



NATIVE LANDSCAPE CERTIFICATION PROGRAM Level 2

Landscape Design with Native Plants

v. 2.0

Notes:

The *Native Landscape Certification Program* is a program of instructional classes for members and the public to promote the use of native plants in private and public landscapes and to encourage conservation of natural landscapes. This program is governed and provided solely through the Native Plant Society of Texas.

Level 1: Introduction to Native Landscapes

Level 2: Landscape Design with Native Plants

Level 3: Installation and Maintenance of Native Landscapes

Level 4: Stewardship of Native Plant Communities

This Level 2 class of the NLCP is intended to assist landscape professionals, developers, city and governmental professionals, others in regulatory positions and homeowners in understanding the process and theory of landscape design with native plants.

The NOTES section of this presentation are provided as reference information for the slide topics. Due to time constraints, instructors will not cover all of this information in their presentations.

Level 2 Landscape Design with Native Plants, Version 2.0, 2018

Revisions to class materials were made under the supervision of the NLCP Steering Committee.

L2 revision working group:

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A Sense of Place

A landscape that embraces local character: the natural vegetation, the history, and a strong sense of identity that is deeply felt by inhabitants and visitors



Design & Photo by Rialto Studio

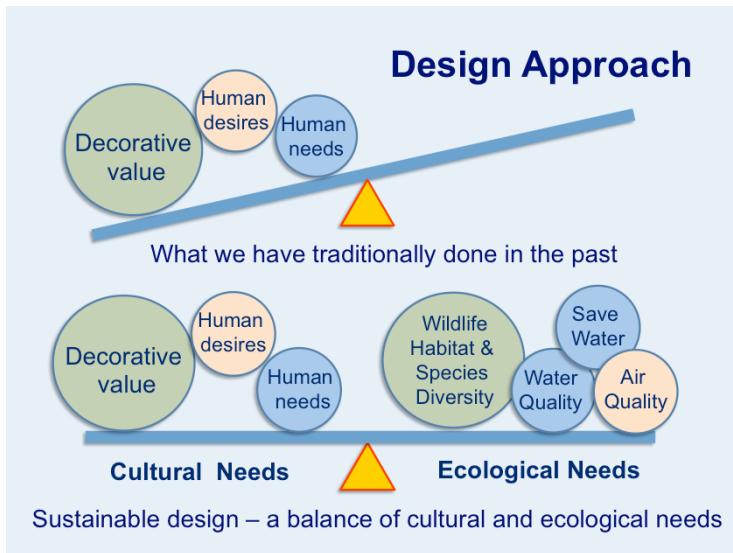
Notes:

Objective: Remind students of the benefits of native plants in the landscape and identify the two that we will address in this class. Creating a ‘sense of place’ is a worthy goal for designers to strive for.

- Save Water
- Improve Water Quality
- *Provide Wildlife Habitat and Species Diversity*
- Improve Air Quality
- Reduce Maintenance
- *Create a Sense of Place*

Discuss the importance of the creation of a sense of place to the design of our landscapes which is a complete shift from the heavily structured landscapes of the past.

- The United States is losing native habitats at an alarming rate. (For example, less than 1% of the original Blackland Prairie vegetation remains.—World Wildlife Fund)
- Much of the United States is losing its local identity by using the same plants in all regions.
- Homeowners, landscape and land-planning professionals can help preserve our native habitats.
- It is beneficial for people to embrace the environment around them.
- People respond positively to a landscaped environment that provides a sense of place.



Notes:

Objective: Provide an understanding of the underlying concept of achieving a sustainable landscape design. (Fly-in slide)

"We can save nature but only if we learn to live with it." Douglas Tallamy, Feb 16, 2018 Dallas Organic Biological Conference for Landscape Professionals.

Landscape design is "a narrative of a relationship between human beings and their world and of their attempts to invest nature with purposeful order and meaning and specific places with expressive form and heightened significance" *Landscape Design*, Elizabeth Barlow Rogers, p20.

A balance of ecology and culture:

Ecological Considerations. We can understand that plants need the right moisture, sun, and soil conditions to grow. Natural ecological components and environmental conditions provide the basis for wildlife habitat. Landscapes that are designed with greater emphasis to maintain habitat needs “is an important part of a paradigm shift in our shaky relationship with the planet that sustains us....” Douglas Tallamy, Bringing Nature Home, pg. 16

Cultural Considerations. Our landscapes are also where we live. Humans have traditionally required our landscapes to provide for our own needs. Man has long had a need to dominate and control nature (human impact). We have created laws that govern our landscapes. We want our landscapes to provide us comfort; shade, or a space for specific activities. We, or our neighbors, may require that our landscapes provide a certain level of beauty or aesthetic. These are our human requirements.

Designing with native plants starts us on a path to sustainable landscapes. Native plants provide food for local wildlife. To ignore our human needs removes humans from our landscapes and ultimately delegates habitat to isolated wilderness areas. Designers who are working to find an equilibrium of habitat and livability in our landscapes give us sustainability in today's world.



Carolyn Farmon

- Environmental context
- Local habitats and their characteristics
- Habitats in landscape design

Ecological Considerations

Notes:

Objective: Discuss considerations of planting design that create wildlife habitat for the landscape.

Context

- Environmental context
 - Native plant diversity supports wildlife
 - Native plants are essential to creating habitat
 - Regional ecoregions

Site Issues

- Local habitats and their characteristics
 - Habitat types
 - Plant diversity improves habitat
 - Changing habitats

Habitats in Design

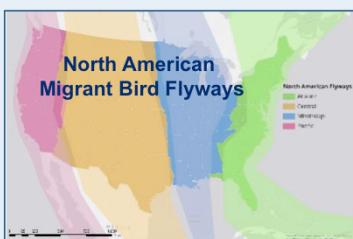
- Applying habitat zones into a landscape design
 - Connecting to larger habitats for the greater good
 - Native plants
 - Vegetation corridors
- Define the environmental conditions within the site
 - Soil
 - Water
 - Sun/shade
- Identify a local habitat to mimic
 - Provide plant diversity
 - Plan for change
- Provide food, shelter, water

In the past, we created laws for our homes, towns, and roads that worked within the natural laws of the environment. In today's world, we have the power to overcome our natural systems by grading with large vehicles and cheap concrete.

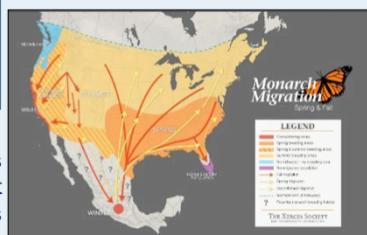
Preservation and replacing our natural habitats has become a new responsibility.

Environmental Context

Native plant diversity offers wildlife food, shelter & water



98.5% of all neotropical migrant bird species in North America pass through Texas



Monarch butterfly populations depend upon finding food and host plants while traveling through Texas

Notes:

Objective: Provide a view of habitats that is larger than a specific site, or even the state of Texas. Identify native plants as a required component to preserving these miracles of nature.

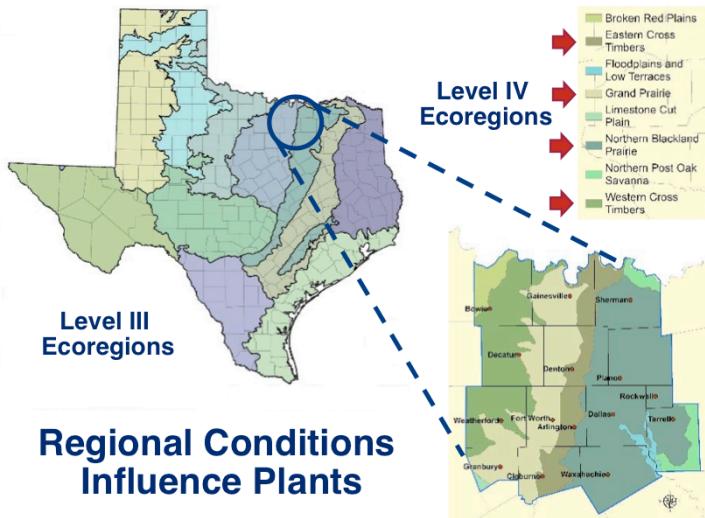
We are not alone. “We can no longer hope to coexist with other animals if we continue to wage war on their homes and food supplies.” Douglas Tallamy, Bringing Nature Home, pg. 16

Maintaining a sustained balance of species diversity is dependent on the size of a habitat area. Habitat is being lost at high rates in the US, especially in urban areas.

