

Live Sessions Week 5: Essential Skills 9 and 10: Tree and Plant Identification, and Vegetation Classification



Walnut



Viburnum

Importance of these skills

Plants and vegetation very important. They can tell us about:

- Soil composition
- Climate
- Microsite conditions
- Wildlife use of the area
- Past disturbances

Essential Skill #9: Tree and Plant Identification



Douglas fir



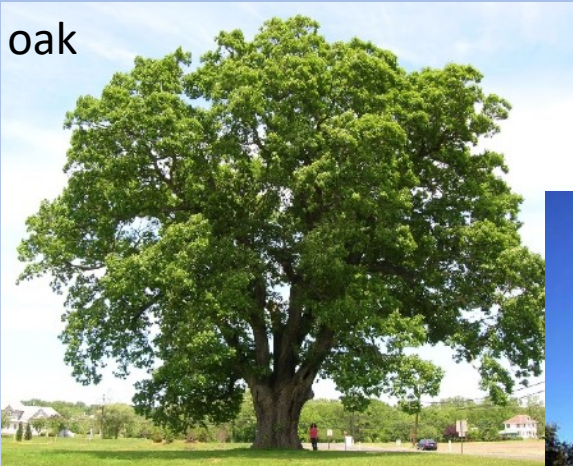
Red osier
dogwood



Reed canary grass

Growth forms of Trees

oak



Cottonwood



