

## PASSIVE RESTORATION - IDEAS AND TECHNIQUES

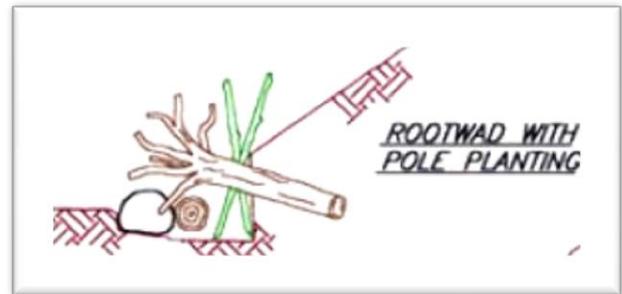
A workshop at Garber Park, Oakland CA - January 19th, 2013

### GOAL

The goal of this workshop is to help identify native plant resources for passive restoration of areas where native plants are not well established. This workshop will provide ideas and techniques on how to make decisions about selecting various passive restoration techniques. We will train participants to create a basic methodology for monitoring our restoration treatment.

### WHAT IS PASSIVE RESTORATION

Passive Restoration is the process of utilizing existing resources (seeds, vegetation, debris, organic matter) to improve habitat conditions for target native plants. Passive restoration does not utilize plants or seeds from off-site. Passive restoration is seeded in the assumption that the site has rich native resources that simply need to be encouraged. Often, this leads to surprises, including finding new species that have not been recorded for quite some time. Utilizing the on-site seed, plant and soil resources is central to passive restoration. Passive restoration is not always appropriate, please consult someone who has knowledge of the site to determine whether this methodology is appropriate for your restoration goals.



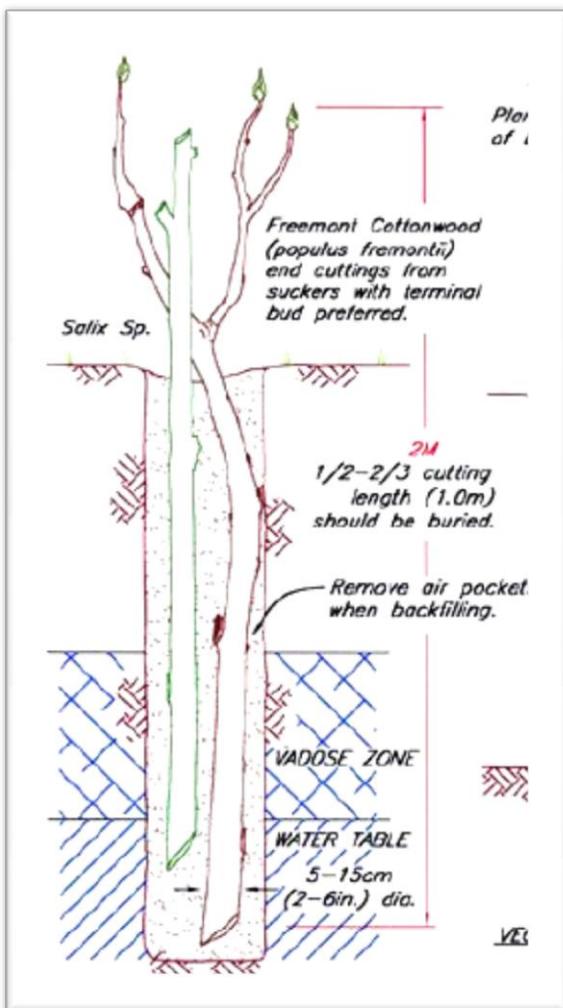
Any action we take in a natural setting always has both positive and negative impacts. It is important to consider how each and every action can impact not only your target species, or site, but also the greater ecology of the area. Good intent is not always enough, please respect nature by getting second and third opinions about your project from people with various fields of expertise.

PROS	Possible CONS
Local genetics are maintained for plants	Must have intimate knowledge of the donor site (and its potential) so no latent resources are impacted
No new pests will be introduced	Some mortality will occur
Plants are locally adapted	More disturbance occurs with plant propagation
No new nutrients are added	Requires botanical expertise to identify plants when dormant
All cost is all in labor and consulting	

## PLANT PROPAGATION AND NATURAL TENDENCY

The act of propagating plants is fun and rewarding. Notably, propagation can be an extremely successful endeavor with some basic training. Knowing how to harvest each specific plant is an important factor, but also, getting the seasonal timing correct is absolutely critical. Each plant has a natural tendency and it is important to understand that species (and even local race) and then use that information in you planning.