Not only do we have species that live their whole lives in our back yards, we also have species that migrate and only visit our landscapes. All require food, shelter, and water to survive.

“Because animals directly or indirectly depend on plants for their food, the diversity of the plants in a particular habitat is very closely linked to the diversity of the plants in that habitat (Rosenzweig 1995). When there are many species of plants, there are many species of animals.” Douglas Tallamy, Bringing Nature Home, pg. 20

Native plant diversity supports wildlife. FOOD, SHELTER AND WATER.



Notes:

Objective: Review the Ecoregions of the region

Regional Conditions: There are 3 important regional influences on vegetation that must be considered when planning a native landscape

1. annual precipitation
2. annual temperature
3. soils

North Texas

- *Average precipitation* - 32-42" rain per year
- *Average temperatures* - 60-65 degrees

Eastern and Western Cross Timbers

- *Topography* - Gently rolling plains and low hills
- *Geology* - Sandy upper layers with cretaceous sandstone and claystone bedrock
- *Soils* - Mostly fine sandy loams, Alfisols and Ultisols. Clay subsoils that retain water

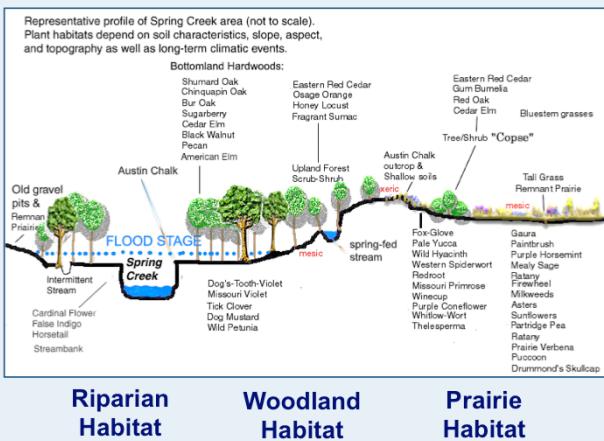
Grand Prairie

- *Topography* - An undulating plain with some bedrock exposure that is resistant to weathering; incised with streams
- *Geology* - Lower Cretaceous limestones with marls and clay
- *Soils* - Mostly fine-textured, dark, calcareous, but thinner than the Northern Blackland Prairie

Northern Blackland Prairie

- *Topography* - Rolling to nearly level plains; gilgai and mima mounds; riparian stream bottoms
- *Geology* - Upper Cretaceous chalks, marls, limestones, and shales
- *Soils* - Mostly fine-textured, dark, calcareous, and productive Vertisols. Characterized by clay soils that shrink when dry and swell when wet

Local Conditions Influence Habitats



Notes:

Objective: Identify the local conditions and the local habitat types.

As we narrow our focus from the larger contextual ecoregions to local conditions we find habitat zones that vary with differences in topography, hydrology, geology, sun conditions, and soils.

Riparian Habitat

Rivers and creeks run in the lower profiles of the landscape. Ephemeral water zones, permanent water zones and slopes are typical.

Woodland Habitat

Tree covered zones that differ because of topography, soil and moisture conditions. Bottomland Hardwoods with one set of vegetation types and Upland Forests with another.

Prairie Habitat

Grassland zones that differ because of soil depths in this landscape profile; tallgrass prairie on deep soils and shortgrass prairies on shallow soils. In other Eco regions, we find coastal prairies that are found on sandy, more moist soil conditions.

For instance, rivers and creeks run in the lower parts of the landscape and create bottomland hardwood forests surrounding them.

This profile of the Spring Creek Forest Preserve in Garland Texas in the Blackland Prairie shows that in the wet areas near the creeks, different ecosystems and plant communities occur than those in the upland, where the Blackland Prairie plant communities prevail.

Graphic: Spring Creek profile from <http://www.springcreekforest.org/Profile2011.htm>

Riparian/Wetland Habitat

Characteristics

- Functions as a wildlife corridor
- More moisture and/or intermittent wet
- Slopes with erosion potential
- Richer, silty soils



dallastrinitytrails.blogspot.com 10.26.13

Big Spring Preserve

Microhabitats

- Wetness variation zones
- Soil stabilization zones
- Gravel bar pioneer plant zones

Notes:

Objective: Familiarize students with the characteristics of riparian/wetland habitat.

Characteristics

- Functions as a wildlife corridor- Many terrestrial mammals travel along creeks. The linear character of a creek is unique.
- More moisture/intermittent wet – Conditions from the ephemeral water zones, moving water zones, and static water zones each have their own micro-habitats with different plants within those microhabitats.
- Slopes with erosion potential
- Richer, silty soils

Microhabitats (a small specialized habitat within a larger habitat)

- Wetness variation zones
- Soil stabilization zones
- Gravel bar pioneer plant zones

One of the few natural springs left in Texas and one of just a handful on public property, Big Spring is quickly becoming a focal point of intense study in the Great Trinity Forest. <http://dallastrinitytrails.blogspot.com>

Woodland Habitat



Characteristics

- Shade / dappled shade
- Varying levels (heights) of vegetation
- Mulch groundcover
- Snags and logs

Woodland layers

- Canopy trees
- Understory trees
- Understory shrubs
- Shade loving grasses, sedges, perennials, and groundcovers

Notes:

Objective: Familiarize Students with the characteristics of a Woodland Habitat.

Characteristics

- Shade / dappled shade – Canopy trees provide shade – tree shade is dappled as opposed to a solid building shade. Small speckles of light often reach the ground layer.
- Varying levels (heights) of vegetation
- Mulch groundcover – layers of leaves from the woodland provide the components for the soil. It's not addressed in this presentation, but the soil layer is another ecosystem of its own.
- Snags and logs – another component of the woodland ecosystem

Woodland layers

Canopy trees – provide shade for the lower layers

Understory trees – also known as ornamental trees

Understory shrubs – Usually found in drifts or sporadic placement

Shade loving grasses, perennials, groundcovers and vines -

Microhabitats (a small specialized habitat within a larger habitat)

- West and southern exposures are typically sunnier and drier
- Northern exposures are cooler and more moist, but there is greater chance of frost
- Eastern exposures are sunny in the morning and shaded in the afternoon

Photo: Trinity River bottom

Prairie Habitat

Characteristics

- Sun / part sun
- Pollinator habitat
- Perennial forbs and grasses with occasional trees
- Microhabitats dependent on topography

Variations

- Coastal Prairies
- Tallgrass Prairies
- Shortgrass Prairies



Blackland Prairie near Celina, Collin County
Kathy Saucier

Notes:

Objective: Familiarize students with the characteristics of a prairie habitat.

Characteristics

- Sun / part sun – most of our prairies are made up of sun loving plants. A few of the shorter plants can be shade plants because the tall grasses provide the shade during summer-fall.
- Pollinator habitat – There are many flowering perennials (forbes) that supply nectar and host plants for pollinators.
- Flowering perennial forbes and grasses with occasional trees

Microhabitats mainly dependent on topography

- Gilgai and Mima Mound micro-habitats are depressions and mounds typical of the Northern Blackland Prairie and create unique habitats for plants, insects and animals.
- Short grass prairies often have rock outcrops with ‘seeps.’

Variations

Coastal Prairies – typically wetter than the tallgrass and short grass prairies; Switchgrass dominates with Little Bluestem, Big Bluestem and Indian Grass.

Tallgrass Prairies – typically deep clay soils with the ‘big four’ grass species; Little Bluestem, Big Bluestem, Indian Grass, Eastern Gamma grass

Short grass Prairies – typically shallow topsoils with less thick growth; Buffalo grass, Grama grasses, Little Bluestem

Plant Diversity Enriches Habitats

Plant height

- Variation of plant layers offers protection and ability to move

Plant species

- Variation in bloom times and seed development provide food year round

Plant form

- Variation of plant shape and plant density provide shelter choices



Notes:

Objective: Emphasize the importance of plant diversity for the creation of habitat and in supporting biodiversity.

Habitats are the natural home and environment for animals, insects, and plants. Some structural characteristics that make a landscape a better habitat include:

Diversity of Plant Heights

- Canopy and understory trees
- Shrubs, perennials and groundcovers
- Birds and other animals move from one layer to another. This provides them protection and safety from their predators.