Subalpine fir



Ponderosa pine



Chestnut



Growth forms of Trees



Round



Vase



Columnar



Pyramidal



Shrubby



Broad



Oval



Weeping



Layered



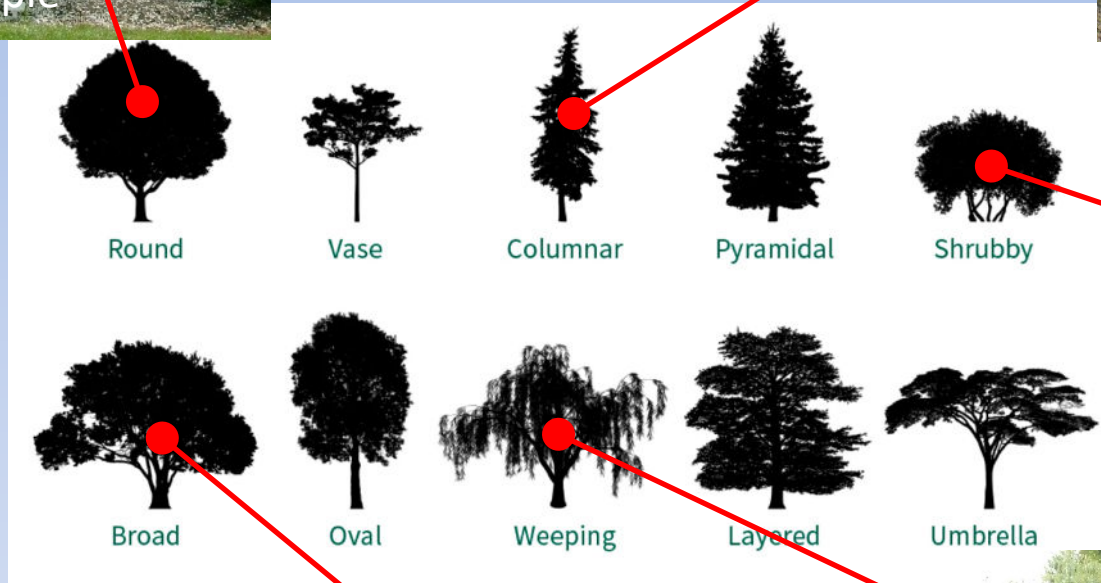
Umbrella



Crabapple



Ponderosa pine



Round

Vase

Columnar

Pyramidal

Shrubby

Broad

Oval

Weeping

Layered

Umbrella



Mountain ash



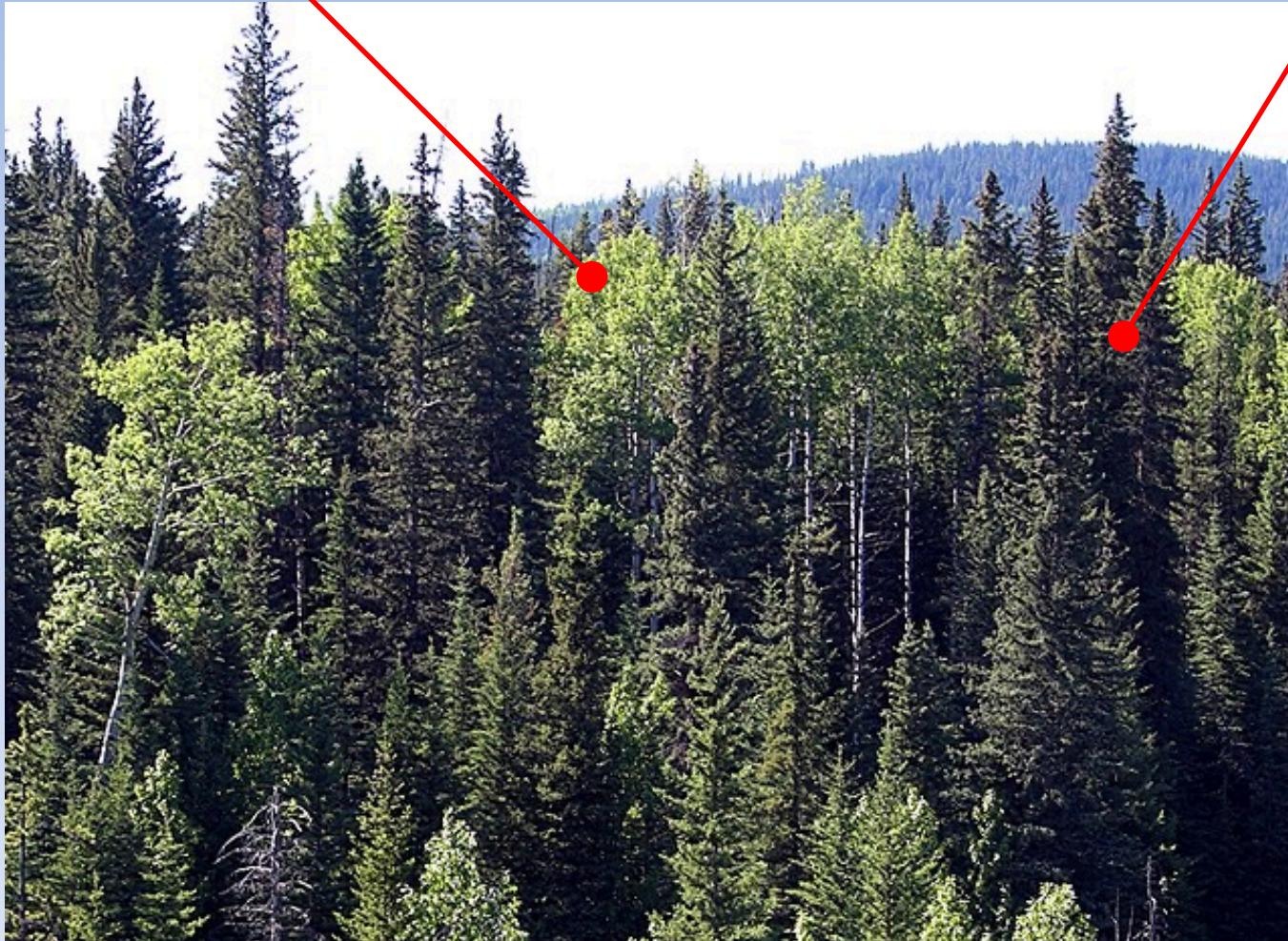
Chestnut



Weeping willow

Round growth form
Trembling aspen

Columnar growth form
A species of fir



White spruce



