


Acceptable.
The trees above have a vertical branching structure that minimizes perching and nesting opportunities.


Not acceptable.
Examples of trees that are attractive to birds because of horizontal branching structure.


Not acceptable.
Trees, shrubs and plants that produce wildlife edible fruit and seeds should be avoided.

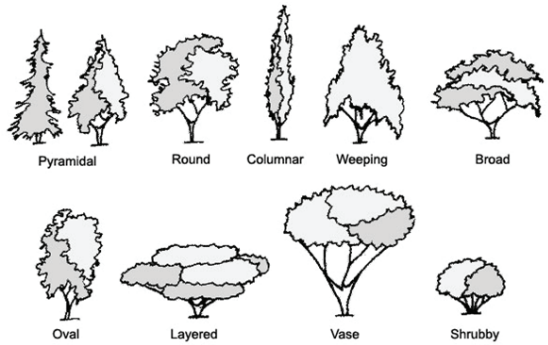
Landscaping needs to be aesthetically pleasing, but it must coincide with the responsibility for aviation safety.

TABLE 2. Acceptable Plants from Riverside County Landscaping Guide

	Scientific Name	Common Name	WOCOLS Region 1, 2	Sunset Zone
TREES	*Cercis occidentalis*	Western Redbud	VL: 1, 2, L: 3,4	2-24
	Olea europaea 'Swan Hill'	Fruitless Olive	GL: 1,2; L: 3, 4, M: 5,6	8,9; 11-24
	Pinus spp.	Pine, various species	Varies by species	Varies by species
	Rhus lancea	African Sumac	L: 1-4; M: 5-6	8-9; 12-24
	*Robinia neomexicana**	Desert Locust	L: 1-4; M: 5-6	2-3, 7-11, 14, 18-24
	Robinia x ambgua	Locust	L: 1-4; M: 5-6	2-24
	Ulmus parvifolia	Chinese Elm	M: 1-6	3-24
SHRUBS	*Aloysia triphylla*	Lemon Verbena	L: 1-6	9-10;12-21
	Cistus spp.	Rockrose	L: 1-6	6-9, 14-24
	Dalea pulchra	Bush Dalea	L:6	12,13
	Encelia farinosa	Brittlebush	VL:3; L:3-6	
	Gravellia Noelli	Noel's Grevellia	L: 1-4; M: 6	
	Justicia californica	Chuparosa	M: 1,6; VL: 3; L: 4-5	
	Langana camara	Busn lantana	L: 1-4; M: 6	
	Lavendula spp.	Lavender	L: 105; M: 5-6	2-24; varies
	Nandina domestica species	Heavenly Bamboo	L: 1-4; M: 5-6	
	Rosmarinus officinalis 'Tuscan Blue'	Tuscan Blue Rosemary	L: 1-4; M: 5-6	
	Salvia greggia	Autumn sage	L: 1-4; M: 5-6	
GROUND COVER	*Artemisia pycnocephala*	Sandhill Sage	VL:1	
	Oenothera caespitosa	White Evening Primrose	L: 1-2, 3-5	103,7-14, 18-21
	Oenothera stubbei	Baja Evening Primrose	L:1-6	10-13
	Penstemon baccharifolious	Del Rio	L: 4-6	10-13
	Trachelospermum jasminoides	Star Jasmine	M:1-6	8024
	Zauschneria californica	California Fuchsia	L: 1,2,4; VL: 3; M.5-6	2011, 14-24
GRASSES	*Cortaderia dioica [syn. C. selloana]*	Pampass Grass	N/A	N/A
	Festuca spp.	Fescue	Varies by Species	Varies by Species
	Zoysia 'Victoria'	Zoylsia Grass	60% of ETO	8-9, 12-24
ACCENT GRASSES	*Agave species*	Agave	L: 1-4, 6	10, 12-24 (Varies)
	Aloe species	Aloe	L: 1-4, 6	8-9, 12-24
	Chondropetalum Itectorum	Cape Rush	H:1; M:3	8-9, 12-24
	Dasylirion species	Desert Spoon	VL: 1, 4-6	10-24
	Deschampsia caespitosa	Tufted Hair Grass	L: 1-4	2-24
	Festuca (ovina) glauca	Blue Fescue	L: 1-2; M:3-6	1-24
	Dietes bicolor	Fortnight Lily		VL:1, L:3-6
	Echinocactus grusonii	Golden Barrel Cactus	VL:1-2, L: 3-4, 6	12-24
	Fouquieria splendens	Octillio	L: 1, 4-6; VL: 3	10-13, 18-20
	Hesperaloe parviflora	Red / Yellow Yucca	VL:3, L: 4-6	2b, 3, 7-16, 18-24
	Muhlenbergia rigens	Deer Grass	L: 1,3; M: 2, 4-6	4-24
	Opuntia species	Prickly Pear, Cholla	VL: 1-3; L: 4-6	Varies by Species
	Penstemon parryi	Parry's Beardtongue	L:1-6	10-13
	Penstemon superbus	Superb Beardtongue	L: 1-6	10-13
	Tulbaghia violacea	Society garlic	M:1-4, 6	13-24
	Yucca species	Yucca	L:1-6	Varies by Species

