2016 WAP Training Day 2

- Morning
  - Background of WAP
  - Walk through WAP form
  - Zones and zone scoring
  - Challenging aspects of WAP
- Afternoon
  - Examples (as time permits)
  - Field Practice

Main Goal of the WAP

Describe what you see
on the day of your visit (snapshot)

Data Collection
Data Collection
Data Collection

Scores

WAP Limitations

- Generally tested and developed for isolated systems
- Most consistent in Flatwoods
- Not consistent in Naboo swamps

Annually

- May through June assessments
- Main components:
  - Species documentation
  - Zonation scoring
  - Explanations
  - Additional Information
    - ✓ Stress
    - ✓ Comments

Year Five

Soils Subsidence

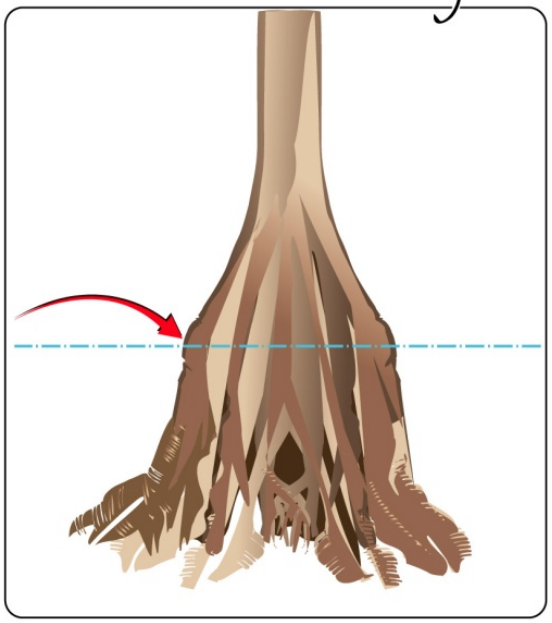
- Oxidation with microbe 

organics
- Buoyancy, Compaction/shrinkage
- Fire
- Trampling

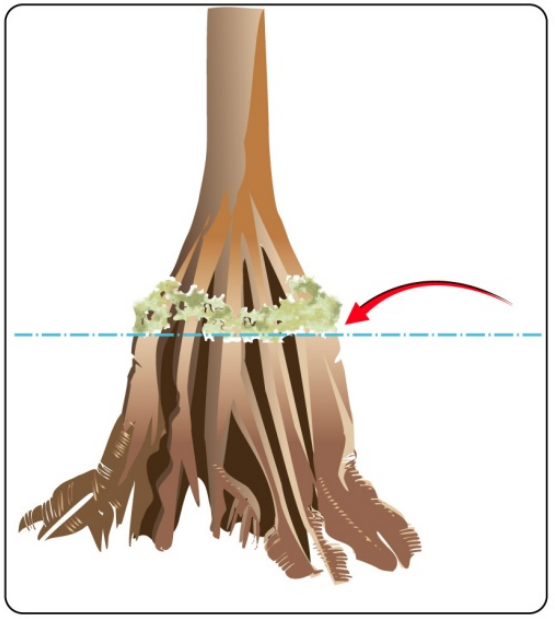
WAP Soils Data

What to Measure

Buttress Swelling



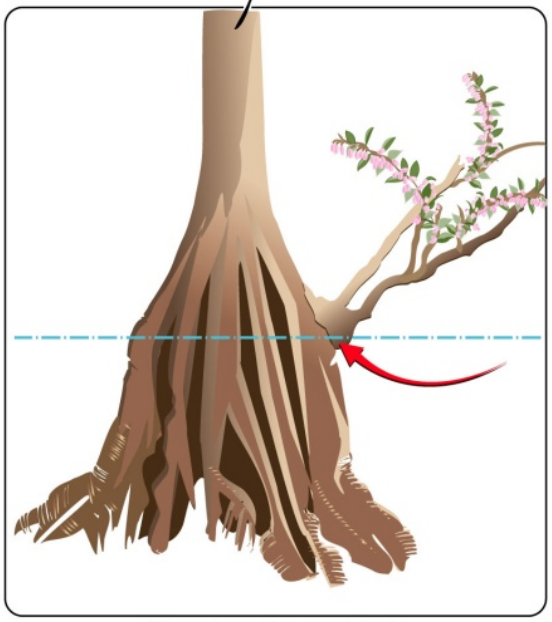
Moss Collar



WAP Zones:

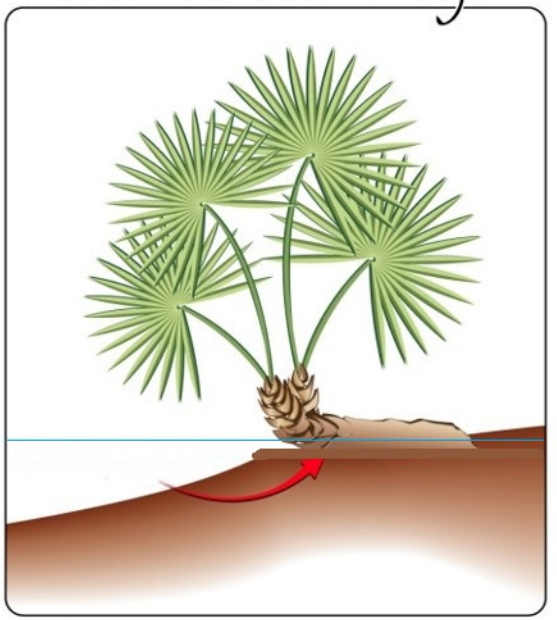
Horizontal Distance From “Normal Pool”