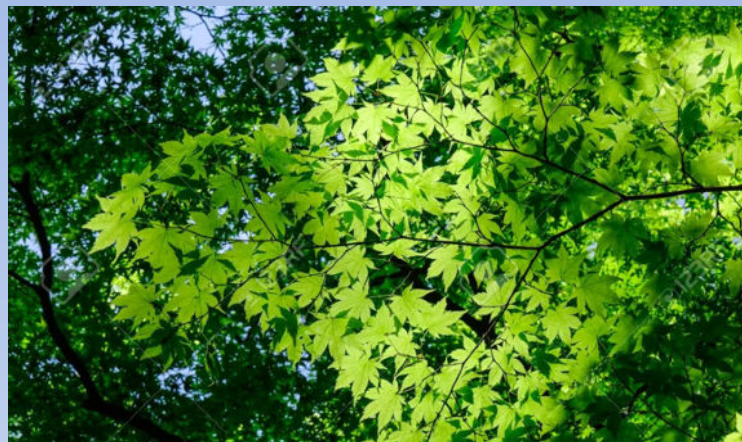
Black spruce



Winter Identification

Indicators when leaves not present

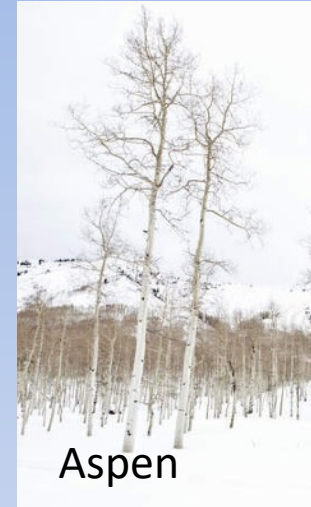
1. Growth form
2. Cast leaves on the ground
3. Leaf scars or buds on twigs and branches
4. Winter berries
5. Bark



(1) Winter growth form



versus



Oak



versus

Maple



(2) Cast leaves on ground



(3) Leaf scars and buds



Leaf scar



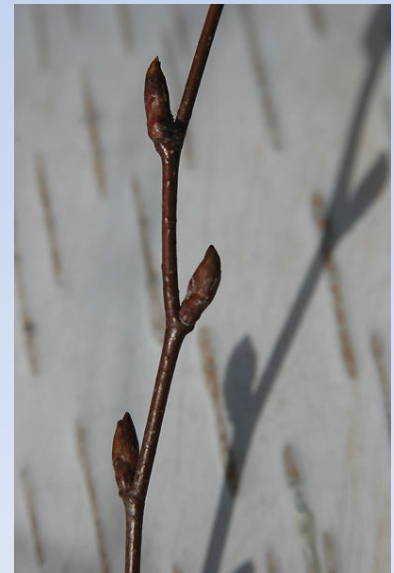
Buds

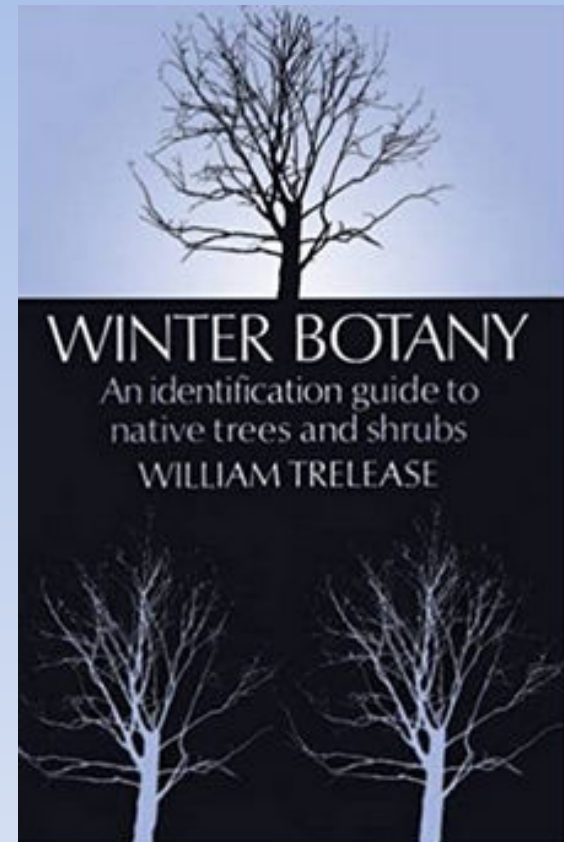
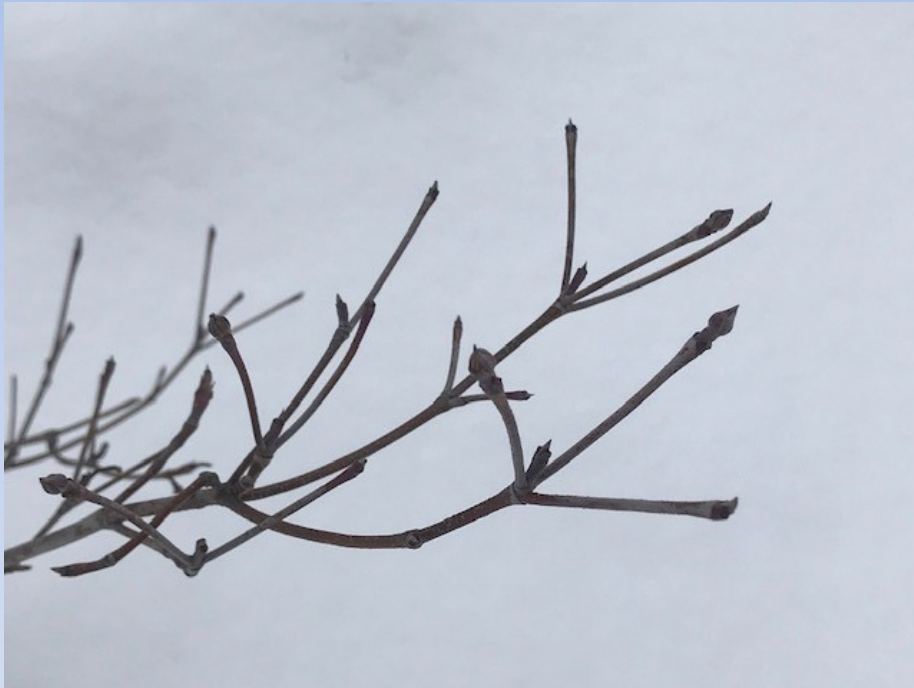