Not recommended are trees that overlap, allowing birds to move safely from tree to tree without exposure to the weather or predators.

Tree species should be selected and planted so that, at maturity, overlapping crown structures will be minimized.



Trees approved for planting should have varied canopy types and varied heights, both at time of planting and at maturity. A combination of the styles illustrated above is recommended.

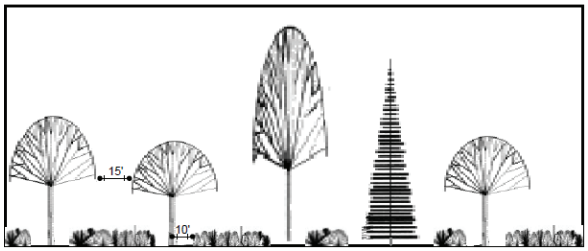


Figure 1. Selection of shrubs should be a mix of deciduous and coniferous species with no more than 50 percent evergreen species.

Plant Selection, Irrigation, and Wildlife Management. Riverside County requires landscaping for proposed development and redevelopment projects, and it is also committed to the use of native and drought-tolerant plants to reduce landscape-related water use. The County of Riverside Guide to California Friendly provides a lengthy plant palette to help landscape architects, planners, and the public select pant materials that will reduce water use in accordance with local and state goals: (http://rctlma.org/Portals/7/documents/landscaping_guidelines/Guide_to_California_Friendly_Landscaping.pdf.)

Many of the plants on the "County of Riverside California Friendly Plant List" could attract potentially hazardous wildlife species. Table 2 provides a reduced species list, nearly all of which were excerpted from the Friendly Plant List, but are less likely to support potentially hazardous wildlife. Project sponsors should use this list for projects within an AIA.

The list is not meant to be exhaustive, and other species may be appropriate based on the project location or other project-related circumstances. Sponsors who wish to propose plant materials that are not included in Table 1 will need to demonstrate to the ALUC that proposed species will be unlikely to attract hazardous wildlife to the AIA.

General Guidelines. Other factors can affect wildlife behavior. Landscaping can provide a food source, opportunities for shelter, nesting and perching. Proposed landscaping can help to discourage wildlife through the application of the following guidelines summarized below and described in Table 1.

- **Close the Restaurant!** Do not use plant material that produce a food source, such as edible fruit, seeds, berries, drupes, or palatable forage for grazing wildlife. When possible, select a non-fruiting variety or male cultivar.
- **No Vacancy!** Avoid densely branched or foliated trees; they provide ideal nesting habitat and shelter.
- **Prevent Loitering!** Select tree species that exhibit a vertical branching structure to minimize nesting and perching opportunities (Figure 1).

