Plant Data Sheet

Species (common name, Latin name)
Oregon white oak or Garry oak, *Quercus garryana*, Dougl. ex Hook.

Range
Occurs from southwestern British Columbia, along the Pacific Coast, south to the Coast Ranges and Sierra Nevada of California. (FEIS Database; Silvics of North America)

Climate, elevation
Oregon white oak grows from sea level to 5,000 feet (1,524 m) in elevation in highly variable climatic regimes. It is found in cool, humid conditions near the coast and in hot, dry environments of inland valleys and foothill woodlands and can endure temperature extremes from -30 to 166 degrees (-34 to 47 deg C). Average annual precipitation ranges from 262 cm (103.5 inches) to 30 cm (10.6 inches). (FEIS database)

Local occurrence
Locally, Oregon white oak occurs in oak savannas or woodlands and mixed forests on dry sites such as inland valleys and foothills, south slopes, unglaciated and glaciated rocky ridges. Because it can tolerate both drought and lengthy flooding, Oregon white oak also occurs along riparian corridors in association with *Fraxinus latifolia*. (Silvics of North America)

Habitat preferences
Can grow in a wide variety of productive or harsh habitats, but is usually out-competed on the more productive sites. Therefore, Oregon white oak tends to dominate on either excessively dry or wet sites that limit less tolerant species within its range. (FEIS database)

Plant strategy type/successional stage
Stress tolerator. (Silvics of North America)

Associated species
Distribution on both wet and dry sites leads to a diverse list of associated species including *Pseudotsuga menziesii*, *Pinus ponderosa*, *Abies amabilis*, *Tsuga heterophylla*, *Thuja plicata*, *Quercus* spp., *Arbutus menziesii*, *Betula occidentalis*, *Acer macrophyllum*, *Arctostaphylos* spp., *Ceanothus* spp., *Rubus parviflorus*, *Vaccinium ovatum*, *Mahonia aquifolium*, *Festuca idahoensis*, *Elymus glaucus*, *Danthonia californica*, *Phacelia linearis*, and many more. (FEIS database; Franklin and Dyrness 1973)

May be collected as:
Acorns

Collection restrictions or guidelines
Acorns ripen from late August to November. This is a masting species that only produces heavy acorn crops periodically. Seeds must be kept moist between collection and sowing to ensure viability. (Silvics of North America)

Seed germination
Seeds are not dormant and will germinate as soon as they are exposed to warm, moist conditions. (Silvics of North America)

Seed life
Oak seeds generally do not store well and should be planted soon after maturity (Wilken and Burgher 2000). However, Acorns can be stored for short periods if high moisture content (30 % or more) and low temperatures are maintained in the storage facility. (Silvics of North America)

Recommended seed storage conditions
Store with high acorn moisture content (30 % or more) at cool, regulated temperatures. (Silvics of North America)

Propagation recommendations
Direct seeding at the beginning of winter or container production by seed are recommended. Container grown material can be produced by planting seeds into one-gallon containers of well-drained potting soil with a slow release fertilizer. Seeds should be planted 1-2 inches deep and the soil should be kept moist and aerated. (Wilken and Burgher 2000)
Cuttings and layering are difficult with oak species. (Silvics of North America)

Soil or medium requirements (inoculum necessary?)
See propagation section above.

Installation form (form, potential for successful outcomes, cost)
Direct seeding with protection from seed predators and herbivores for the acorns and seedlings at the beginning of winter or container grown seedlings planted in spring (after the first leaves open and become firm). (Silvics of North America; PLANTS database)

Recommended planting density
300 to 800 trees per acre. (PLANTS database)

Care requirements after installed (water weekly, water once etc.)
Watering every 2-3 weeks during the first growing season and weeding young plants until they are 6-10 inches tall are recommended (Wilken and Burgher 2000). Some form of protection from seed predators and/or herbivores is recommended (Silvics of North America).

Normal rate of growth or spread; lifespan
Initial growth is concentrated on development of a taproot. Shoot development is slow; seedlings may take 10 years or more to attain 1 m (3.3 feet) in height. Growth from root and collar sprouts of mature trees following fire is vigorous. (FEIS database)

Sources cited
FEIS database: http://www.fs.fed.us/database/feis/plants/tree/quegar/index.html
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Franklin, J.F. and C. T. Dyrness. 1973. Natural Vegetation of Oregon and Washington. Oregon State University Press, Corvallis.

PLANTS database: http://plants.usda.gov/. Accessed 5/2/2003

Silvics of North America: http://www.na.fs.fed.us/spfo/pubs/silvics_manual/volume_2/quercus/garryana.htm. Accessed 5/2/2003

Wilken, D. and Burgher, J. 2000 Oregon Oak: *Quercus garryana* Doug. ex Hook. Accessed on 5/2/03 through PLANTS database: http://plants.usda.gov/

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