Diversity of Species

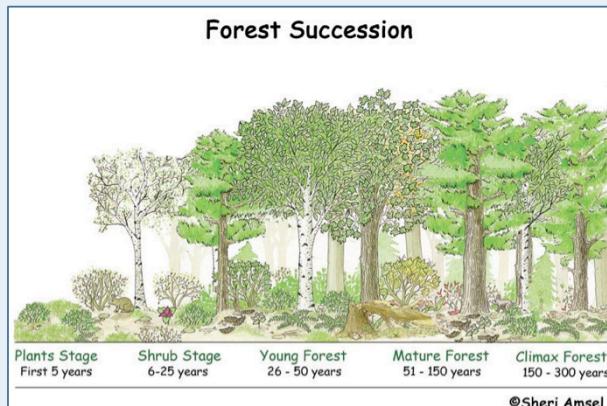
Only a few species of animals and insects store food. Most require year round food sources. A variation of bloom times, and seed development provides these food sources. Native plants provide a natural food source.

Diversity of Plant Form

- Grasses
- Shrubs
- Open airy
- Dense
- Groundcovers
- Yuccas
- Provides variety in shelter and animal homes

Poor habitats such as a canopy tree, turf and a bunch of grackles can be improved by adding plant diversity.

Plant Succession Impacts Habitats



Notes:

Objective: "Ecological succession" is the observed process of change in the species structure within an ecosystem over time.

- Some species decrease or may vanish altogether.
- Similarly, other species may become more abundant, or even new species may even enter the ecosystem.
- After a major disturbance such as fire or flood the first species to appear are called the “pioneer” species and those present once the ecosystem is more or less stable are “climax” species.
- ‘Climax forest’ represents a stable end product of the succession sequence.
- A climax forest or prairie will maintain itself for a very long period of time through natural “regeneration”. Its apparent species structure and composition will not appreciably change over observable time. To this degree, ecological succession has “stopped”.
- Any ecosystem could be subject to external disruptive forces (like fires, floods or human developments) that could re-set and re-trigger the succession process.

What happens in nature will happen in your yard. A tree dying or being knocked over during a storm, for example, creates a new habitat.

Plan for Change in Your Landscape

Tree growth changes the ground layer growing conditions

Microclimate underneath trees becomes shadier and drier due to mature trees using available moisture



Design & Photo by Carrie Dubberley



Design & Photo by Carrie Dubberley

2 years after planting - Spring

8 years after planting - Spring

Notes:

Objective: Apply the idea of a changing habitats to landscape design.

- Rarely do we plant a full grown canopy tree in our landscapes. We plant a canopy tree expecting shade at maturity.
- Plants reach maturity at different rates. Generally, canopy tree takes the longest time to reach maturity – generally 20-50 years. Understory and ornamental trees, 10-20 years. Shrubs, 3-5 years. Perennials, groundcovers, and grasses grow the fastest, and often reach maturity in 1-3 years.
- There are exceptions to each of the categories and times given above. Early successional trees are faster growing. Climax successional trees are slower growing. Each category has faster growing pioneer plants and slower growing stabilization plants.
- The idea is to learn the characteristics of these individual plants, and apply the plant characteristic in your landscape/design.

Photos:

An older landscape with the traditional landscape removed and planted with a new Bur Oak tree. Also, the old Live Oak is continuing to spread out and is now touching the Bur Oak after only 8 years.

Plan for Change in Your Landscape

Plants grow

Plan for the mature heights and widths of your plants

Plants move

- Some plants will spread quickly and if used in the right setting, can be advantageous
- Perennials will move to their preferred environment



Design & Photo by Cathy Nordstrom



Notes:

Objective: Teach students to plant for the future – not instant gratification.

Plan for the mature heights and widths of your plants

- Most people plant too close together
- Perennials grow quickly, these photos show 1 year's change
- Shrubs grow slower, reaching maturity in about 3 years
- Trees are the slowest growing and take years to reach a mature size.

Plants move

- Some plants will spread quickly by seed or root rhizomes
 - These plants can be started with fewer plants.
 - These plants can be used to quickly spread and used for erosion control.
- Perennials will move to their preferred environment by different methods.
 - Underground shoots. Underground or on ground runners spread from the base plant.
 - Seed disbursement. Seeds can fall at the base of the plant or be carried by birds or other animals to other locations. Some plants will shoot their seeds many feet from their mother plant.

Consider Seasonal Change



Notes:

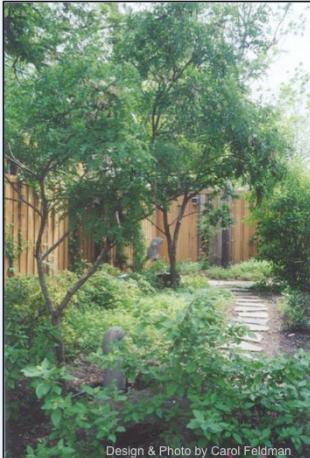
Objective: Discuss the seasonal change of native landscapes.

Seasonal change is key to providing wildlife benefits: different species have different needs at different times of year.

The side benefit is the visual variety provided to us.

With native plants, the view is always changing.

Woodland Habitat Plantings



Design & Photo by Carol Feldman

- Mimic regional woodland types
- Layering - canopy and understory trees, shrubs, ground layer
- Plan your layers from top to bottom
- Use large, wide beds or no turf
- Have mulch areas

Microhabitats

- Woodland edges
- Dappled shade
- Deep shade

Notes:

Objective: Discuss the qualities of a natural woodland habitat that can be used in our landscape design.

Always group plants with like needs – light, moisture, soil

Mimic regional woodland types – starting with using only the regional native plants

Layering - Plan your layers from top to bottom

- *Canopy trees* – Large shade trees can provide the shade to our landscapes. Our closely located double story homes also provide shade that in some ways mimics the canopy of our woodlands. However, the shade from a structure is more dense and not dappled as a canopy tree shade.
- *Understory trees* – Some of our small trees are shade understory and some work better as woodland edge plants.
- *Shrubs* – Can be good erosion control.
- *Ground layer* - Groundcovers, a few grasses, some perennials, and vines.

Large, wide beds or no turf – if keeping a more traditional landscape with some turf, make sure the beds are wide and that they have room for the woodland layers.

Mulch areas – A woodland floor may have areas where there is no groundcover except the natural mulch. Mulch becomes compost and fertilizes and enriches the soil. This soil activity is an ecosystem of its own.

Microhabitats

- The **Woodland edge** provides for a microhabitat that is sunnier. Different plants are used in this ‘edge’ location. Over time these areas will blend and change. The canopy may extend with growth and the ‘edge’ will move outward.
- **Dappled shade** is the natural tree shade from most canopy trees. Small rays of light make their way to the ground layers.
- **Deep shade** can be because of dense tree types (Ashe Junipers) or structures give a solid shade that is more intense than a tree’s dapple shade.

Prairie Habitat Plantings

- Pocket prairies
- Small scale prairies
- Pollinator gardens



Notes:

Objective: Discuss the qualities of a natural prairie habitat that can be used in our landscape design.

Always group plants with like needs – light, moisture, soil

Mimic regional prairie types – starting with using only the regional native plants

Options for prairies

- Pocket prairies are small areas of prairie plantings. Prairies are large acreages in their natural state. Small pocket prairies and small scale prairies need to be managed because the large size of a true prairie keeps it sustainable.
- Management of typical succession issues: invasive plants, shrub encroachment
- Light conditions and species composition change over the seasons -- Spring wildflowers become shaded by grasses over the year
- Pollinator gardens use prairie plants but the ratio of grasses found in this adaption is significantly less than a true prairie. Because our landscapes cannot reach a sustainable size as in a true prairie, we focus on the perennial plants that provide food for our pollinators.

Prairie Habitat Plantings

Pollinator Garden



- Opportunities for lots of blooming perennials
- Grasses, other low water use plants
- Good drainage essential

Notes:

Objective: Identify the pollinator garden as a variation of a prairie habitat planting.

