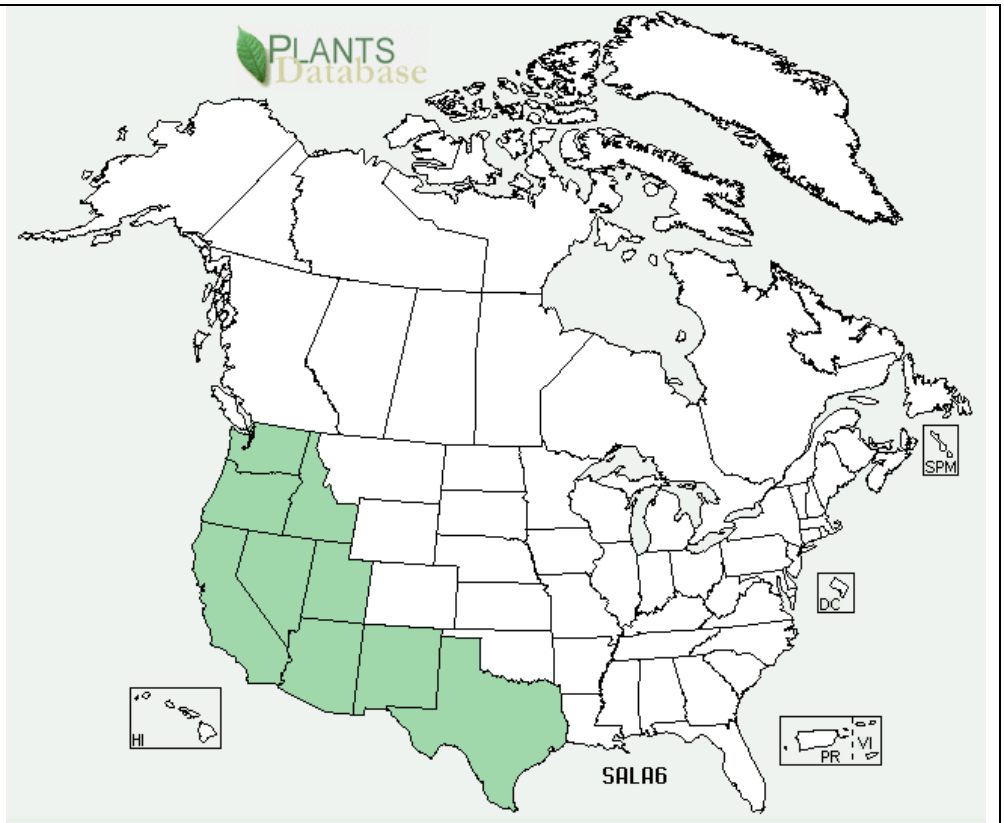
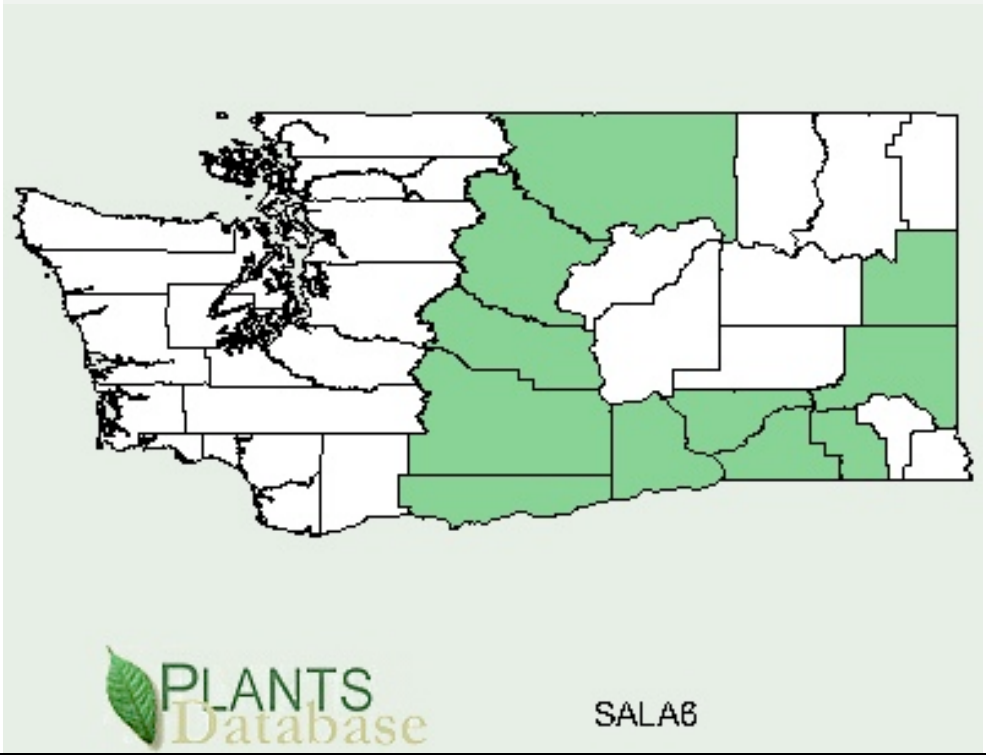
Plant Propagation Protocol for *Salix lasiolepis*
ESRM 412 – Native Plant Production

