

Washingtonia spp.

Mexican fan palm and California fan palm

Arecaceae

Forest Starr, Kim Starr, and Lloyd Loope

United States Geological Survey--Biological Resources Division

Haleakala Field Station, Maui, Hawai'i

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OVERVIEW

Washingtonia filifera (California palm), *W. robusta* (Mexican fan palm), and *Washingtonia x filabusta* (hybrids between the former two species) are large fan palms native to the west coast of the United States and Mexico that are commonly cultivated as ornamental street and landscape trees. In Hawai'i, these palms were recently reported as naturalized on the island of Maui (Oppenheimer and Bartlett 2002). On both East and West Maui, these palms are commonly cultivated in urban and residential areas from sea level to 4,000 ft (1,219 m). In hot, lowland, urban areas near water sources, such as wetlands, areas close to the water table, irrigation ditches, and ponds, *Washingtonia* spp. are extremely prolific and well established. In these areas, numerous seedlings and saplings are observed germinating wherever possible. Seedlings have even been observed to come up through cracks in concrete sidewalks and streets. Plants spread rapidly from cultivation, invade wetland areas, and crowd out native species. At higher, dryer elevations and areas where rainfall amounts are high, *Washingtonia* spp. do tend to spread, but not nearly as rapidly or as much. Island wide control at this time is probably not feasible due to widespread distribution. Wetland area managers near infestations should be familiar with these palms and try to remove them as early as possible to avoid major infestations.

TAXONOMY

Family: Arecaceae (palm family) (Oppenheimer and Bartlett 2002).

Latin name: *Washingtonia filifera* (L. Linden) H. Wendl. and *Washingtonia robusta* H. Wendl. (Oppenheimer and Bartlett 2002). There are also hybrids between the two, which are sometimes referred to as *Washingtonia x filabusta*.

Synonyms: *Washingtonia filamentosa* (Brickell and Zuk 1997).

Common names: *W. filifera*: California fan palm, California palm, desert palm, northern palm, northern washingtonia, American cotton palm (Jones 1995, Brickell and Zuk 1997, Oppenheimer and Bartlett 2002).

W. robusta: Mexican fan palm, thread palm, skyduster, Washington palm (Oppenheimer and Bartlett 2002, Dehgan 1998).

Taxonomic notes: The genus *Washingtonia* is made up of two species native to the western coast of the United States, Baja California and Sonora, Mexico (Jones 1995).

Nomenclature: The genus is named after George Washington (1732-1799), the first president of the United States (Dehgan 1998).

Related species in Hawai'i: There are no other species in the genus.

DESCRIPTION

Washingtonia filifera: "Medium-sized to large palm with a robust, columnar trunk. Leaf stalks are sharply toothed at the bases, and the fan-shaped, gray-green blades, 5-10 ft (1.5-3 m) long, are erect at first, then spreading and arching, with filaments hanging from the slender lobes. Dead foliage forms an even skirt that clothes the trunk from top to bottom. Bears tubular, creamy white flowers in panicles to 15 ft (5 m) long, usually in summer." (Brickell and Zuk 1997).

"Trunk stout without a broader base; leaf blades gray-green, lacking a tawny patch near the hastula." (Oppenheimer and Bartlett 2002).

Washingtonia robusta: "Tall, fast growing palm with a slender trunk that gradually tapers from ground level to the crown. Leaf stalks are sharply toothed throughout their length, and the fan-shaped, bright green blades, to 3 ft (1 m) long, have arching lobe tips, with inconspicuous or no filaments. Dead foliage forms a shaggy skirt that clothes the trunk. Tubular, creamy pink flowers are borne in panicles to 10 ft (3 m) long, usually in summer." (Brickell and Zuk 1997).

"Trunk slender, tapered from a stout base; leaf blades bright green, hastula tawny beneath." (Oppenheimer and Bartlett 2002).

Washingtonia x filabusta: A hybrid between the two species exists and is commonly grown and sold in the horticulture trade (Dehgan 1998, White Tank Palms 2000). Hybrid trees tend to have characteristics of both species. The species are hard to distinguish when young (Riffle 1998).

Fruits of *Washingtonia* spp. are small black drupes (Turner and Wasson 1997).

BIOLOGY & ECOLOGY

Cultivation: *Washingtonia* spp. are tall palms that are commonly cultivated as ornamental street and landscape trees in Hawai'i and other warm areas of the world. According to Jones (1995), "Imposing, stately palms which are very popular in cultivation. They grow very well in semi-arid climates but have also proved to be highly adaptable, growing well in coastal districts, mountainous regions and from the tropics to cool-temperate climates."