Always group plants with like needs – light, moisture, soil

- Opportunities for lots of blooming perennials
- One plant with different water needs compromises the bed
- Low-water use plants
- Good drainage is essential

Microhabitats

- A hillside, or a building effects shade, wind, temperature
- West and southern exposures are typically sunnier and drier
- Northern exposures are cooler and more moist, but there is greater chance of frost
- Eastern exposures are sunny in the morning and shaded in the afternoon

Riparian/Wetland Habitat Plantings

Rain garden and dry streambeds

- Shallow, plant filled, depressions
- Keep rainwater/runoff on site to absorb into soil
- Reduce flooding and erosion
- Help filter pollutants from water



Notes:

Objective: Identify rain garden plantings as a variation of a riparian and wetland habitat.

Always group plants with like needs – light, moisture, soil

Benefits

- Helps filter pollutants
- Absorbs water into the soil for plants and minimize storm water runoff into public storm water systems
- Reduces erosion

Plants

- Plants that can tolerate having wet ‘feet’ and drying out completely – intermittent streambeds or rain gardens
- Water loving plants - wetlands
- Soil stabilization plants
- Biofiltering plants

Microhabitats

- Water runoff from structures and paved surfaces can cause erosion



Carolyn Fannon

Cultural Considerations

- Laws governing landscapes
- User needs and desires
- Human desire for beauty

Notes:

Objective: Discuss considerations of planting design that create wildlife habitat for the landscape.

Context

- Laws governing landscapes
 - Texas state law that prevents Homeowners Associations from blocking low water use landscapes
 - City Planning & Zoning laws
 - Development Codes
 - City 'Weed' Ordinances
 - Homeowners Associations' (HOA) Restrictions

Site Issues

- User needs and desires
 - Site specific needs
 - Cost considerations

Design Implementation

- Human desire for beauty
 - Applying Design elements

City Development Codes

Landscape and Tree Preservation Ordinances

- Outline requirements for development of commercial properties and subdivisions in a city
- Plan the 'big picture' for the overall landscape of a city
- Green corridors can be planned into a city's infrastructure



Tree buffer between parking and street



Trees preserved during development

Notes:

Objective: Introduce the City laws that govern Commercial Development of our Urban Cities.

City Development Codes can usually be found on the city's ordinance website. Search for 'Planning' or 'Development' or 'Landscape' ordinances.

If it is a large city the department in charge of landscapes might be administered by an arborist or a landscape architect, but usually by a person with a planning background.

Traditional commercial development removes vast amounts (in number and diversity) of native plants and replaces them with a very small palette of ornamental plants, mostly non-natives. This eliminates habitat for Texas native insects, mammals, and birds. This concern over removing vast amounts in number and diversity of native plants and replacing them with a very small palette of ornamental plants, has driven citizen action to bring about improvements in city codes, especially the tree ordinance.

Understand the concept of landscape screening buffer:

To provide a landscaped separation between residential and nonresidential uses and to screen from view certain land uses that may create visual clutter and distraction.

- Preservation of natural areas as buffers helps maintain habitat and green infrastructure.
- Buffers separate train tracks, shopping centers, roads, etc. from residential areas.
- Preservation of existing plants can accomplish this.

Tree Preservation Codes:

To provide a systematic method for the preservation of trees within a city while allowing for development. These codes vary in their methods and their ability to protect trees from being removed in order to provide drainage, parking, economic revenue, and other urban services.

City Tree and Vegetation Codes

'Weed' Ordinances

Typically address

- Tall grasses and weeds
- Plant maintenance along sidewalks, streets, alleys for:
 - Right of way, or
 - Safety of the public
- Unkempt vegetation



Notes:

**Objective: Discuss the tree and vegetation codes of our urban spaces.
Provide participant with some practical knowledge and strategies for becoming an advocate for native landscapes.**

- Codes vary between cities.
- This is a typical set of regulations.
- We typically call this a 'weed ordinance'

City is not the enemy, they are concerned with human safety.

- Trying to prevent nuisance landscapes (rodents)
- Preventing fire hazards

But you can still have tall native plants in the face of weed ordinances. Native plants are not weeds! A weed is a plant you don't want.

If you are approached by Code Enforcement because they believe you have a "weedy lot," Be prepared to explain to the officer about your landscape. Name that plant, explain to officer how you are maintaining a native-scape.

Neighbor complaints can be kept to a minimum if you keep native-scape maintained with simple design so that others can see it is a landscape, not a weedy lot.

Design elements can be used to create order in the landscape. A line or an accent focuses the eye to indicate that this is a designed landscape.

Homeowner Association Rules

Typical HOA landscape restrictions

- Require turf
- Require watering
- Prohibit 'rock gardens'

Landscape design approval process

- Subject to the aesthetic of the governing committee



Notes:

Slide Objective – Familiarize participant with HOA rules and regulations.
These laws are cultural constraints that affect the planning of planting.

Written restrictions can be very restrictive, such as, '90% of the front yard to be turf grass.'

Can be used positively for sustainability – Conservation Subdivisions. Example: No fencing, or Native Plants only.

- HOA procedures vary – Some HOAs require the plan to be submitted to an HOA committee.
- In some HOAs, the design professional can submit the plan for approval, while other HOAs require that the plan to be submitted by the homeowner.
- HOA committees usually meet once a month and so the time needs to be built into your project.

"Buyer Beware"

Know what the covenant rules are before purchasing a home.

- Homeowners Associations sometimes have requirements that go against current environmentally sound practices.
- Neighborhood covenants may require more than code.
- Native plants may be considered weeds.
- Education may be needed to ease restrictions, promote NLCP classes to the HOA.

Cartoon used with permission from the artist

User Needs and Desires

What are the homeowner's goals for their landscape?

- Improve homeowner's life
- Provide outdoor living areas
- Improve environmental problems
- Address safety concerns
- Improve property for resale
- Cost considerations



Notes:

Objective: Explore what we mean when we say user needs or owner needs in the landscape.

Improve homeowner's life: Low maintenance landscape, reduced water use, screening of undesired views, enhance desired views, pathways and patio spaces

Provide outdoor living areas: Pathways, patio spaces, fireplace, grill area, play area for children, dog run, vegetable garden and compost bins

Improve environmental problems: Erosion control, wet areas, provide shade

Safety Concerns: Fire breaks to protect buildings, prevent water from flooding structures

Economic: An improved landscape can boost resale value if maintained in appealing condition

Cost effective planting design

- Beds cost the most; about twice the cost of sod (tilling, compost, mulch, plants)
- Sod (preparation, sod and rolling)
- Seeding costs the least; about half the cost of sod (preparation and seeding)

Maintenance costs

- 10% of cost of home for landscape – 10% cost of landscape for design

User Needs and Desires

Install landscape in the middle of the yard

- Improves views
- Privacy
- Mitigates traffic noise
- Provides a 'fire-wise' landscape



Notes:

Objective: Example of a landscape that addresses a few of the human needs of a landscape.

Remove moustache plants (standard shrubs planted along the foundation) and install plants in the middle of the yard.

Advantages of installing plants in the middle of the yard:

- Takes into consideration views from inside the house. Many folks look into the ugly side of a shrub instead of viewing their landscape, perhaps a wildlife-attracting woodland
- Brings privacy by shielding noise and view of cars and pedestrians
- Mitigates noise
- Moves plants away from the building to create a more 'fire-wise' landscape

For information on fire issues in Texas:

https://tpwmagazine.com/archive/2013/oct/ed_3_firewise/index.phtml



Human Need for Beauty

Design Elements

- Line and Edges
- Repetition
- Color
- Texture
- Accent
- Mass and Scale
- Views

Notes:

Objective: Discuss considerations of planting design that create wildlife habitat for the landscape.

Aesthetic: Human Need for Beauty and Order

Design Elements used in Planting Design

- Line – Edges create order
- Rhythm – repeat same shape, color or item
- Color – perennial color
- Texture – soft, coarse, linear
- Accent – Plants or hardscape
- Scale – plant mass to match the size or magnitude of the house or lot
- Views – Near view, Mid view, and Far views are common for landscape use
- Order through Design - As with any design discipline, the design determines the order. We create order in the landscape by using design elements.

Using the fundamental design elements such as line, rhythm, accents, texture, and color, we control the observer's eye through the landscape and give order to a natural landscape.

Line and Edges

- Pathways
- Stream beds
- Plantings
- Fencing, walls, and other hardscape



Notes:

Objective: Identify and demonstrate the use of line as a way to create order in native landscapes.

Examples:

- A simple and easy line in the landscape is that of a path. Paths are where humans travel. A path to the alley, to a hidden patio, or simply a path to walk through the landscape.
- Dry stream beds, or linear rain gardens are another simple example of a line in the landscape.
- Mass plantings can form a line.
- Fences, walls, and other hardscapes can be effective lines in the landscape.