Lyonia



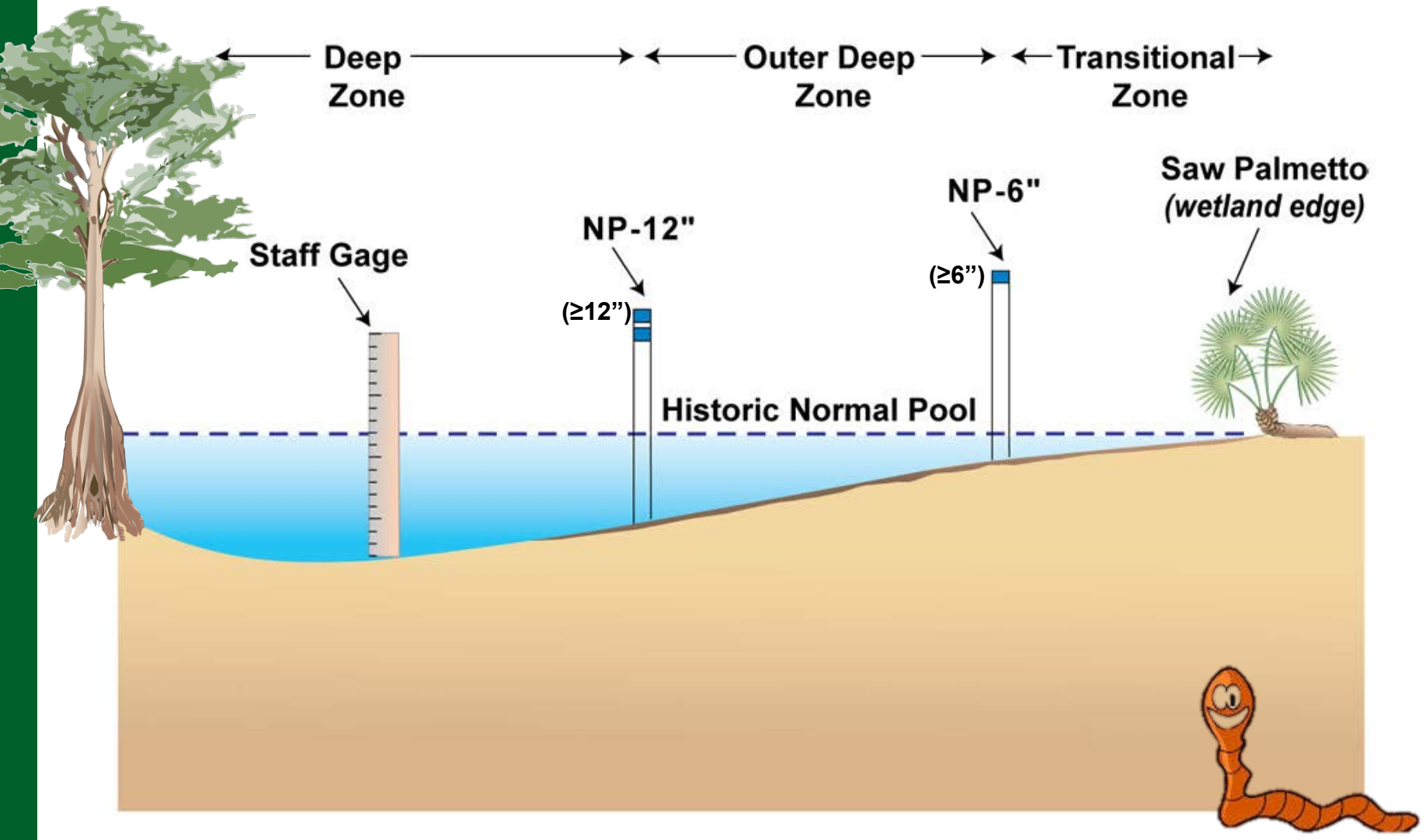
Diameter at base >1 inch

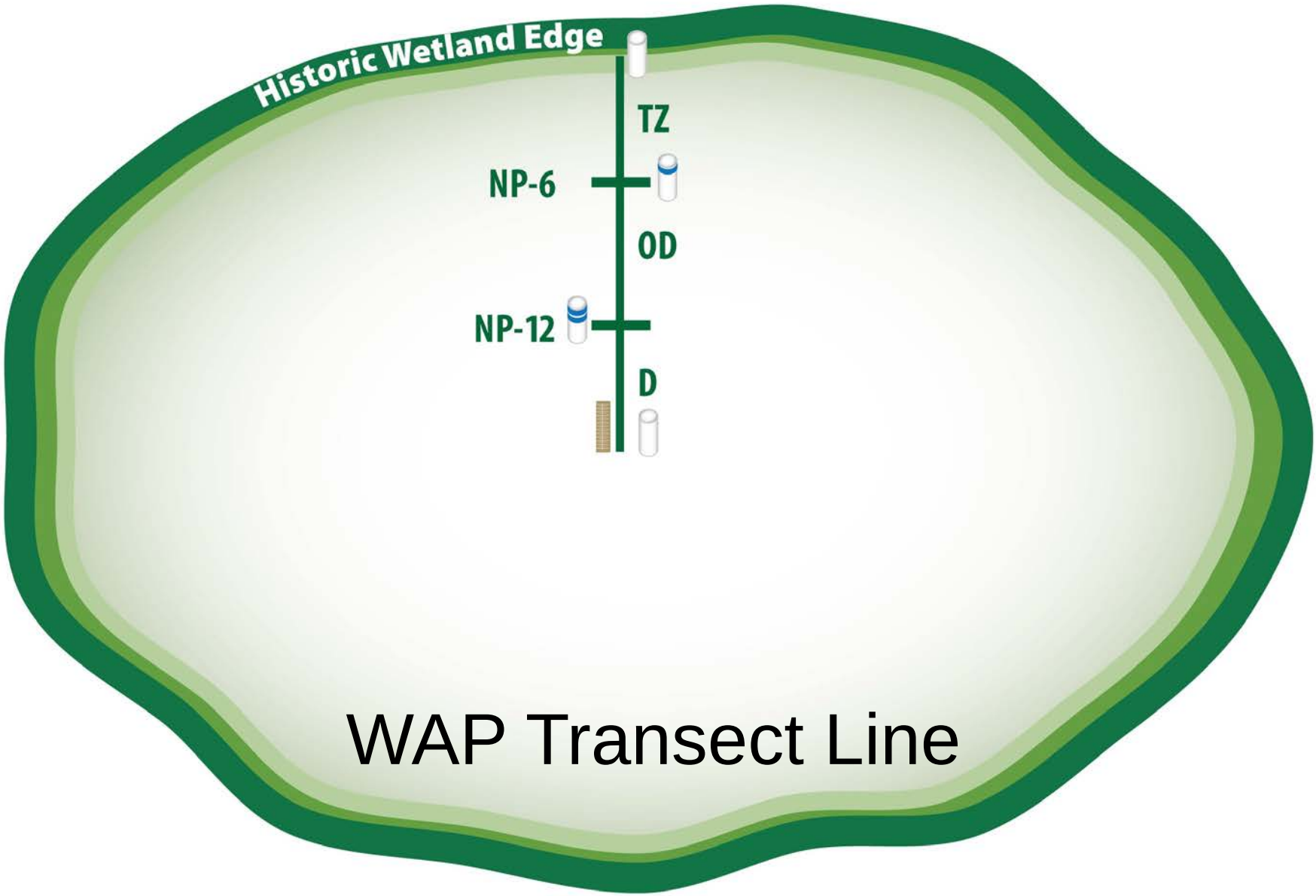
Saw Palmetto Fringe



