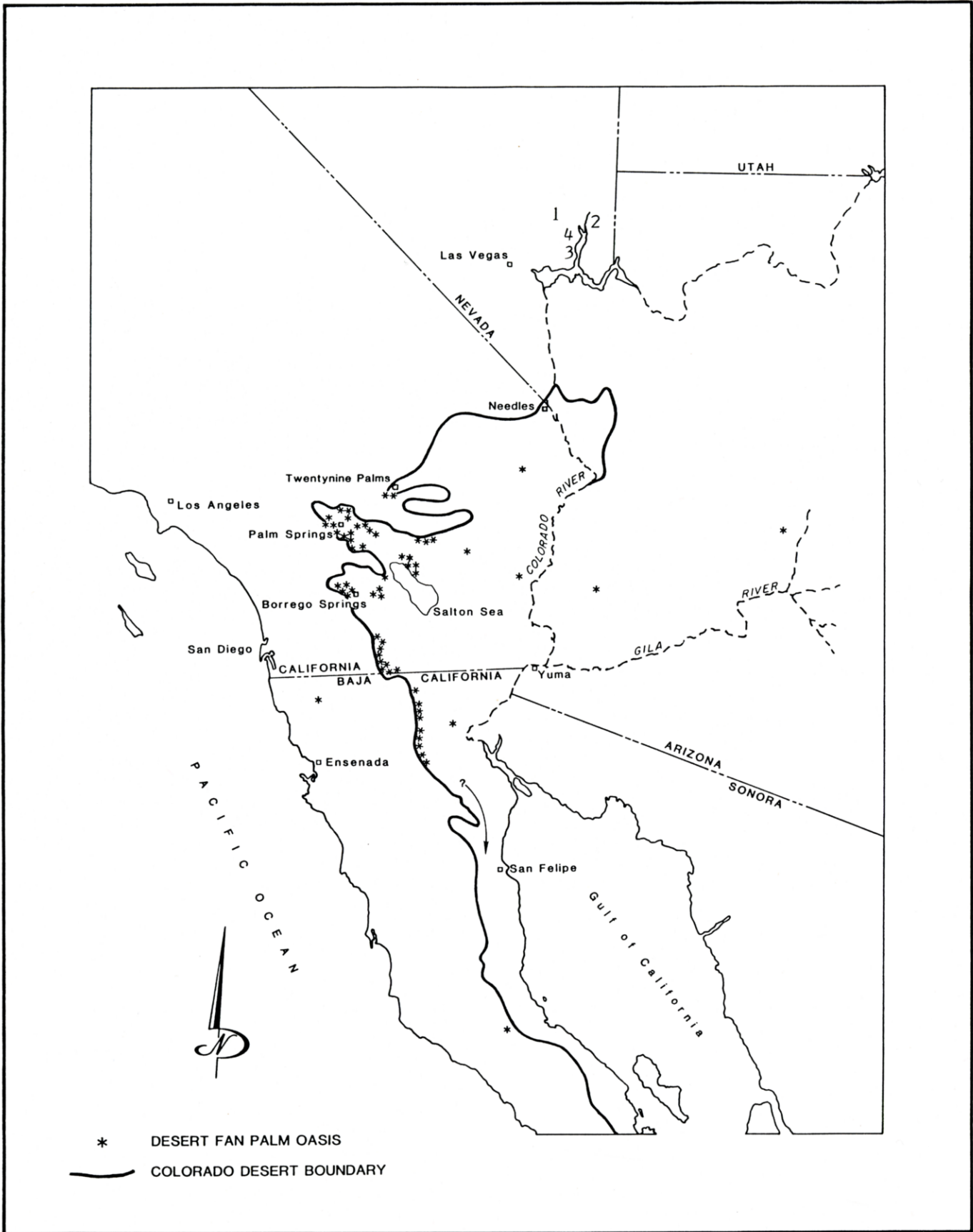
Clearly, the five largest palms at Blue Point Spring have been planted. They grow in a straight line and lie 2 m apart. David McLean (pers. comm.) believes they were planted in the 1950s when a fish-farming operation was located near the spring. Although no seedling palms were found, 3 immature individuals, in addition to the 4 planted immature palms, occur near the spring.