Right-hand pic: dry streambed with Buffalograss edge planting

Discuss the maintenance of turf edges on a dry streambed. Buffalo grass is manageable but Bermuda and St. Augustine are really hard to maintain.

Line and Edges

A line creates order

A line directs the observer's eye

A line is an edge that defines space

A line can be straight, curved, serpentine, dotted or continuous



Notes:

Objective: Identify and demonstrate the use of line as a way to create order in native landscapes.

When our eye identifies a line, it will naturally traverse the length of the line. In this way, a line gives us a direction for our eye and can create order.

Lines define a space and become the edge of that space. In the same way, an edge of a woodland, or prairie or other area can become a line.

Curved lines direct us toward the apex of the curve. The long graceful curve has an apex that extends further back into the landscape – a larger view. A short wavy curve has a shorter apex with a smaller viewscape.

A dotted or dashed line can be as effective as a solid line.

Edges define a space. In this photo the line of the path is the edge of this landscape. We have a right section and a left section. In this case, the plant habitat for both sides is similar, but visually, there is an opportunity to have different habitats on each side of the edge.

Repetition

Repeating a shape, color, or feature



Notes:

Objective: Identify the design element, repetition, and how it might manifest in a landscape design.

Repetition is the repeating of a feature or element in a landscape. In the photos above, the yucca/agave form is repeated. We also see the repetition of the contrast of the silver-gray color with a darker green.

Repetition is a very useful design element when designing a long narrow space.

Color

Flowers, Foliage, Berries, Bark

Combine color and bloom times in the constantly changing native landscape

Elizabeth Drozda

James Garland Holmes

James Garland Holmes

Carolyn Fannon

Notes:

Objective: Identify the design element, color, and how it might manifest in a landscape design.

Plants provide color in numerous ways:

- **Flowering plants.** Consider the bloom times of each season; spring, summer, fall, and winter. Flowering plants are sometimes showy, or they may be less obvious. Some blooms change color.
 - **Foliage color.** Some plants have a foliage color that is light or dark green, gray, or in some cases, white. Other plants have changing leaf color, as with many trees.
 - **Berries.** Typical colors for berries are red and black, but yellow, orange, and other colors of berries also exist. The color of the berry may change as it matures.
 - **Bark.** Trees have various color of bark, from nearly white bark of a sycamore to the gray color of a Hackberry, dark brown as a Mexican Plum, and the orange of a Bois d'arc.

This slide layout has an ‘opposite’ or complementary color combination making it exciting and dramatic.

Analogous Color

Combine colors adjacent
on the color wheel - calm serenity



Notes:

Objective: Visually demonstrate a landscape that uses an analogous color.

With colors you can set a mood, attract attention, or make a statement. You can use color to energize, or to cool down. You can create an ambiance of elegance, warmth or tranquility, or you can convey an image of playful youthfulness. Color can be a powerful design element if you learn to use it effectively.

Adjacent or Analogous color combinations. The colors found next to each other on the color wheel. These color combinations are considered serene, harmonious, and calming.

This landscape shows the use of colors adjacent on the color wheel, pinks to purples.

Design Tips (Central Texas)

Spring: Winecups and redbuds

Summer: Standing cypress and lantana

Fall: Tropical sage and cedar elm

Winter: Possumhaw and dry grasses

Summer blooming analogous color:

Flame Anacanthus, Coral Salvia Greggii, Zexmania,

Complementary Color

Combine colors opposite on color wheel - exciting, dramatic



Notes:

Objective: Visually demonstrate a landscape that uses opposite (complementary) color.

With colors you can set a mood, attract attention, or make a statement. You can use color to energize, or to cool down. You can create an ambiance of elegance, warmth or tranquility, or you can convey an image of playful youthfulness. Color can be a powerful design element if you learn to use it effectively.

Opposite or Complementary color combinations. These are combinations of color found opposite each other on the color wheel. The high contrast of complementary colors creates a vibrant look especially at full saturation. This combination works well when you want something to stand out.

Notice the opposite colors here:

- Yellow four-nerve daisy and purple liatris and grasses
- Blue-green foliage against red and burgundy-tinged foliage
- Blues and greens against the warm orange-red of the brick on the house

Texture

Fine, coarse or anything in between



Notes:

Objective: To identify and demonstrate the varying types of native plant texture.

Texture is associated with the sense of feel. But we also see texture.

Texture usually refers to the overall size of the leaves so textural sizes are relative to one another. Grasses have narrow, fine textured leaves. This Mexican Feather grass has an ultra-fine silky texture. Salvias have medium textured leaves. Prickly Pear leaves are considered coarse textured.

Plant textures can be grouped into three basic categories. Fine, Medium and Coarse. We associate larger leaves with a coarser texture, while smaller leaves are considered to be finer textures.

Designer Tips

- Fine textures can have a relaxing effect
- Coarse textures can be lively
- A mix of textures provides pleasing variety
- Texture is a designer's friend regardless of the weather or season

Texture

- Textures are relative to each other
- Emphasize texture by placing contrasting textures together



Notes:

Objective: Discuss how different textures provide contrast in a landscape setting. Review the overall design elements used in this landscape.

Design Elements used in Planting Design

- *Line* – Edges create order. Flower bed is outlined in stone providing order.
- *Repetition* – repeat same shape, color or item. The color blue-green is repeated with several plants. Several grasses have the same shape and texture.
- *Color* – perennial and foliage color represented by a Split-Complementary of red (pink), blue-green and yellow-green.
- *Texture* – soft, coarse, linear. All textures are represented. A backdrop of coarse texture in the cacti with soft texture adding contrast.
- *Accent* – Plants or hardscape. The purple coneflower in full bloom is the accent.
- *Scale* – The branches of a wax myrtle can be seen. Using a medium size tree/shrub is in scale with the flower bed.

Accent

A striking plant that stands alone and still demands attention



Above: colorful Redbud in the distance
Right: Yucca in the foreground



Notes:

Objective: To identify and demonstrate the use of an accent plant in the landscape.

Accent plants can be used to draw attention to a particular feature or features in the landscape such as an entryway, stairs, water, seating, statuary or even other plants. They should contrast with the surrounding plants or other elements to create emphasis or focal points.

A variety of plant characteristics can be used to achieve an accent effect.

- Color
- Texture
- Size
- Placement
- Form

Accent plants, can be used singly or in groups to add emphasis.

- Plants with striking blooms or extra-ordinary form are sometimes called specimen plants and hold enough visual interest to be used individually.
- Other less dominate plants need to be used in groups to be noticed as an accent.
- Potted plants can be used as accents.

Design Tips

Accent plants can be located in the far view, the mid view, or the near view.

Mass and Scale

- Plantings that match the scale of the house or other surroundings
- Mass plantings create a striking effect
- Odd numbers of plants create interest



Kathy Saucier



Diana Foss

Notes:

Objective: Discuss mass plantings and the use of scale as design elements.

Mass Plantings

- Multiple plants of the same species give a small plant greater presence
- Mass plantings can create a striking effect
- Use mass plantings carefully: monocultures reduce the habitat value of the plants
- Odd numbers of plants create interest

Scale

Plant groupings that match the size and magnitude of the house or other surroundings

Views

Add plants to screen unwanted views



- Near-view
- Mid-view
- Far-view



Notes:

Objective: Illustrate methods for improving views within native landscapes.

Identify views by

1. The viewer's position
2. The place where the viewer is looking

Near-views can be intricate, delicate or detailed. Example: A Datura planted near a patio to observe the opening of the blossom.

A near-view can 'frame' a near or far view. Much as you might frame a photo image with foliage in the near ground.

Mid-views can be used to 'screen' a far view in a landscape.

Photos: Mid-view as seen from suburban patio. Two years prior to this photograph the residents had almost full view of the house across the street. A mid-view woodland screen gave them desired privacy.

- Leaning invasive tree and Loquat removed
- Installed Mexican White Oak, Cherry Laurel, Mexican Buckeye, Arizona Cypress, American Beautyberry
- Woodland provides excellent cover for birds and other wildlife

Views

Remove plants to acquire attractive view

- Near-view
- Mid-view
- Far-view



Notes:

Objective: Illustrate methods for improving views within native landscapes.