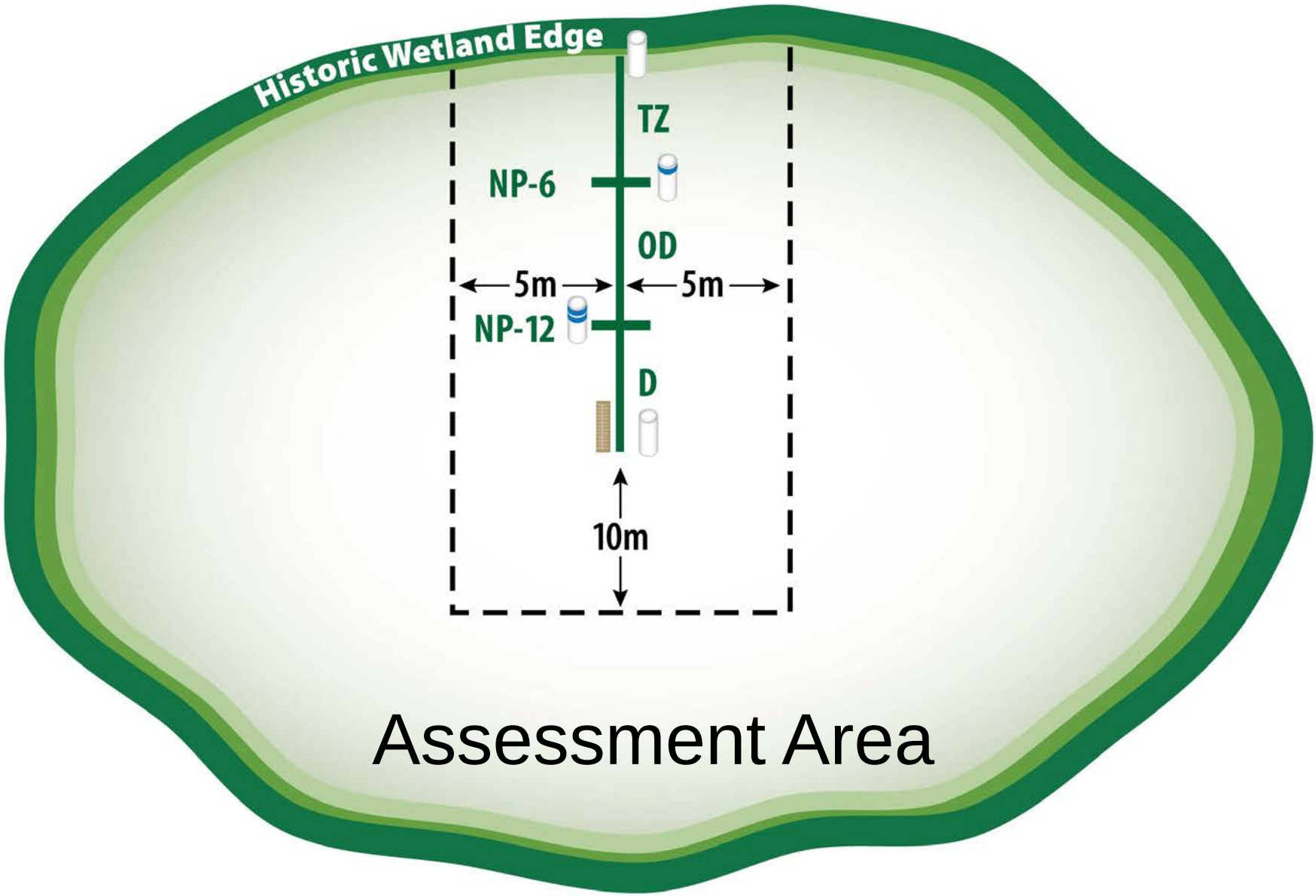

The Transect
Michelle Dachsteiner

Example of Typical WAP Transect