The staffs at Lake Mead National Recreation Area and Nevada State Highway Department were unaware of the origin of the palms at Rogers Spring. However, since Rogers Spring lies just 1.5 km southwest of Blue Point Spring, it is quite possible that humans or coyotes could have transported palm seeds from one spring to the other.

Juanita Springs lies on the lower slopes of the Virgin Mountains, approximately 32 km northeast of Blue Point Spring. Palms have been in existence at the spring since at least 1950, but their origin is unknown (James Wike, pers. comm.). Common plant species at the spring include reed (*Phragmites australis*), cottonwood (*Populus* sp.), mesquite (*Prosopis glandulosa*), as well as the palms. The presence of two dead mature palms, six mature trees in excess of 10 m, and a low ratio of immature to mature palms suggest a longer history for desert fan palms at Juanita Springs as compared with the two aforementioned sites. It seems probable that *W. filifera* was introduced at Juanita Springs, but the presence of immature palms and their random occurrence around the springs indicate that they have established and are producing viable seed without assistance from humans.

Warm Springs is a small valley and community lying approximately 35 km northwest of Overton, Nevada.

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**Figure 1.** General distribution of desert fan palm oases in the Southwest. Numbers refer to palm oases in Nevada: 1 = Warm Springs; 2 = Juanita Springs; 3 = Rogers Springs; 4 = Blue Point Spring.



**Figure 2.** Mature desert fan palms, *Washingtonia filifera*, at Warm Springs, Nevada.

With regard to the availability of moisture, conditions are ideal for palms since water rises to the surface over an area of at least 750 ha and emerges from the ground at 32° C (Waring, 1965). Nearly the entire valley has been disturbed as a result of farming and ranching activities but desert fan palms persist as “weeds” along fence rows, roadside ditches, irrigation channels and refuse sites (Figure 2). Associated plants include mesquite (*Prosopis glandulosa*), arrowweed (*Pluchea sericea*), and cat-tails (*Typha* sp.). The palms have also been planted as ornamentals around dwellings and paved roads. Several hundred palms from the valley have been sold to hotel developers in Las Vegas (Jim Hayworth, pers. comm.). The numbers presented in Table 1 include only those trees that are considered “volunteers.”

Although desert fan palms are obviously well established today at Warm Springs, it has only been within the past few decades that palms have flourished within the valley. In 1925, about 60 palms were present and apparently no palms existed in 1865 when Mormon pioneers first settled in the region (Moot Perkins, pers. comm.). It seems the palms were introduced around 1880 when Nendis Cooper planted palm seeds he had obtained in Arizona (Truman Cooper, pers. comm.).

The presence and reproductive success of desert fan palms at these four sites document that conditions are suitable for the establishment of *W. filifera* in portions of southern Nevada. Further, at Warm Springs at least, these conditions have persisted for at least the past 100 years. In each instance, the existence of palms appears to be the result of a recent human introduction. It is important to note that these four palm oases, and specifically the palms at Warm Springs, are the most northerly, as well as the most recent, records of wild populations of *W. filifera*.

**Table 1.** Number, location and elevation of *W. filifera* palm oases in Clark County, Nevada. M = mature palms; I = immature palms.

Spring Name	# <i>W. filifera</i>		Latitude (N)	Longitude (W)	Elevation (in meters)
	M	I			
Warm Springs	800*	300*	36°43'09"	114°43'34"	536
Juanita Springs	8+	14	36°38'00"	114°14'58"	658
Rogers Spring	1	12	36°23'09"	114°26'45"	484
Blue Point Spring	1	7	36°23'26"	114°25'43"	472

\*approximate counts

### Acknowledgments

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