Far-views can be attractive and desired in our landscapes. Thick planting can be an obstruction to these views and require their removal; allowing the residents to enjoy the far-view.

Photo: Prior to this home's construction the far view was obstructed by Johnson grass and other non-native plants

- Installed Buffalograss lawn for continued far-view
- An open, lacy, small tree used to accent the far-view



Notes:

Design Process

There are *many* accepted design process methods. Students can be confused by the variations in terminology and breakdown of steps. Each designer finds a method that works for them. In the design method presented here, the steps are layered and result in a design that blends the differing layers. Seasoned designers that use this method, may no longer physically draw the layers, but the steps and process remain part of their method.

This design process has its roots in two well known philosophies and methods. The **SITES** method has defined a systematic comprehensive set of guidelines and a rating system to define sustainable sites, (and) measure their performance. *Sustainable Sites Initiative*, www.sustainablesites.org

Permaculture is a creative design process based on whole-systems thinking. This approach guides us to mimic the patterns and relationships we find in nature.... *Permaculture Principles*, *Gaia's Garden* by Toby Hemenway

SITES

Site Context

- Identification and protection of existing, functioning natural features that are critical, sensitive, or threatened.

Pre-Design Assessment + Planning

- Site Assessment of existing physical, biological, and cultural conditions that will inform planning and design

Site Design

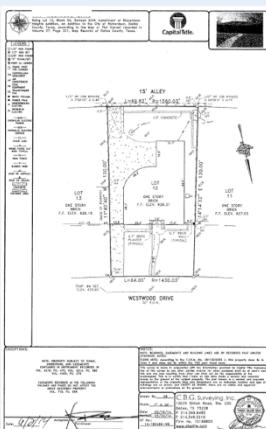
- Water
- Soil + Vegetation
- Materials Selection
- Human Health + Well-Being

Permaculture Principles

- *Observation*. What do we have to work with? What are the conditions and constraints of the site and the client?
- *Visioning*. What should the design do? What do we want? What does the site need? How should it feel?
- *Planning*. What do we need to make our ideas happen? How should the pieces be assembled?
- *Development*. What will the final design look like? How will we make it happen?
- *Implementation*, the final step. How do we install the gardens?
 - Base Plan - starting point showing existing elements
 - Bubble Plan - ideas and wish list, moving various elements around the property and broad types of plants
 - Final Plan – finalizing the master plan; individual plants at their mature sizes + planting list

Tools List

- Color markers or color pencils
- Fine Point Black Sharpies
- Trace paper
- Photos
- Google satellite image
- Plat of Property



Project Specific Tools

Notes:

Objective: Discuss some of the tools that can help designers as they approach this process.

General Tools

- Color markers or Prismacolor pencils
- Fine Point Black Markers – Sharpies
- Trace paper – sheets or roll

Project Specific

- Plat of your Property
- Google satellite image
- Photos – many photos. 180 degree images of a yard work well. Images of specific views from the house.

Design Tips: Survey plats are commonly at a 1"=20' scale for lot sizes of $\frac{1}{2}$ acre or less. It is easier to work with a larger scale like 1"=10', 1"=8' or 1"=4'.

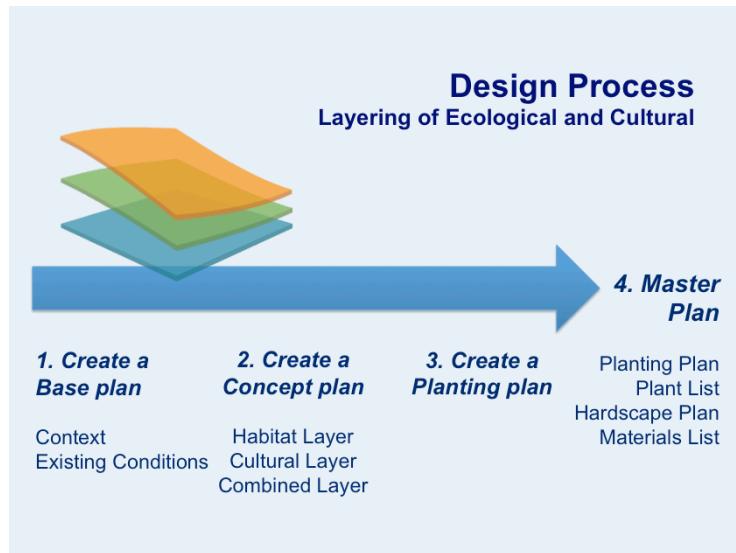
To change a 1"=20' scale to 1"=10', enlarge by 200%.

To change a 1"=20' scale to 1"=8', enlarge by 250%.

To change a 1"=20' scale to 1"=4', enlarge by 500%.

Students may also choose to use graph paper to lay out their plat drawing. Where one 'square' equals one foot.

Measurements of your landscape laid out on graph paper is another method of getting a base plan drawing.



Objective: Identify the steps to systematically laying out a landscape design.

Create a Base Plan by documenting on drawing paper

- *Context* - Identify the surrounding environment of the site.
- *Existing Conditions* - Identify and assess the existing conditions on the site and from these decisions, begin to plan whether to preserve or remove existing items.

Create a Concept Plan by overlaying (use trace paper layers)

- *Ecology Layer* – ‘Bubble’ or color in the habitat areas. Lay the habitat layer trace paper over the ‘existing conditions’ base plan. Determine the habitat areas based on the context conditions and the existing conditions; such as sun or shade areas, wet areas, etc.
- *Cultural Layer* - ‘Bubble’ or color in the human desires, constraints and identify any laws that may affect the design.
- *Combined layer* - Overlay a sheet of trace paper. On this sheet, make conceptual design decisions based on the existing conditions layer, the ecology layer and the cultural layer.

Create a Planting Plan

Work with an area at a time (habitat area) to select plants that provide habitat, but also provide a pleasing aesthetic. Use native plants that:

- are regionally typical of the habitat that you have selected for this area (from your Concept Plan)
- satisfy the human need issues (from your Concept Plan)
- combine textures, colors, provide a design line, etc.

Draw plants onto the plan at their mature size.

Master Plan

This class does NOT cover creating a Master Plan.

The components of a Master Plan are the planting plan, plant list, materials list (if different than plant list), hardscape plan, and irrigation plan (optional).

Design Process: Steps

1. Create a Base Plan

- **Context** - Identify the surrounding environment of the site

- **Existing Conditions** - Identify what exists on site

Design Decisions - Evaluate and determine which plants, beds or hardscape to preserve or remove



Notes:

Objective: Describe the steps to the Design Process.

1. Create a Base Plan

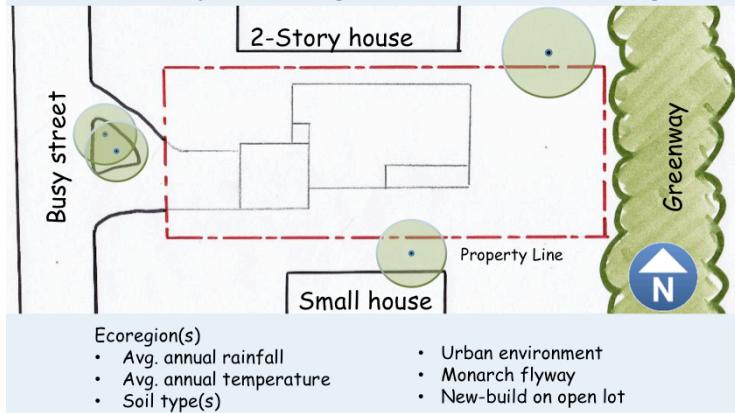
- *Context* - Identify the surrounding environment of the site. Particularly those that are linked to wildlife and wildlife habitat, but also man-made issues such as mass transportation.
- *Existing Conditions* - Identify what exists on site; both plant and hardscape.

Design Decisions - Assess the existing conditions on the site and from these decisions, begin to plan whether to preserve or remove existing items.

Structures might stay, but plants that are diseased or detrimental to wildlife habitat may require a decision to be removed.

Base Plan: Context

- What is the ecology of the region?
- Identify surrounding features that affect the design



Notes:

Objective: Show what type of documentation you might make for context.

This slide has several 'fly-in' images so that items can be talked about as they are added.

What is the ecological region?