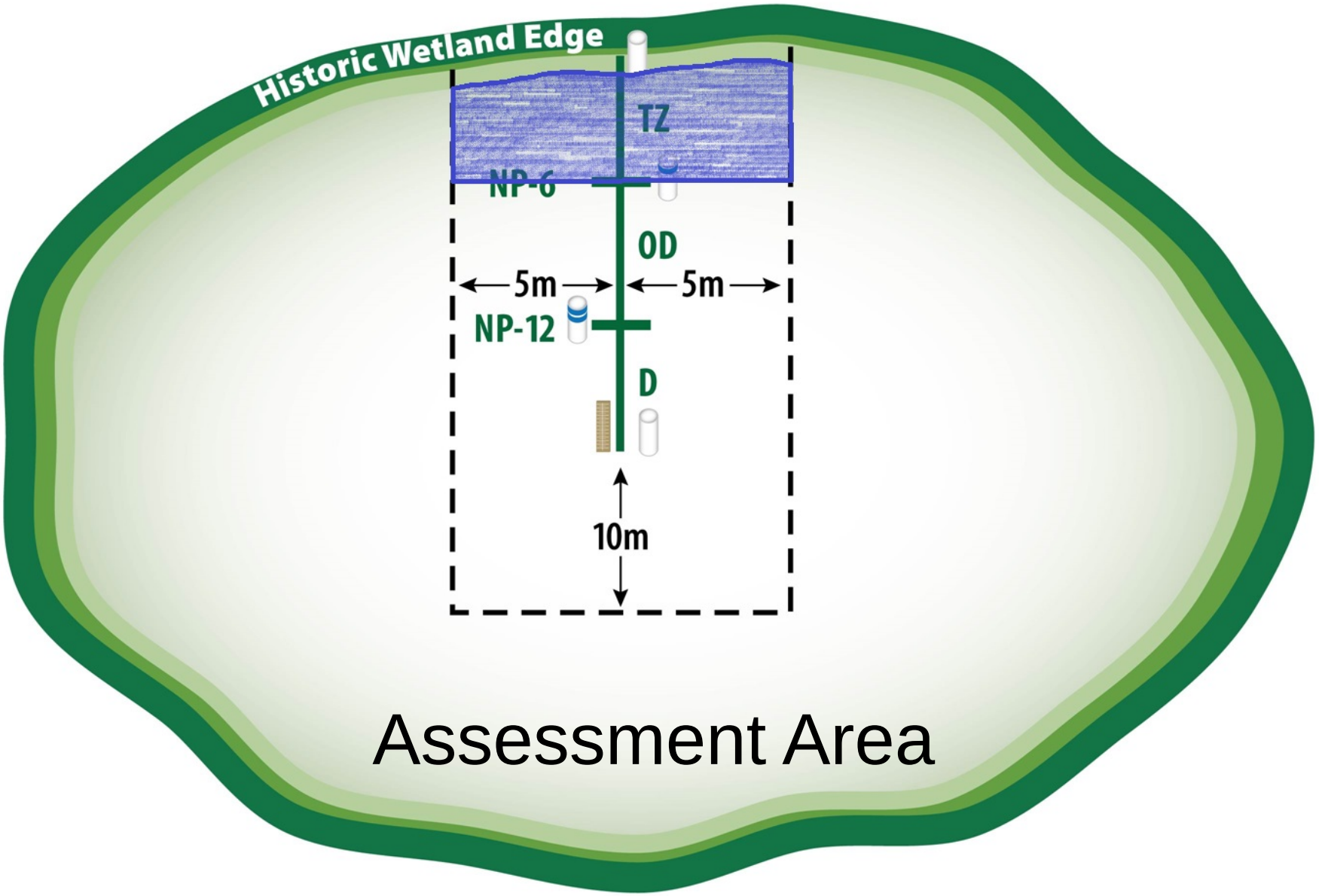




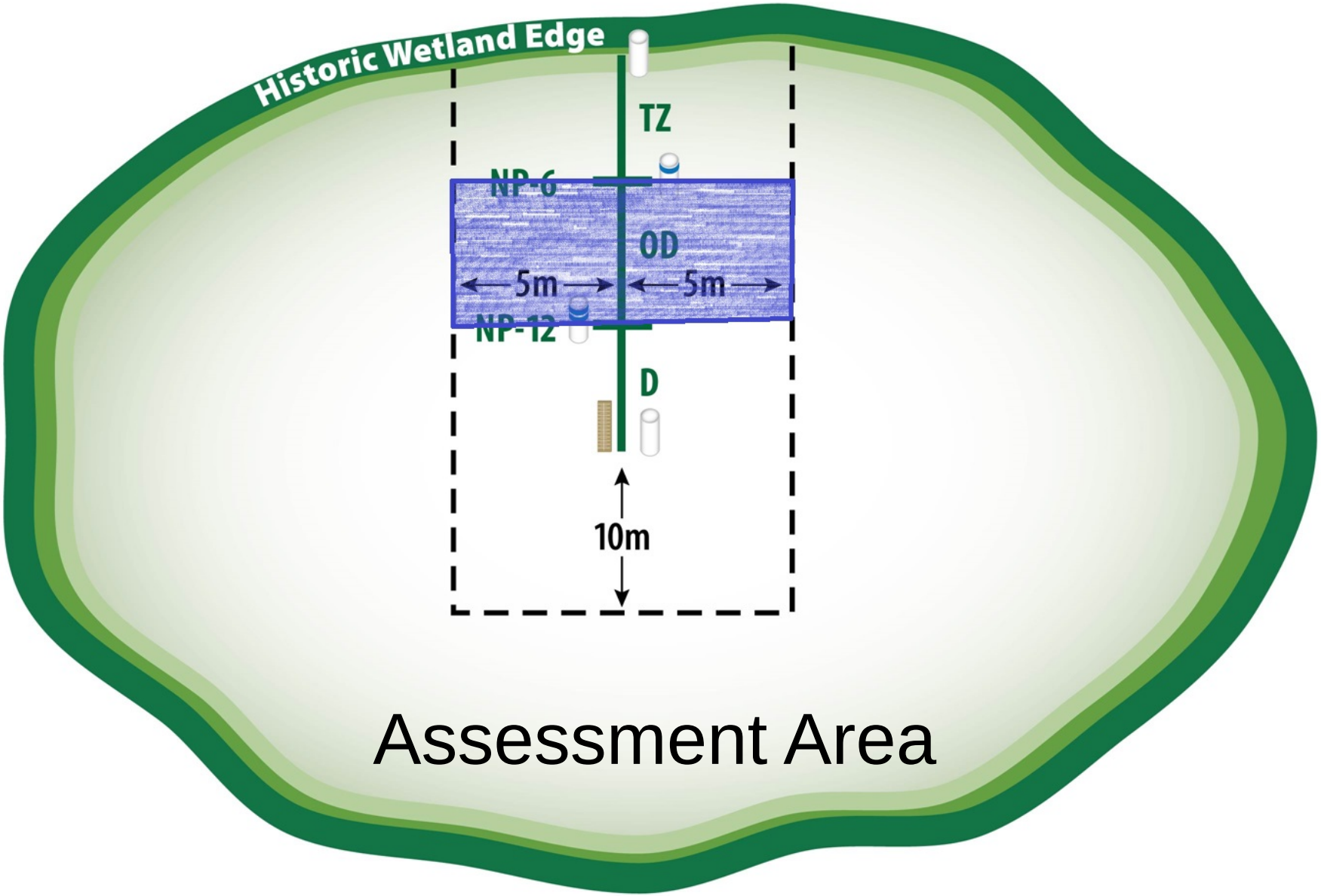
WAP Transect Line



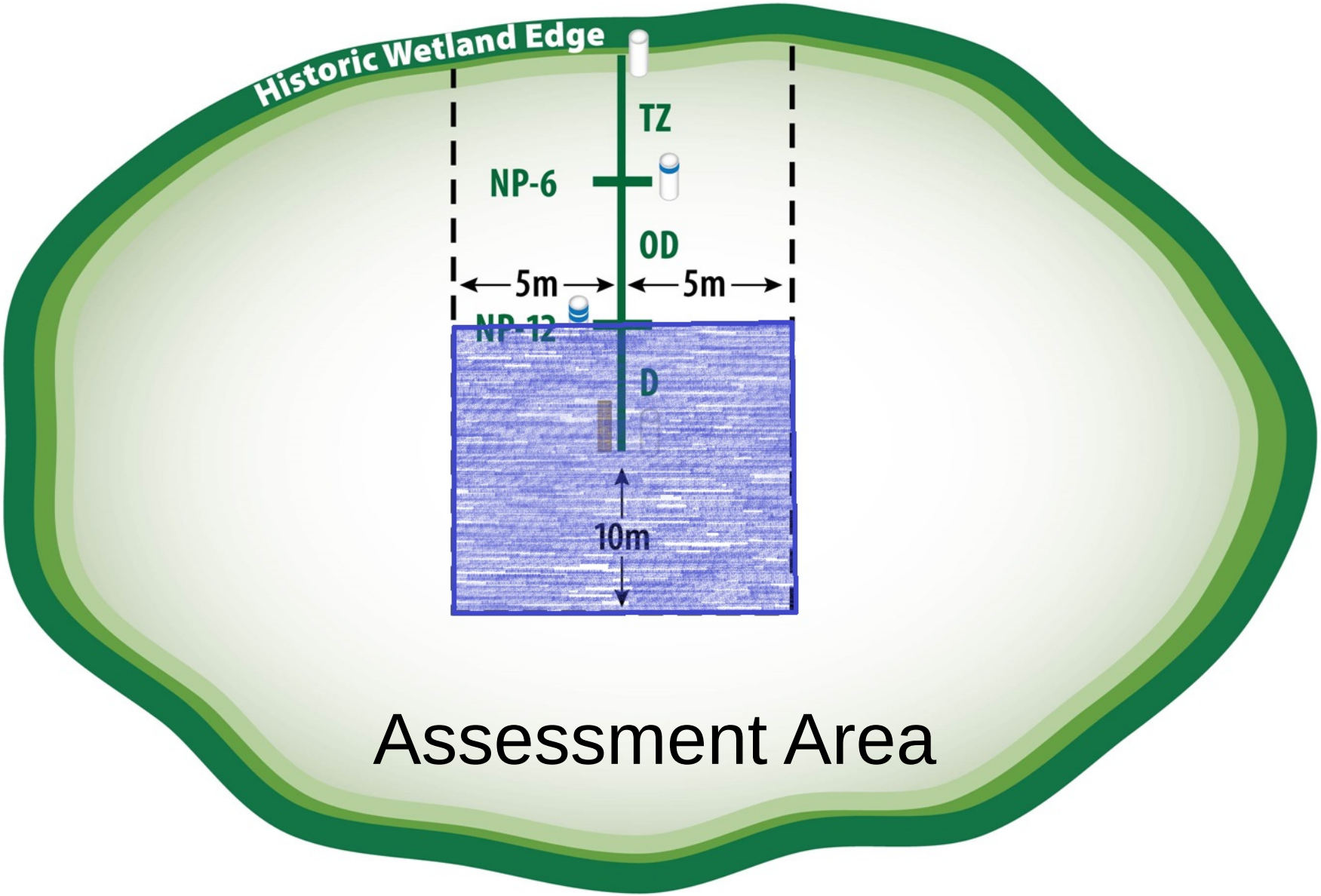