TAXONOMY	
Family Names	
Family Scientific Name:	Salicaceae
Family Common Name:	Willow
Scientific Names	
Genus:	Salix
Species:	Lasiolepis
Species Authority:	Benth.
Variety:	Salix lasiolepis Benth. var. bigelovii (Torr.) Bebb
Sub-species:	NA
Cultivar:	NA
Authority for Variety/Sub-species:	NA
Common Synonym(s)	*Salix lasiolepis* var. *bigelovii* *Salix lasiolepis* var. *bracelinae* *Salix lasiolepis* var. *lasiolepis* *Salix lasiolepis* var. *sandbergii* *Salix tracyi* *Salix bakeri* *Salix franciscana* *Salix lutea* var. *nivaria*
Common Name(s):	Arroyo Willow
Species Code:	SALA6
GENERAL INFORMATION	

Geographical range:	 
Ecological distribution:	Riparian zones, Wetlands, Foothills, Woodland, Valley Grasslands, and several forest types Found between and elevation of : 0 and 7000 feet
Climate and	

elevation range	
Local habitat and abundance	Grows in moist gravel and sandy soils. Can grow in groups or individuals along rivers. Also does well in: Coastal Sage Scrub, Southern Oak Woodland, Yellow Pine Forest and Central Oak Woodland. (1) (3)
Plant strategy type / successional stage	Colonizer of banks along seasonal streams
Plant characteristics:	Thicket forming small shrub to Tree Flowers are yellow The arroyo willow is Dioecious with small fruit and small catkins, Lives for 75-80 years (2) Reaches an average of 35 feet tall Dicot

PROPAGATION DETAILS

Ecotype :	Tennessee Valley, California
Propagation Goal:	plants
Propagation Method:	Vegetative (3) due to preformed root initials (1)
Product Type:	Container but bare root works well in moist soils
Stock Type:	Deepot 40 (3)
Time to Grow	Not specified
Target Specifications	The shoot system does not have specifications The root system should be firm within the container.
Propagule Collection:	Softwood or hardwood cuttings will work Hardwood cuttings should be collected between December 15th and January 31st. The stem should be between 3/8'' to ½'' In diameter and around 10 inches in legnth
Propagule Processing/Propagule Characteristics:	Keep cuttings cool and moist whilst minimizing the time between cutting and planting.
Pre-Planting Propagule Treatments:	cuttings are dipped in a mild bleach solution for 30 seconds. Cuttings are recut to inclde 3 nodes (5 inches long) and are treated with Hormex (3000 ppm IBA) rooting powder and struck in flats containing 3:1 Perlite/Vermiculite. 50 Cuttings are struck 3 inches deep per flat. % Rooting: 90%
Growing Area Preparation / Annual Practices for Perennial Crops :	Fully Controlled Greenhouse. Flats are kept in the greenhouse and watered with an automatic mist system until roots are fully developed.
Establishment Phase:	Outplant the cuttings after establishment phase. For establishment to take place the cuttings should be moved from deepot

	to conetainers. The protocol experiment analyzed used 2"x10" tubes (Deepot 40). The media used by the experiment contained a standard potting mix. This mix was made up of peat moss, fir bark, perlite, and sand. To prepare the cuttings for outplanting they are adapted to the new environment by being placed in the shadehouse. (4)
Length of Establishment Phase:	70 days
Active Growth Phase	Not specified (for areas not specified there was not information either on the protocol or in literature for *Salix lasiolepis*)
Length of Active Growth Phase:	Not specified
Hardening Phase:	Not specified
Length of Hardening Phase:	Not specified
Harvesting, Storage and Shipping:	Not specified
Length of Storage:	Not specified
Guidelines for Outplanting / Performance on Typical Sites:	Transplant Survival averages 70%. (4)
Other Comments:	Willow cuttings do very well as bare root for bank stabilization restoration projects and need very little care for propagation. This is due to willow's having preformed root initials. Willows root readily also because of the large amount of auxins which can actually be extracted to make a root growth hormone formula (a)
INFORMATION SOURCES	
References (full citations):	1. Dirr, Michael. Reference manual of woody plant propagation from seed to tissue culture : a practical working guide to the propagation of over 1100 species, varieties, and cultivars. Athens, Ga: Varsity P, 1987. Pg 193 2. Sudworth B. George. Poplars, Principal Tree Willows and Walnuts of the Rocky Mountain Region USDA tech bulletin No. 420 August 1934 pg. 3. NPS plant Protocol http://www.nativeplantnetwork.org/network/view.asp?protocol_id=724 4. USDA Plant Database http://plants.usda.gov/java/profile?symbol=SALA6

	5. Las Pilatas Nursery http://www.laspilitas.com/nature-of-california/plants/salix-lasiolepis 6. Virginia Tech Forest Resources http://www.cnr.vt.edu/dendro/dendrology/Syllabus2/factsheet.cfm?ID=567 7. Calflora database http://www.calflora.org/cgi-bin/species_query.cgi?where-calrecnum=7277
Other Sources Consulted:	(a) iVillage GardenWeb http://faq.gardenweb.com/faq/lists/tips/1998054614009627.html
Protocol Author:	Keith Stoner
Date Protocol Created :	05/20/2009

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