- Typical rainfall
- Soil type and soil quality
- Typical temps

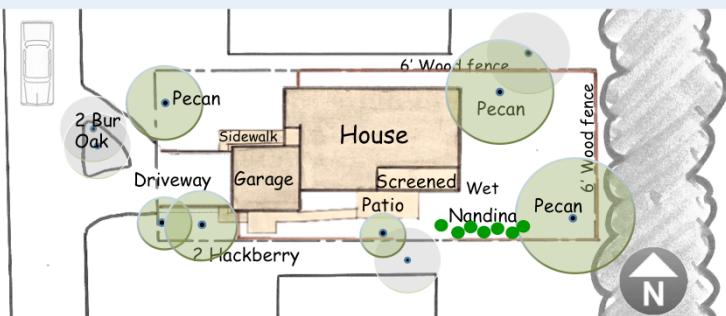
Identify surrounding features that affect the design

- Previous land use
- Critical and threatened habitat
- Surrounding amenities

Base Plan: Existing Conditions

Document what exists onto your base plan

- Structures (bldgs., utilities, drives, sidewalks, fencing)
- Property lines, easements
- Existing bed edges
- Existing plants
- Topography and hydrology
 - Slope/Drainage/Wet spots
- Microclimates, Sun/Shade



Notes:

Objective: Document existing conditions.

This slide has several 'fly-in' images so that items can be talked about as they are added.

Point out the trees, stepping stones, patios, house, driveway, outbuilding, sidewalk, slope lines, windows, fenceline.

A site assessment -Label areas on your base plan:

- *Structures* – Buildings, utilities driveways, sidewalks, fencing, utility areas
 - Downspouts, underground drains, access to spigot, fence gates and opening direction
- *Utilities* - Overhead wires that limit tree planting locations
 - Irrigation heads, valves, etc.
- *Property lines* – easements
- *Existing Bed edges*
- *Existing Plants* – particularly trees and the reach of the tree canopy
- *Topography* – steep slopes, gentle slopes, areas that may require retaining walls
- *Hydrology* – wet spots, direction that water drains from the site
- *Microclimates* – Sun/shade
- *Wildlife features* - show items such as tree cavities, nesting areas, or water sources

Base Plan: Design Decisions

Evaluate and determine which plants, beds or hardscape to preserve or remove

- Identify and categorize existing plants
 - Native
 - Non-native
 - Invasive
- Consider what plants to preserve or remove based on
 - Native/non-native/invasive
 - Location
 - Size
 - Water needs
 - Shade/sun requirements
 - Wildlife habitat value

Notes:

Objective: Make design decisions to preserve or remove existing plants.

After documenting the *Context* and *Existing Conditions*, the designer starts to make decisions as to what to keep, and what to remove in the existing landscape.

Evaluate and determine which plants, beds or hardscape to preserve or remove.

Plants

Identify and categorize existing plants

- *Native* – smaller viable and healthy native plants can be moved if needed
- *Non-native* – do not provide quality habitat
- *Invasive* – can be detrimental to surrounding environment and the site

Consider what plants to preserve or remove based on

- *Native/non-native/invasive*
- *Location*
- *Size*
- *Water needs*
- *Shade/sun requirements*
- *Wildlife habitat value*

Design Process: Steps

2. Create a Concept Plan

- **Habitat layer** - Find and 'balloon' the habitat areas that are determined by the existing conditions
- **Cultural layer** - Find and 'balloon' the human needs and wants for this landscape

Design Decisions - Blend the information from the existing conditions, the habitat layer and the cultural layer



Notes:

Objective: Describe the steps to the Design Process.

2. Create a Concept Plan

- *Habitat layer* - Find and 'balloon' the habitat areas. **Conceptually identify the habitat areas that are determined by the existing conditions.** (New habitat areas can be produced but more commonly these are determined by existing conditions.) Start to list the individual plants that are found in that habitat type
- *Cultural layer* - Find and 'balloon' the human needs and wants. **Conceptually identify the human needs and wants for the site.** Physical needs such as patios, dog run, etc. but also Aesthetic needs such as a pretty view out the kitchen window.

Design Decisions - Blend the information from the existing conditions, the habitat layer and the cultural layers. Refine the paths, bed edges, and other features. Locate the Aesthetic requirements/elements that might be used.

Concept Plan: Habitat Layer

- Identify habitat types
- Create lists of the native plants that make up each habitat

Habitat areas
Woodland
Riparian/Wetland
Prairie



Notes:

Objective: Demonstrate the process of identifying and documenting the habitat layers.

This slide has several 'fly-in' images so that items can be talked about as they are added.

Identifying the habitat areas of the landscape by considering

- Sun/shade conditions
- Moisture conditions
- Topography
- Soil conditions
- Existing vegetation if non-planted

It is possible to change the existing habitat type, by planting canopy and understory trees to modify the habitat.

Students can start to make lists of plants that are typical for each of the habitats that they are identifying. (Refer to the provided plant lists that are typical for this ecoregion)

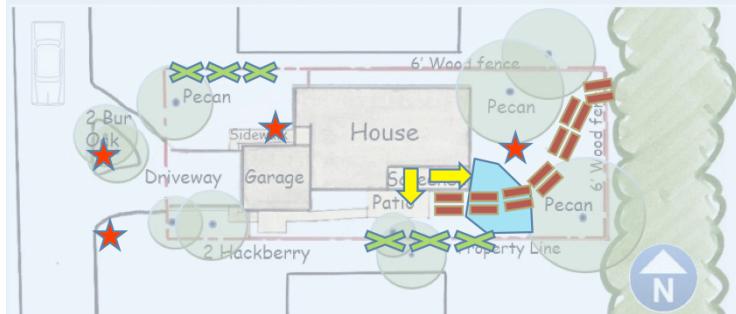
Instructor Notes:

Habitat Layer handout – As the instructor reminds students of the way to determine the habitat type in their site, the instructor can prepare students for the design exercise work where they will be directed to identify habitat areas for their design.

Habitat Plant Lists -- Refer to the regional plant list for each habitat type. These lists can be used by students in a planting plan. The woodland plant list will be used in the woodland habitat areas of the plan; prairie plant list in prairie areas, etc.

Concept Plan: Cultural Layer

- Identify human requirements & requests



Notes:

Objective: Demonstrate the process of identifying and documenting the cultural layer.

This slide has several 'fly-in' images so that items can be talked about as they are added.

Cultural conditions and needs

- Views* - from windows, ones you want to maintain or keep hidden. Consider near views, mid views, and far views.
- Pathways* - that you, your children, pets, or guests use
- Focal Points* – places to bring attention.
 - Draw attention to the front door especially if the front door location is not prominent.
 - Because of the busy street, visitors (and owners) need a focal point so that they know where to pull into the drive.
 - In the back yard, a focal point for views from the screened porch.
- Wet spots* – areas to address because of sitting water or erosion issues

Instructor Notes:

Cultural Layer – Guide students through the process of documenting (ballooning) cultural design issues. Prepare students for the design exercise work where they will be directed to color the cultural issues onto a blank trace paper by overlaying the trace onto the Base Plan (Context + Existing Conditions).

Concept: Design Decisions

- Stack the *base plan* layer the *habitat* layer, and the *cultural* layer
- You will begin to see patterns or natural locations for paths, bed outlines and other features
- Blend the information from all three and draw in the landscape features



Notes:

Objective: Describe the method of layering to blend ecological and cultural considerations.

This slide has several ‘fly-in’ images so that items can be talked about as they are added.

Describe the method of layering the components of existing conditions, habitat, and human needs. This will result in natural edges, and patterns from which your design will emerge.

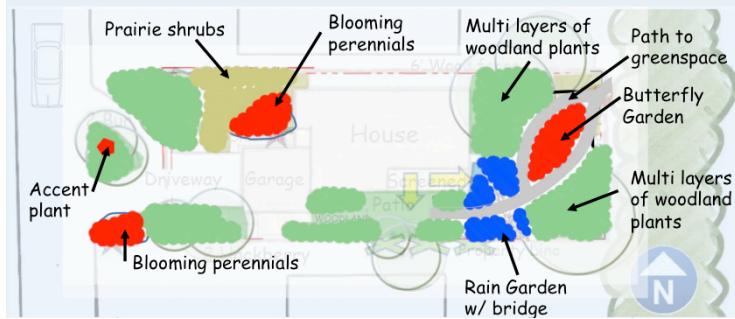
Blend the information from the *base plan* with the *existing conditions*, the *habitat* layer and the *cultural layers*. Start to refine these components by making decisions.