Assessment Area



Assessment Area

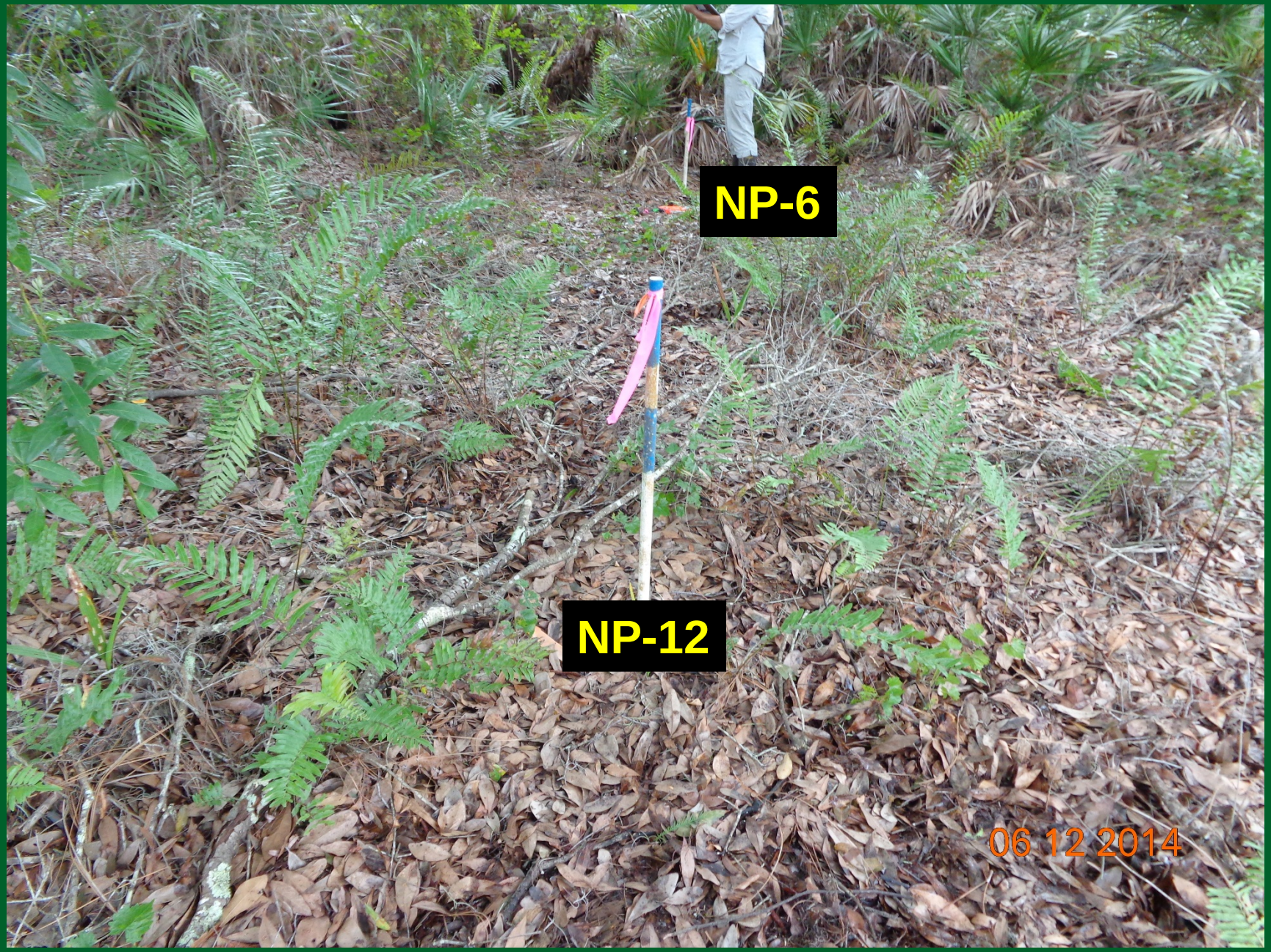


Assessment Area



Assessment Area