Opposite branching



Alternate branching





(4) Berries in winter

Juniper



Mountain ash



Snowberry



Sea buckthorn

(5) Bark in winter

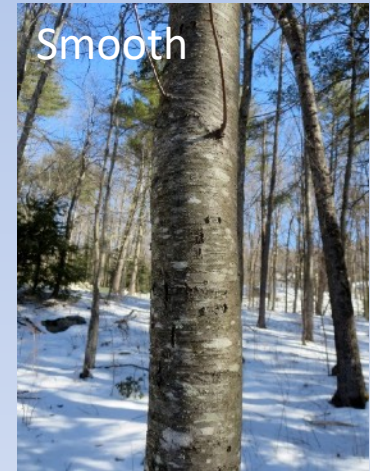
Bark colour



Furrowed



Smooth

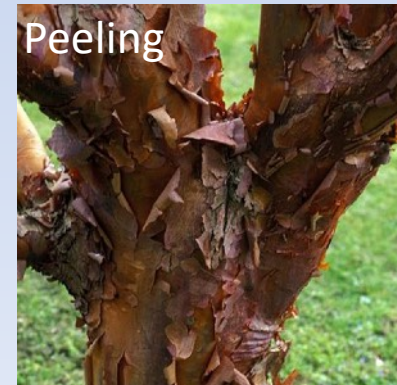


Bark textures

Lenticels



Peeling



Bark features

Collecting Plants



Ethical Considerations

The collection of plant materials can have serious impacts on both the target plant species and the surrounding habitat

- When collecting samples make sure that it will not permanently harm that species
- Do not dig up a whole plant if you don't need to
- Do not collect excessively from one plant or one area.
- Learn the rare and endangered species in your area and avoid using these as samples.
- Consider where are you taking from.