Instructor Notes:

Design Decisions Prepare students for the design exercise work where they will be directed to overlay the Habitat and the Cultural trace sheets onto the Base Plan. Information from all three layers will be evaluated and used to create a ‘Concept Plan.’

Concept Plan: Combined layers

Refine your concept plan by identifying and drawing in paths, bed areas, rain gardens, accents and other features



Notes:

Objective: Show students what a concept plan might look like.

This slide has several 'fly-in' images so that items can be talked about as they are added.

Start with **lines and edges** – draw in pathways and other line elements. The line of the path is drawn in to provide a route to the greenway, by making a trail loop, it also becomes the edge between the differing habitat areas.

The **Prairie habitat** area in the middle of the back yard is also a location where an **accent** is needed as a view. Making this area a pollinator garden full of blooming perennials is colorful and pretty while providing habitat.

Continue to work through the plan, identifying areas based on the patterns from the blending of the existing conditions, the habitats, and the cultural needs.

The **Concept Plan** is a combination of notes, some distinct features, and marked areas.

Instructor Notes:

Design Decisions Prepare students for the design exercise work. At this stage in the process they will be directed to create a **Concept Plan** from layers below: the *base plan*, the *habitat plan* and the *cultural plan*. As with putting a puzzle together, students will make decisions as to what they choose to create based on the goals and environmental conditions.

Design Process: Steps

3. Create a Planting Plan

- **Plant layer** – Within each Concept plan area, select plants from lists, and mark plant locations; use mature size circle or icon for the plant; label with plant name

Design Decisions – Select plants to create a landscape that balances human needs with habitat requirements



Notes:

Objective: Describe the steps to the Design Process.

3. Create a Planting Plan

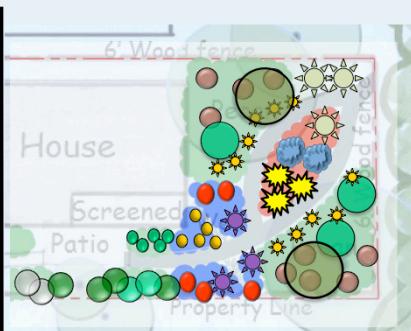
Overlay the *Concept Plan* with a *Planting Plan* layer. Work within one Concept area at a time. Select plants from plant lists Mark plant locations; use *mature size* circles or icons for each plant. Label with plant name. Habitat plant lists are helpful to narrow the plant selection for an area. Reference lists are helpful for cultural plant selections. Plant spreadsheets are helpful for size information.

Design Decisions - Work with an area at a time (habitat area) to select plants that provide habitat, but also provide a pleasing aesthetic. If the habitat has been selected well, the beds will only use plants from that habitat type, and will naturally form beds with similar sun, water and soil needs. Your plant palette for each area will be the native plants that you might find in that type of habitat in your area.
Example: Prairie plants for Coastal areas, i.e.. Gulf Muhly, sedges, etc.

Habitat plant lists are to be used to aid students in plant selections.

Planting Plan: Design Decisions

Work with an area at a time (habitat area) to select plants that provide habitat, but also provide a pleasing aesthetic



Notes:

Objective: Describe the point in which you select the plants for your landscape design.

This slide has several 'fly-in' images so that items can be talked about as they are added.

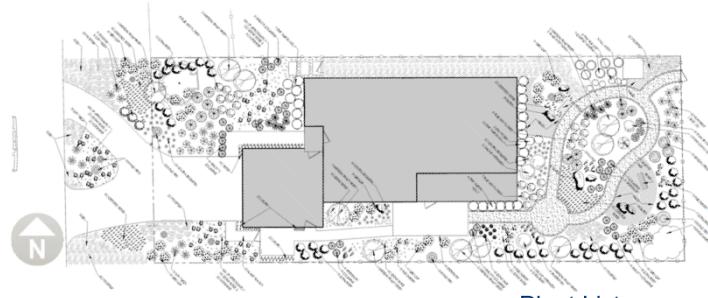
Base your plant selection decisions on:

- Native Plants
- Plants that are regionally typical of the habitat that you have selected for this area (from your Concept Plan)

Hint: Use the list of plants that are typical for that habitat as your plant pallet for the corresponding habitat zones.

- Plants that fulfill the human need issues (from your Concept Plan)
- Plants that combine textures, colors, provide a design line, etc.

- Work with photos to help you visualize the plants that you are considering for the location. You might even want to draw on the photo.
- Put the plant onto the layout plan shown at it's mature size. For example, a Salvia greggi has a 3' diameter at maturity, so the circle for this plant will have a 3' diameter.



Planting Plan

Common Name	Botanical Name	Type	Native	Size	Qty.	Notes
America Beauty Berry	<i>Kalopanax americana</i>	Shrub	Yes	2 gal	10	
Black-eyed Susan	<i>Rudbeckia hirta</i>	Perennial	No	1 gal	10	
Blue Sage	<i>Salvia farinacea</i>	Perennial	Yes	1 gal	8	
Carex (Meadow sedge OR)	<i>Carex mertensiana</i>	Groundcover	No	1 gal	10	
Chives	<i>Allium schoenoprasum</i>	Groundcover	No	1 gal	300	
Chinese Sedge	<i>Carex chevalieri</i>	Groundcover	Yes	1 gal	300	
Dwarf	<i>Artemesia</i>	Perennial	No	1 gal	33	
Evergreen	<i>Agastache foeniculum var. foeniculum</i>	Perennial	Yes	1 gal	33	
Fern	<i>Asplenium nidus</i>	Perennial	No	1 gal	23	
Flame Azalea	<i>Rhododendron calendulaceum</i>	Shrub	Yes	3 gal	2	
Dwarf Yucca Holly	<i>Ilex vomitoria</i>	Shrub	Yes	3 gal	2	
Goatgrass	<i>Elymus caninus</i>	Grass	No	1 gal	10	
Groundnut	<i>Platycodon grandiflorus</i>	Perennial	No	1 gal	75	
Hemp Agrimony	<i>Bupleurum rotundifolium</i>	Perennial	No	1 gal	10	
Horsetail	<i>Equisetum arvense</i>	Perennial	No	1 gal	60	west OR
Japanese Sedge	<i>Carex japonica</i>	Groundcover	No	1 gal	80	
Mexican Honeysuckle	<i>Lonicera sempervirens</i>	Perennial	No	1 gal	1	Tree form
Moss Rose	<i>Calochortus nuttallii</i>	Perennial	No	1 gal	1	
Mossy Sage	<i>Leucophyllum frutescens</i>	Perennial	No	1 gal	1	
Mountain Laurel	<i>Kalmia latifolia</i>	Perennial	No	1 gal	1	
Mossy Rose	<i>Calochortus speciosus</i>	Perennial	No	1 gal	1	
Mountain Mahogany	<i>Photinia glabra</i>	Perennial	No	1 gal	1	
Mountain Pine	<i>Pinus strobus</i>	Tree	No	1 gal	21	
Mountain Rose	<i>Adonis amurensis</i>	Perennial	No	1 gal	1	
Pagan Berry	<i>Ribes laevigatum</i>	Perennial	No	1 gal	13	
Pink Phlox	<i>Phlox diffusa</i>	Perennial	No	1 gal	1	
Texas Berry	<i>Crataegus texensis</i>	Perennial	No	1 gal	2	
Yucca	<i>Yucca whipplei</i>	Perennial	No	1 gal	2	
Zinnia	<i>Zinnia elegans var. drummondii</i>	Perennial	Yes	1 gal	2	
Soil	Soil: Builders aggregate 250# each					
Soil rock	Soil rock: 100# bag					
Decorated gravel	1/2" compacted to 4" depth 100# bag					
Chipped stone chippings	100# bag					

Notes:

Objective: Show students what finished planting plan might look like.

With the **Planting Plan** provide a **Plant List** to use while purchasing the plants for installation.

A **Plant List** should include the following:

- Common Name
- Botanical Name
- Purchase size
- Number of this species on the plan
- Special Notes

Optional items to include:

- Species type – tree, ornamental tree, shrub, grass, perennial, groundcover, vine

This plan is nearing the end of the design process. To provide a full Master Plan, you would include hardscape details, a materials list, and possibly an irrigation plan.

Master Plan

- Planting Plan
- Plant List
- Hardscape Details
- Materials List
- Irrigation Plan



Design & Photo by Carrie Dubberley

Notes:

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