Wetland Edge, NP-6&12 Marker

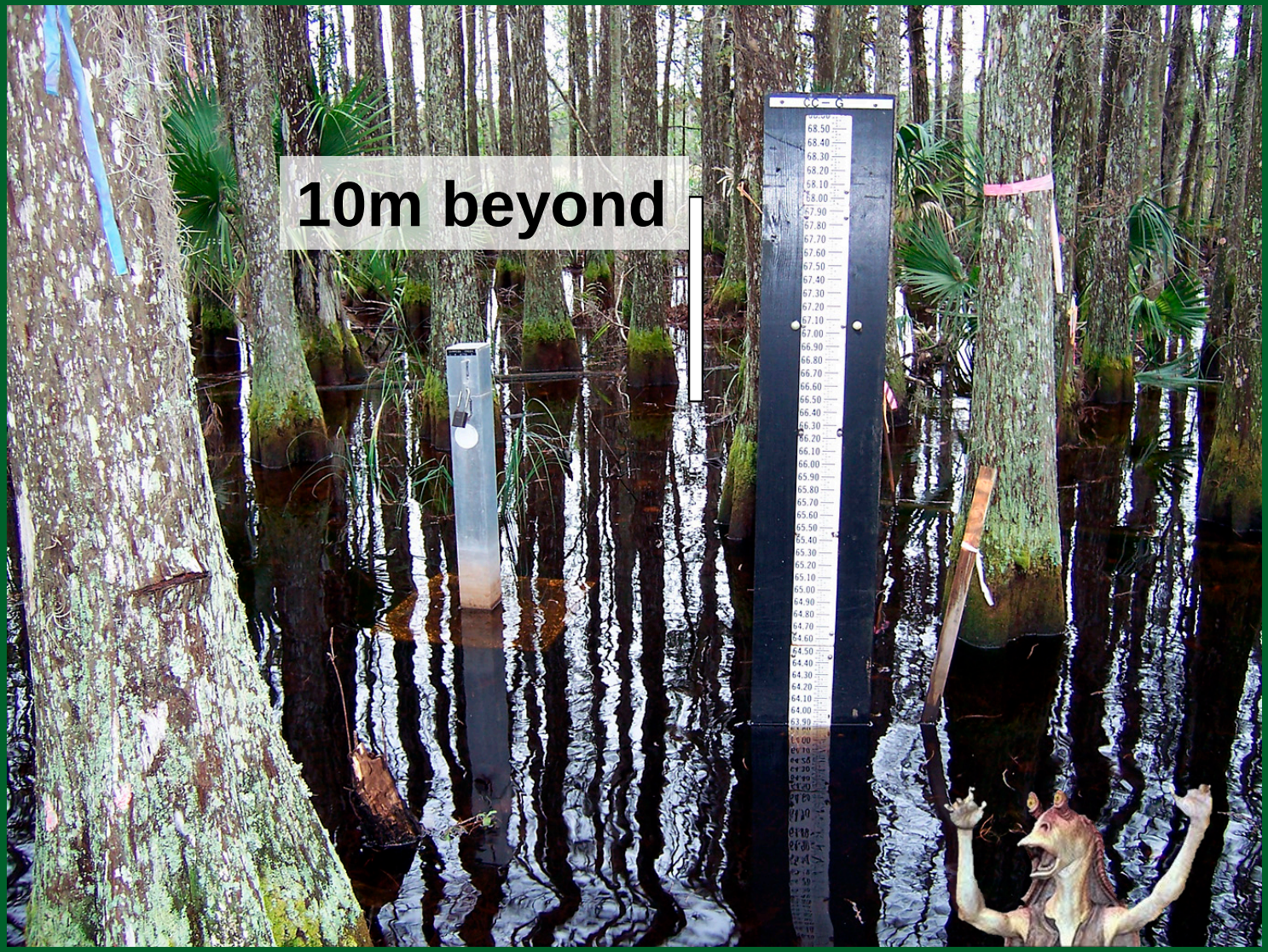


Zones

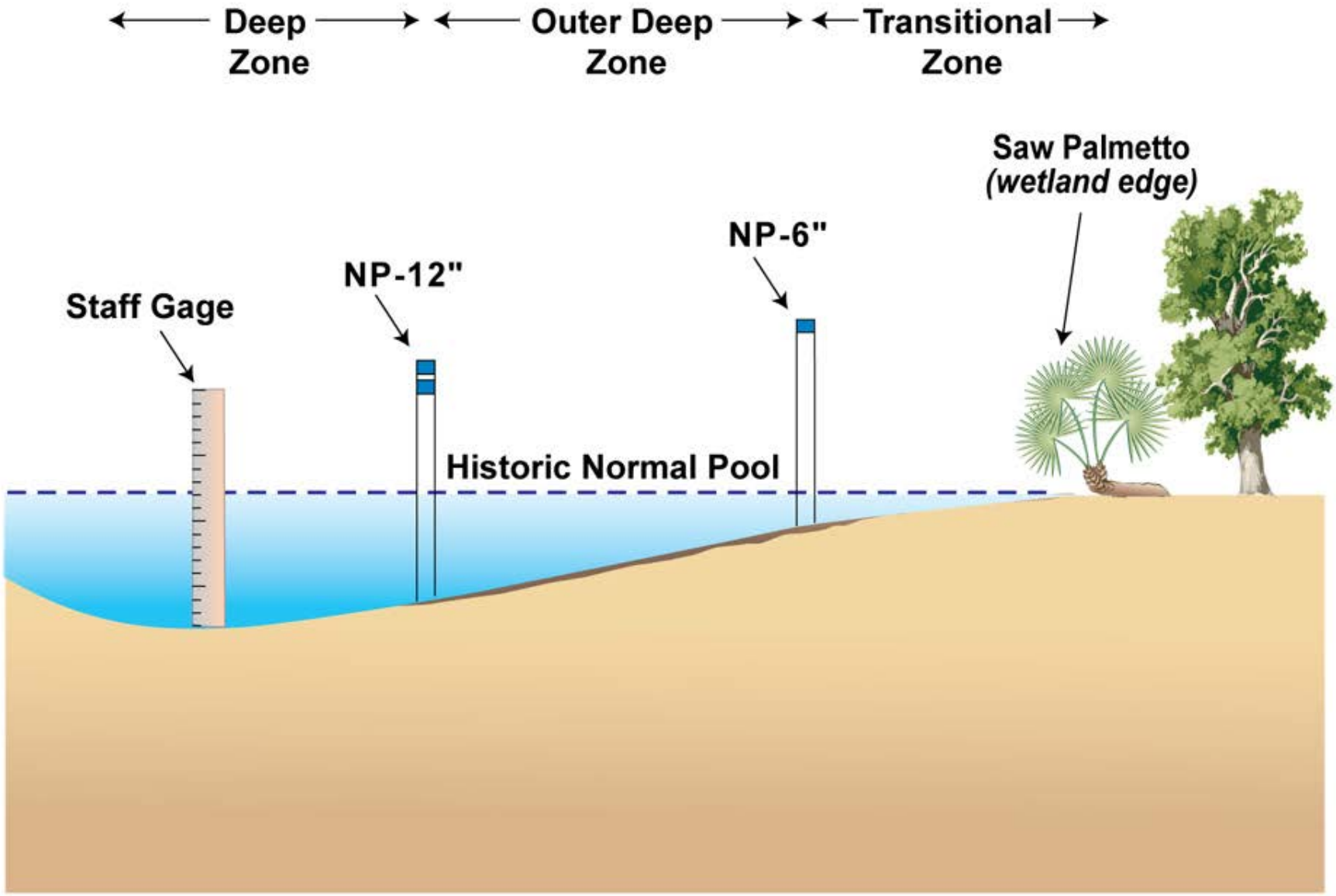
Edge (mowed/disked/Fire)