Be conscious and intentional in your work. What do you want it to look like in 5 or 10 years? How do you plant now to help achieve that vision? How does your vision fit into the natural tendency of the landscape? For example, if you plant willow pole cuttings, be prepared to have a site that may be heavily influenced by large willow trees.



## TAXA FOR TODAY'S PROJECT

a. California blackberry (*Rubus ursinus*) is common in the park and is a great ground cover that provides habitat. We will be removing non-native blackberry (*R. armeniacus*) and replacing it with native. Blackberry may be most easily transferred by digging up the root ball or by cutting large mature stems and rooting them into the ground. A 5 inch cutting of a stem that is about 1/8 inch diameter should work well. At least 3 inches of cut stem should be buried in the soil.

b. Thimbleberry (*R. parviflorus*) is a native Rose family plant that typically forms semi-dense stands of vegetation. Thimbleberry typically tolerates disturbance is great for passive restoration. Transplanting dormant/newly growing rhizomes may allow for highest translocation success. A 4-6 inch fragment can be buried about 1 inch from the soil surface and often rooting is successful. Stem cuttings may also be successful using methods similar to blackberry.

c. Cow parsnip (*Heracleum maximum*) is a wonderful forest floor plant with ostentatious blooms and large notable leaves. It grows quickly and helps add quick color and vegetation to a site. It is the only native Apiaceae that occurs from the East coast to the West. Seed is ideal for passive restoration and often some stalks will still have viable seed even in spring. A long period of cold stratification is important for germination, so seeds found lingering on stalks may be ideal for planting. Seeds should be sown very close to the surface. Otherwise, plants can be moved by transplanting the entire plant with taproot. NOTE: *Heracleum* may cause acute dermatitis - please handle with care.

d. Osoberry (*Oemleria cerasiformis*) is a hardy perennial that prefers partial sun and will also create semi-dense stands of vegetation. Propagation requires both male and female plants (boy flowers stink, girl flowers are sweet!), so this one can be tricky to transplant in hopes of creating fruiting plants. Stakes need to be inserted into the ground at 2/3 of the length of the pole. Larger poles typically have more energy stored for resprouting/propagation.

e. Willows (*Salix spp.*) - Willows can dramatically alter the vegetation landscape of a creek. They can rapidly grow and stabilize an eroding creek, but they also quickly change water availability as well as light (and possibly stream temperature). *Salix* should be harvested just after returning to active growth, with few to no true leaves. Cuttings should be taken in a similar method as for osoberry.

## **NATURAL MULCHING**

Adding mulch to a newly planted site is known to various benefits including (but not limited to): retention of moisture in soil, additional nutrient source for new plantings/cuttings, reduction of non-desired species, reducing soil erosion. In general, mulching for a short period of time is considered desirable for newly planted site. We recommend the use of native materials, and especially local ones like leaf litter that is carefully removed and transferred.

## **BANK/SOIL RETENTION**

Soil retention can be increased with the addition of local materials such as rocks and logs. These well placed materials not only add stability, but they can reintroduce important decomposition processes to the newly restored site. Often, woody material and debris can be relocated to the restoration site from another local project such as fuels maintenance, pruning, or general maintenance that occurs in a

park/natural area. Take care not to move materials that are buried in the soil and decomposing in place as those provide habitat already. Any work in active channels and creeks needs approval with various agencies, so this type of work should be reserved for professionals.

## **MONITORING**

Monitoring your site after completion of work is an absolute requirement. There are formal monitoring methods and more qualitative ones. Select a method that fits the scope and scale of your project. For instance, three semi-annual photopoints may be more appropriate than measuring number of flowers on each and every plant propagated.

## **REFERENCES**

Native plant propagation information: <http://www.nativeplantnetwork.org>

Information on native California plants in your watershed (some amateur/non-confirmed entries):  
<http://www.calflora.org/app/wgh?page=entry>

Information on proper ID of California plants - the online Jepson Manual:  
<http://ucjeps.berkeley.edu/interchange/>

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Photos and drawings credited as follows: willow/pole cuttings - Urban Creek Council, all others Golden Hour Restoration Institute.