Invasiveness: *Washingtonia* spp. have become naturalized in areas where they are planted, including Hawai'i, Florida, and Australia (Randall 1998, Oppenheimer and Bartlett 2002, Hunsberger 2003). On Maui, *Washingtonia* spp. are widely planted in urban areas. They are well established in dry, hot coastal wetland areas, produce abundant seeds spread by fruit eating birds, and form dense thickets. In Florida, *Washingtonia* spp. may not be planted within 500 ft of native plant communities in coastal wetland and beach habitat (Hunsberger 2003). The armed petioles of falling leaves may be dangerous (Dehgan 1998). The shaggy thatch of dead leaves that is left on the trunk is a fire hazard (Brickell and Zuk 1997).

Pollination: Not known

Propagation: *Washingtonia* spp. are propagated by seeds (Brickell and Zuk 1997). Germination occurs two to four months after sowing (Jones 1995).

Dispersal: *Washingtonia* spp. are spread long distances through the horticulture trade. On Maui, plants escape cultivation by seeds that are consumed and dispersed by fruit eating birds and possibly other animals. Birds that were observed in *Washingtonia* trees in Lahaina include common mynahs (*Acridotheres tristis*), java sparrows (*Padda oryzivora*), house finches (*Carpodacus mexicanus*), and house sparrows (*Passer domesticus*). Several mynahs were observed perched in trees consuming ripe fruits.

Pests and diseases: Brickell and Zuk (1997) report that *Washingtonia* spp. are susceptible to scale insects, spider mites, viruses, pink rot, bud rot, butt rot, and a wide variety of leaf spots. Dehgan (1998) adds that these palms may be damaged by palm weevils and root rot, but that they are resistant to lethal yellowing disease.

DISTRIBUTION

Native range: *Washingtonia* spp. are palms native to the west coast of the USA, Baja California and Sonora, Mexico. They grow in semi-arid, desert regions, usually forming colonies near water, often in gorges and canyons (Jones 1995).

Washingtonia filifera: Native to south-eastern California and western Arizona, also extending over the border to Baja California (Jones 1995). Known from around springs and streams of southern California and southwestern Arizona (Courtright 1988).

Washingtonia robusta: Native to north-western Mexico and Baja California and grows near the sea (Jones 1995). Apparently, this species is not as cold tolerant as *W. filifera* (Jones 1995).

Global distribution: *Washingtonia* spp. are commonly cultivated and naturalized in warm regions of the world. They are spreading in Florida, Hawai'i, and Australia. In Florida, *Washingtonia robusta* threatens native plant communities in coastal wetland and beach habitat in southern parts of the state (Hunsberger 2003). In Death Valley National Monument, part of the Mojave and Colorado Desert Biosphere Reserve, *Washingtonia filifera* is considered a minor pest that needs localized control (Loope 1992). In Australia, Randall (1998) reports that *Washingtonia filifera* has escaped from cultivation and is spreading at Kununurra, Millstream, and in the Perth area.

State of Hawai'i distribution: In Hawai'i, *Washingtonia filifera*, *W. robusta*, and a hybrid *W. x filabusta* are commonly cultivated and naturalized on the island of Maui.

Island of Maui distribution: On Maui, *Washingtonia* spp. are widely cultivated and naturalized in urban areas from sea level to 4,000 ft (1,219 m) elevation on both East and West Maui. *Washingtonia* spp. thrive in lowland, hot, wetland type, urban areas where the water table is close. Some areas where *Washingtonia* spp. are readily cultivated and

naturalized include Lahaina, Kihei, and Kahului. In these areas, numerous naturalized plants were observed in cracks in sidewalks, ponds, coastal wetlands, along water ditches, roadsides, and scrub areas. Areas where *Washingtonia* spp. are widely cultivated, but not as widely naturalized, include Paia, Ha'iku, Makawao, Pukalani, Kula, Keokea, and Nahiku. These areas are suitable for *Washingtonia* spp., but are not as preferred, and plants tend to naturalize to less of an extent. Oppenheimer and Bartlett (2002) report, "Plants have been observed in hot, dry areas, as well as along the shoreline, and at the margins of streams. Numerous seedlings can sometimes be seen far from mature trees, and it is not always possible to assign young plants to species."

CONTROL METHODS

Physical control: Small plants can be dug up. Chain-sawing the palm at the base below the growing tip will also control it.

Chemical control: Not known.

Biological control: Not known.

Cultural control: The public could be discouraged from planting this species, especially near natural areas, wetlands, reservoirs, and other hot lowland sites where it is not wanted.

Noxious weed acts: None known. In Florida, there are landscaping codes that do not allow *Washingtonia* spp. to be planted within 500 feet of native plant communities in coastal wetland and beach habitats where they are known to invade.

MANAGEMENT RECOMMENDATIONS

Washingtonia spp. are widely cultivated and naturalized on Maui. These palms seem to prefer hot, dry, coastal areas where they are prolific and often form dense stands. The distribution on Maui is too widespread for island wide control. It could be discouraged from plantings and controlled in vulnerable areas.

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