Photographing plants



Pressing Plants



Plant press

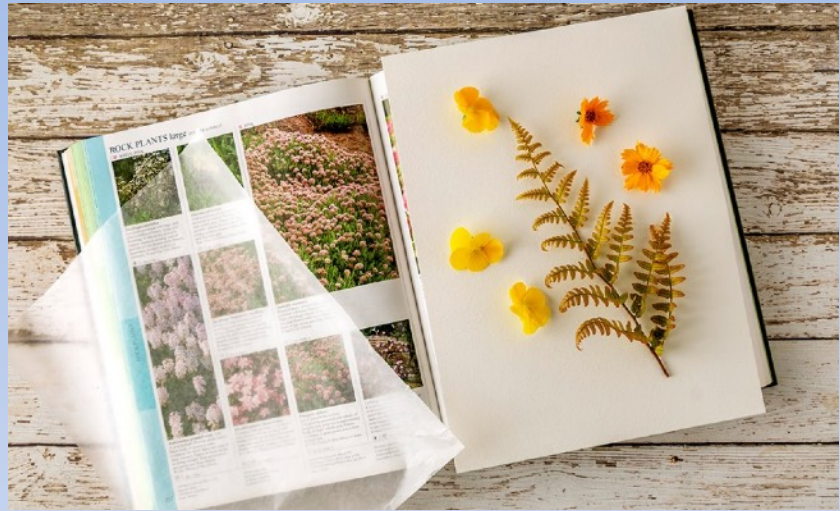


Top pressing down

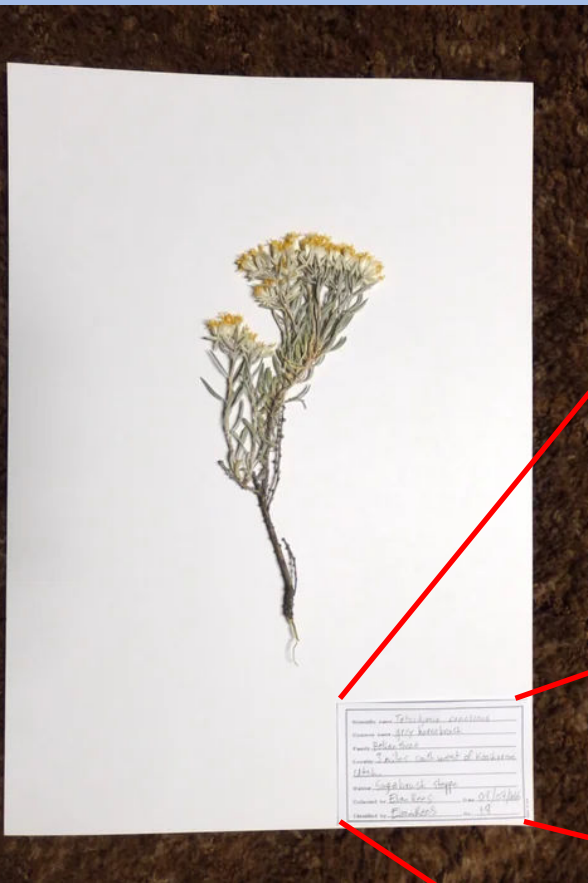
Cardboard providing stability

Plants sandwiched in paper

Mounting Plants



Labelling Plants



FLORA OF AMISTAD NATIONAL RECREATION AREA

County and State: Val Verde, TX

Scientific Name: Leucaena retusa Benth.

Family: Fabaceae

Common Name: golden ball leadtree

Park Code: AMIS

Cat. #: 60688

Acc. #: 00312

Locality: Pecos River, Weir Dam off Hwy 90

Elevation: UTM Z/E/N:14/264059/3299383

Habitat : Bank of Pecos River at base of limestone cliff, dense tree and shrub vegetation

Description: Tree, leaflets elliptical, base asymmetrical, flower head globose to 2 cm diam, flowers yellow.

