

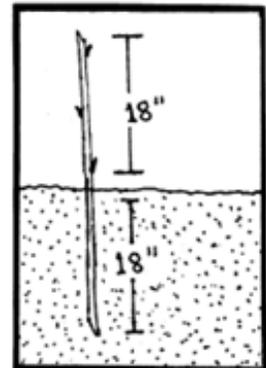
# LIVE STAKES

## About Live Stakes

- Live stakes are cuttings from shrubs and/or small trees that when harvested and installed correctly will develop roots and grow.
- They are perfect for bioengineering techniques for stabilizing soil within crib walls, brush mattresses, soil lifts, retaining walls, fascines, rip rap and gabions.
- They are also used in restoration for quick applications and implementation for competition with invasive or other prominent vegetation.
- Live stakes can be used in a variety of habitats: wetlands, flood plains, marine bluffs stream banks, lake shores, landslides, road slopes and storm water detention ponds.
- The best time to plant live stakes is in the fall through spring when they are dormant and there is enough soil moisture to help establish a healthy plant.

## How to Plant Live Stakes

- After receiving live stakes they should be planted as soon as possible or stored in a refrigerated cooler at about 36 degrees F.
- Before planting, soak live stakes in water for 24 hours.
- When planting live stakes it is important to put the correct end into the soil. Buds will be facing up.
- The stake should be inserted at least 10-18 inches into the soil to ensure enough rooting area. Make sure there are at least two to three buds above ground.
- Pilot holes may be helpful if soil is hard or rocky. Dibbles are an easy tool to use.
- Spacing can be two feet apart for dense planting or six feet for a sparse planting.



# WESTERN WASHINGTON LIVE STAKES

## Black Cottonwood (*Populus trichocarpa*)

- 50 feet tall
- Low-mid elevation
- Prefers moist sites
- Oval leaves round heart shaped base
- Seeds - covered in white fluffy hairs

## Hooker Willow (*Salix hookeriana*)

- Large shrub/small tree 18 feet tall
- Low elevations
- Prefers wet sites, can handle salt spray
- Hairy egg-shaped leaves
- Bracts - dark brown to black

## Pacific Willow (*Salix lasiandra*)

- Tall slender shrub/tree 36 feet tall
- Wet sites, adaptable
- Sea level - mid elevations
- Lance - shaped leaves with long tip
- Bracts - pale yellow

## Red Osier Dogwood (*Cornus stolonifera*)

- Shrub/small tree 3-18 feet tall
- Moist sites
- Valley bottoms, mid-elevations
- Oval leaves-older sharp pointed
- White - greenish flowers

## Sitka Willow (*Salix sitchensis*)

- Shrub/small tree 3-24 feet tall
- Wet sites to forest edges, handles drier sites than most willow
- Low-mid elevations
- Cuneate shaped leaves

# EASTERN WASHINGTON LIVE STAKES

## Black Cottonwood (*Populus trichocarpa*)

- 50 feet tall
- Low-mid elevation; prefers moist sites
- Oval leaves round heart shaped base
- Seeds - covered in white fluffy hairs

## Coyote Willow (*Salix exigua*)

- 6-20 feet tall
- low-mid elevations; prefers moist sites
- Gray-green lance shaped leaves
- Can spread by underground stems

## Drummond Willow (*Salix drummondiana*)

- 6-15 feet tall, medium shrub
- Lower-mid elevations
- Adaptive with sufficient moisture in soils

## Mackenzie Willow (*Salix rigida mackenzieana*)

- 12 feet tall, medium sized multi-stem shrub
- Moisture tolerant, mid elevations

## Pacific Willow (*Salix lasiandra*)

- Tall slender shrub/tree - up to 36 feet tall
- Wet sites, adaptable low-mid elevation
- Lance-shaped leaves with long tip

## Peachleaf Willow (*Salix ammygdaloides*)

- 30 feet tall, moist sites at mid elevation
- Pale yellow-green fine toothed arrow leaves

## Red Osier Dogwood (*Cornus stolonifera*)

- 3-18 feet tall, shrub (small tree), moist sites
- Valley bottoms-mid elevations
- Oval leaves-older sharp pointed