Mead & Hunt

Table 1. Design Guidance for Plant Materials

TREES	**Avoid/Prevent Contiguous Canopy** 1. Prevent overlapping crown structures. Contiguous crowns can provide safe passage for wildlife. Provide sufficient distance between plants to ensure that at least 15 feet of open space will remain between mature crowns (Figure 1). 2. Prevent homogenous canopy types and tree height. Variable canopy height will reduce thermal cover and protection from predators. ■ Provide significant variation between the type of canopy and height of the species, both at planting and at maturity. ■ Provide no more than 20% evergreen species on site, and never plant evergreens in mass or adjacent to each other.
SHRUBS/ACCENTS/GRASSES	**Limit Coverage** Limit the amount of cover and avoid massing to prevent the creation of habitat for birds or small mammals. ■ Mix deciduous, herbaceous, and evergreen species. ■ Do not plant species in mass. At a minimum, provide sufficient spacing to equal the width of each species at maturity. Avoid species with the potential to creep near shrubs (Figure 2). ■ Provide at least 10 feet between trees and other species greater than 1 foot in height.
GROUNDCOVER/TURF	**Prevent the natural succession of landscape!** Groundcover plays a transitional role between shrubs, grasses, and trees, and this succession creates an ideal habitat for diverse wildlife (see Figure 2). 1. Provide a buffer and sharp edges between groundcover, turf, shrubs and trees, using hardscape or mulching. 2. When possible, use alternative groundcovers, such as decorative paving and hardscapes instead of planted groundcover/turf. 3. The use of groundcover/turf may be impractical or undesirable based on irrigation needs or site-specific conditions. Consider using the following: ■ Artificial turf in place of groundcover, which can reduce maintenance and eliminate irrigation needs (Figure 2A). ■ Porous concrete to cover smaller areas (Figure 2B). ■ Permeable pavers to provide visual interest while promoting drainage (Figure 2C).
VINES	**Limit Coverage** Limit the amount of cover and avoid massing to prevent the creation of habitat for birds or small mammals. ■ Do not use vines to create overhead canopy or to cover structures. ■ Do not plant vines to grow on the trunk or branches of trees. ■ Minimize vines to areas of 5 feet or less in width. Vines require considerably more maintenance than other plant materials.

Acceptable plants from the Riverside County Landscaping Guide

Chinese Elm | Heavenly Bamboo | California Fuchsia | Deer Grass | Society Garlic

LANDSCAPING NEAR AIRPORTS:

Special Considerations for Preventing or Reducing Wildlife Hazards to Aircraft

Landscaping makes a visual statement that helps to define a sense of space by complementing architectural designs and contributing to an attractive, inviting facility. In some cases, a landscaping plan can be used to restore previously disturbed areas. However, such landscape plans are not always appropriate near airports.

Wildlife can pose hazards to aircraft operations, and more than 150 wildlife strikes have been recorded at Riverside County. The Riverside County Airport Land Use Commission (ALUC) prepared this guidance for the preparation of landscape designs to support FAA's efforts to reduce wildlife hazards to aircraft. This guidance should be considered for projects within the Airport Influence Area (AIA) for Riverside County Airports. The following landscape guidance was developed by planners, landscape architects and biologists to help design professionals, airport staff, and other County departments and agencies promote sustainable landscaping while minimizing wildlife hazards at Riverside County's public-use airports.

Discouraging Hazardous Wildlife. Plant selections, density, and the configuration of proposed landscaping can influence wildlife use and behavior. Landscaping that provides a food source, perching habitat, nesting opportunities, or shelter can attract raptors, flocking birds, mammals and their prey, resulting in subsequent risks to aviators and the traveling public.

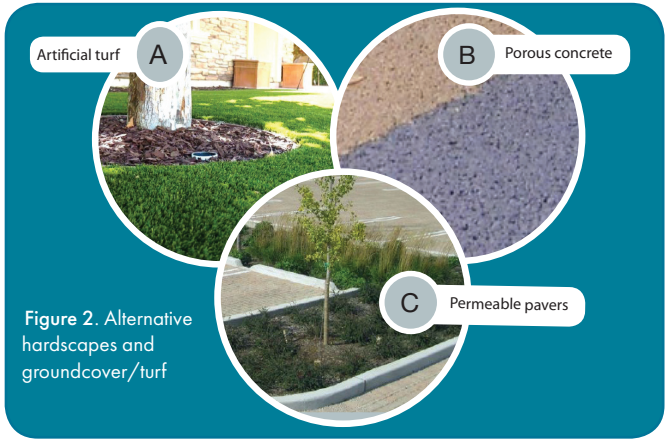


Figure 2. Alternative hardscapes and groundcover/turf

Riverside County Airport Land Use Commission