Collector & Collection Number: W. Weckesser 1682

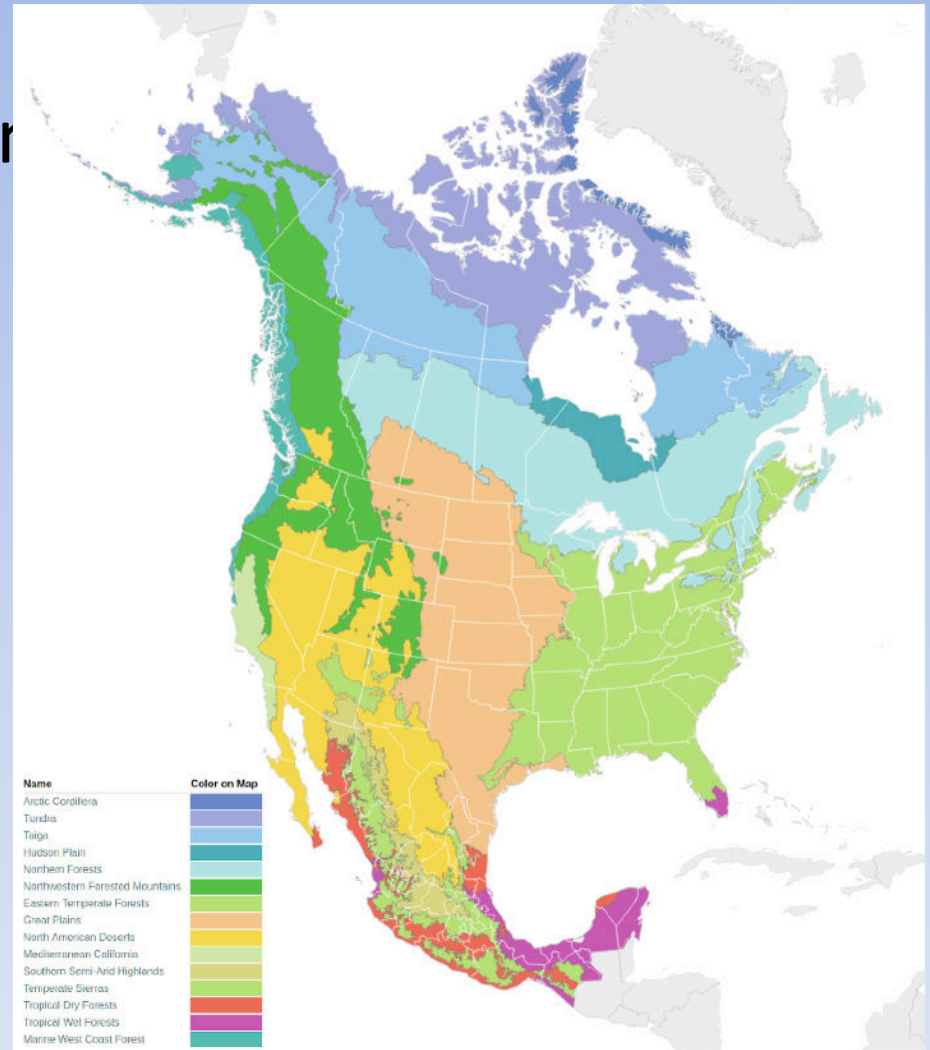
Collection Date: 4/22/2014

National Park Service Form 10-512 (Herbarium Collection)

Essential Skill #10: Vegetation Classification

Ecological classification tells us about:

1. Soil condition
2. Climate
3. Microsite conditions
4. Link to use of landscape



Indicator species

Pines

Well drained soils

Uplands away from water



Cottonwood

Well drained soils

Soils well watered

Indicator species – another example



(1) Soil conditions



Skunk cabbage

Soil drainage



Poor

Good



Pine



Indian pipe

Soil nutrients



Poor

Rich



Canada lily

(2) Climate

Douglas fir forest



Cool and wet

Climate

Ponderosa pine forest



Hot and dry

Wetter, greater
water availability
(north facing)



Drier, less water
availability
(south facing)

(3) Site conditions



Sagebrush – Great Basin Desert



Creosotebush - Sonoran Desert



Joshua tree - Mojave Desert



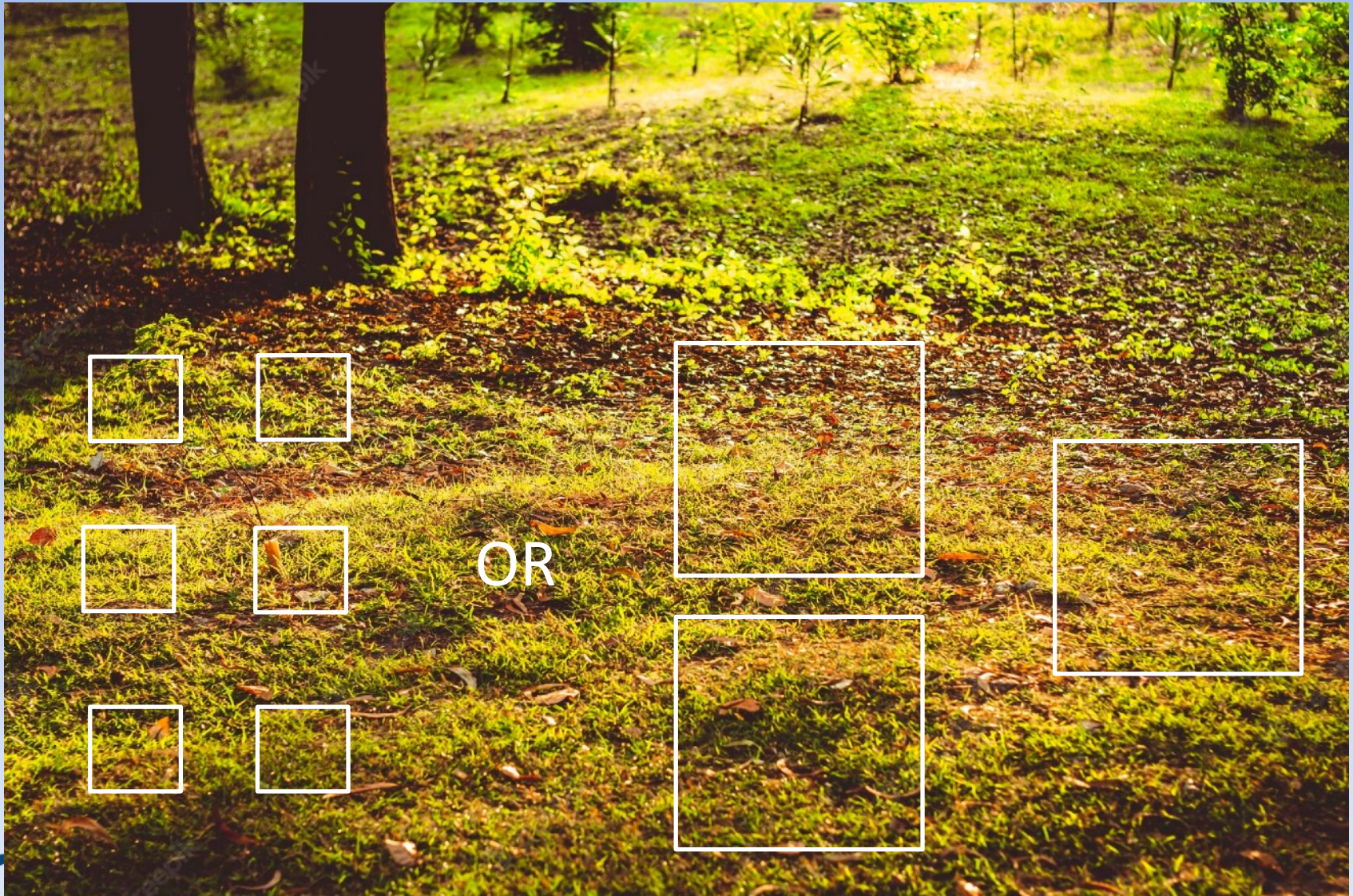
Saguaro - Chihuahuan Desert

(4) Links to use of landscape



Mature mixedwood forest adjacent to regenerating cutblock

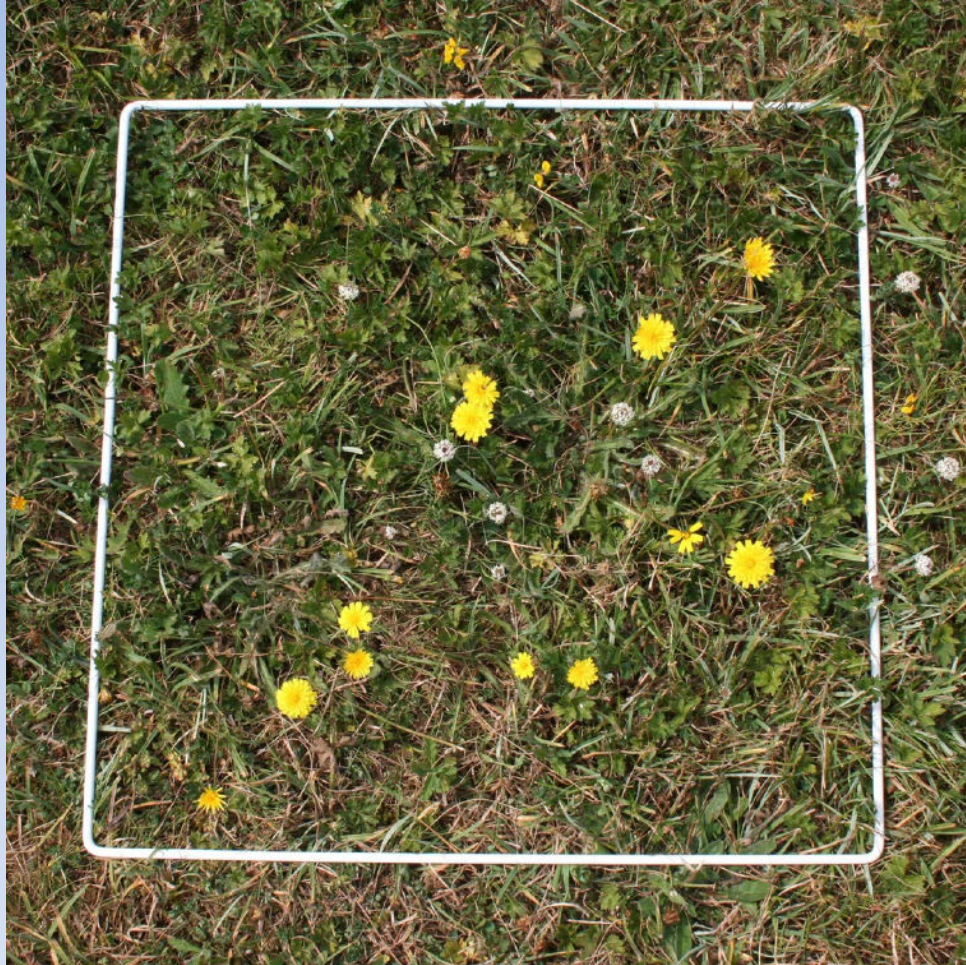
Sampling Vegetation - Quadrats



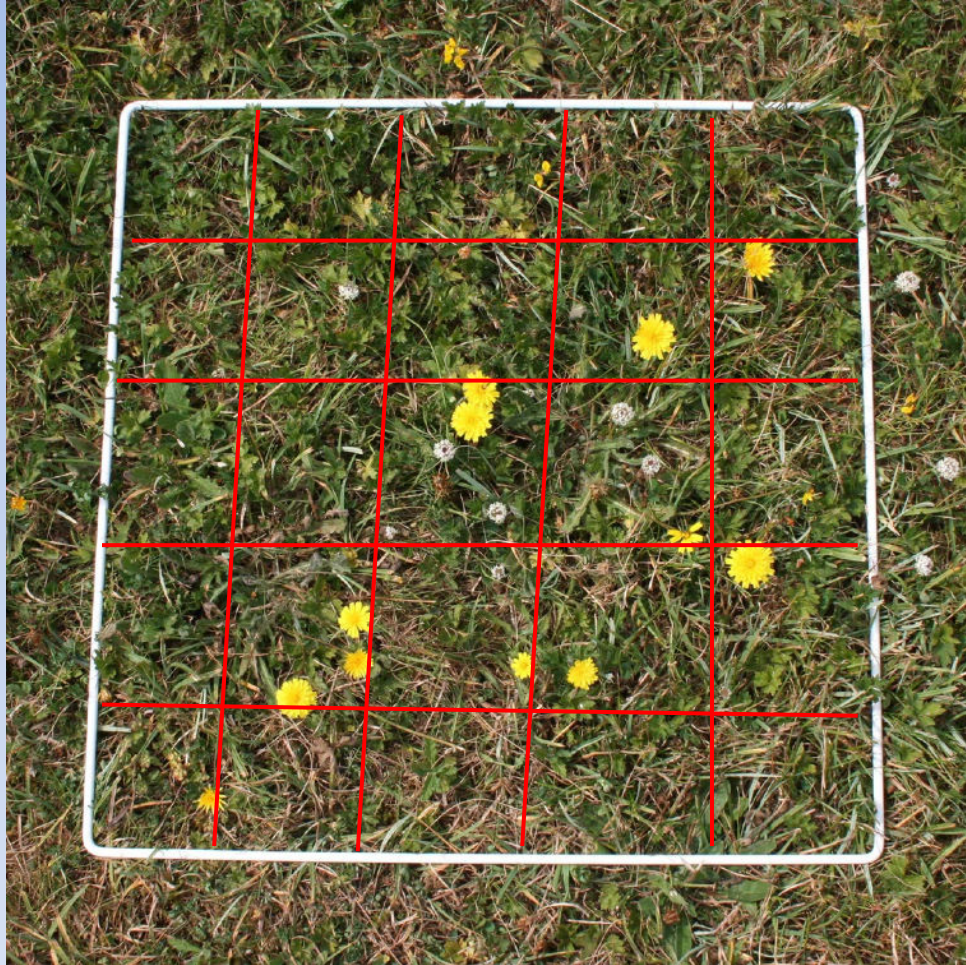
Sampling Vegetation - Quadrats



Sampling Vegetation - Quadrats



Sampling Vegetation - Quadrats



Sampling Vegetation - Quadrats



Sampling Vegetation - Quadrats



Essential Skills 9 and 10: summary

This week we focused on:

- Identifying plants using growth form, leaves on the ground, leaf scars and buds, berries and bark.
- Plant collecting.
- The importance of indicator species for telling us about soil conditions, climate, microsite conditions, and links to the landscape
- Some tips on using quadrats for measuring plant cover.