Take Care

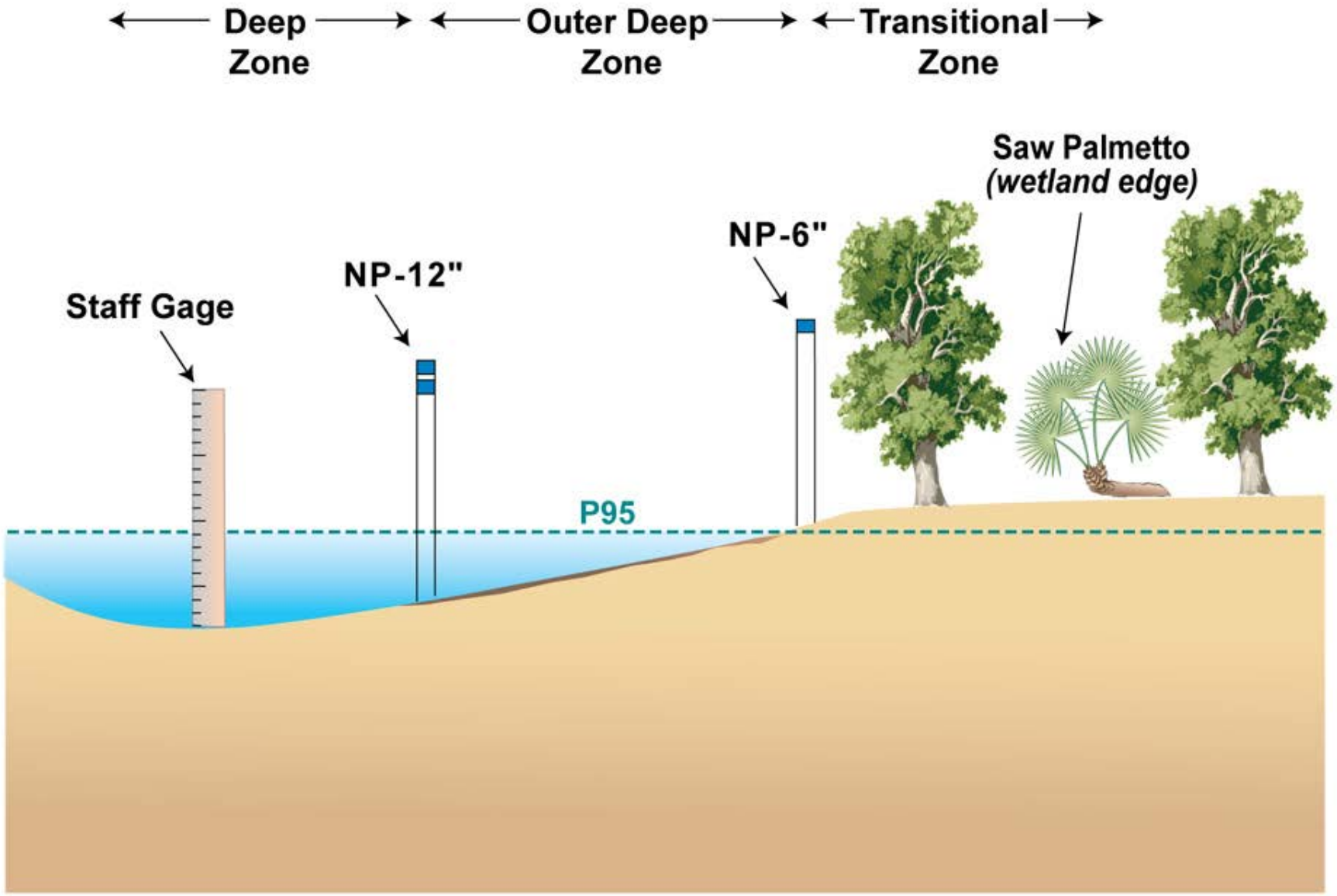
Transect End



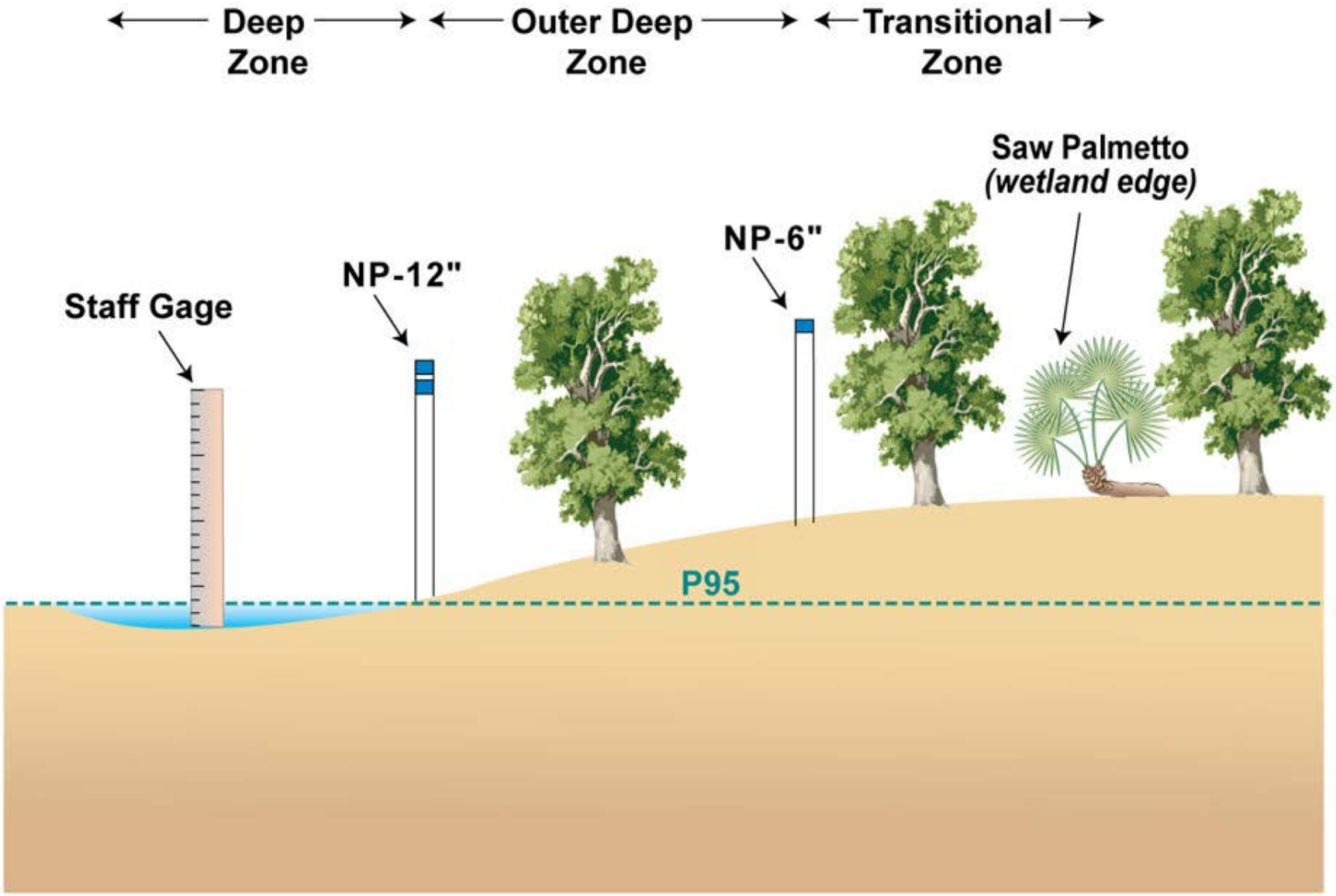
Upland Species Moving Into Wetland



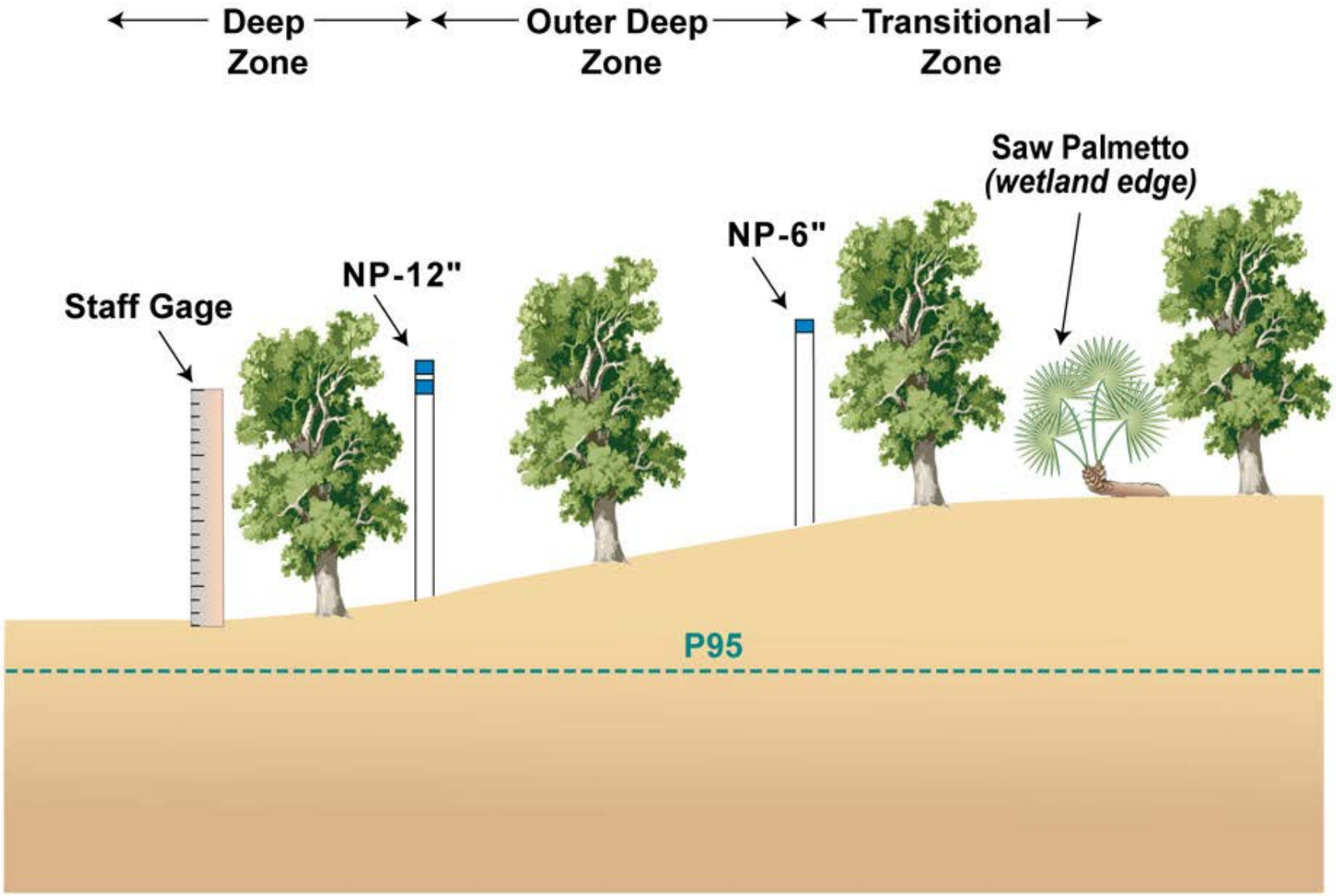
Upland Species Moving Into Wetland



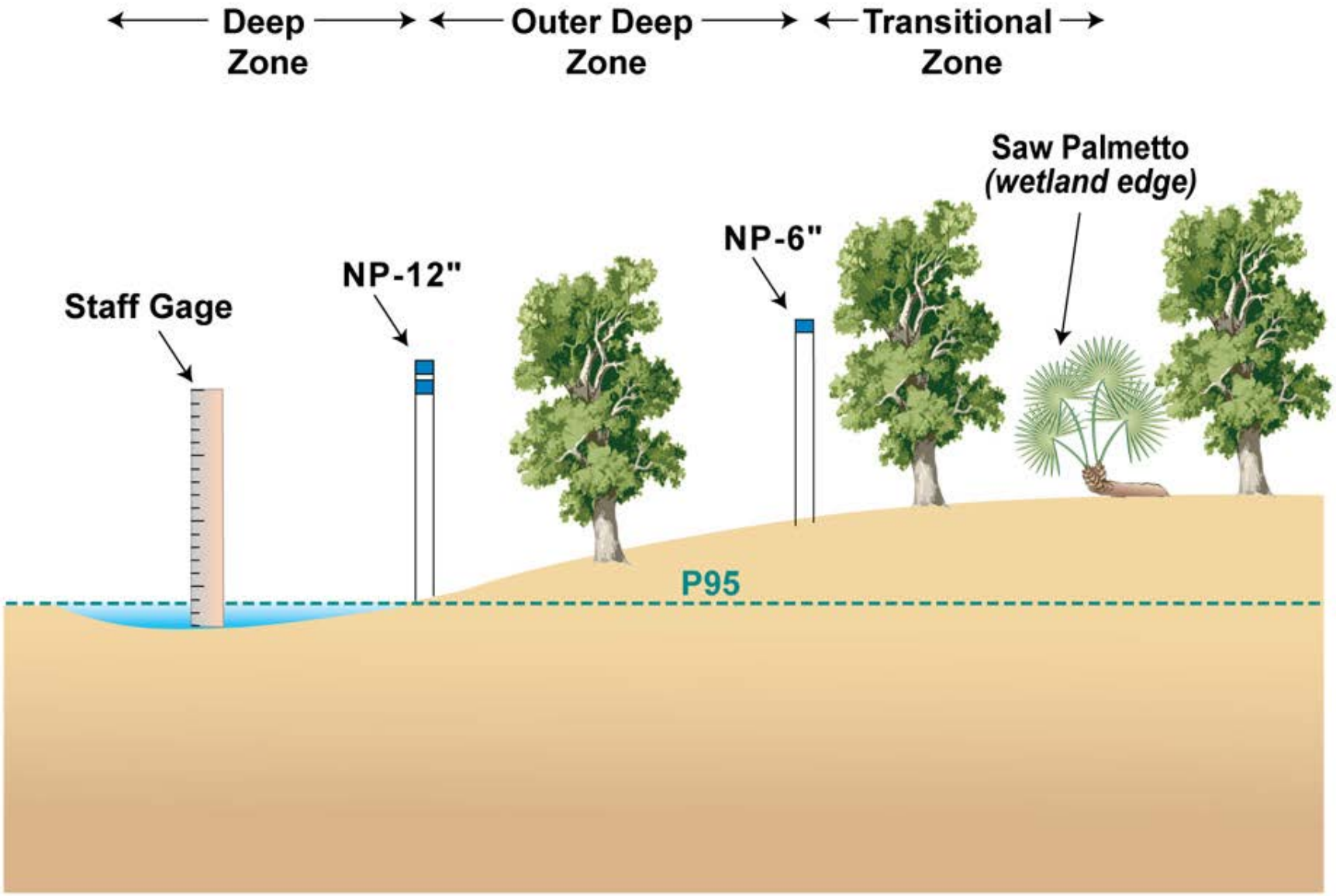
Upland Species Moving Into Wetland



Upland Species Moving Into Wetland



Upland Species Moving Into Wetland



The Form

Our first look

Wetland Assessment Procedure P. 1

DID:	Wellfield/Property: Portfolio	Wetland Name	Wetland Type
No DID	J.B. STARKEY	Starkey T	Cypress Isolated

Wetland ID:	Site ID:	Data Owner:	Personnel's Employer:	Date:	Start Time:	End Time:	Transect
503	776584	DIST					Starkey T A

WAP Assessment Personnel:

Photo Documentation

Frame	Description	Photo Point Desc	Direction

Water Level Information

Dry? Yes ☐ No ☐

Elevation (ft): Device Type: Well/Gauge ID:

Please enter Yes (Y), No (N), or Not Sure (NS) for the following questions and provide comments/explanations (2013 data shaded).

Wetland Impacts

Wetland edges filled or disturbed?	No	
Excessive dumping or trash in wetland?	No	
Hog disturbance?	Yes	
Significant impact from cattle (trampling)?	No	
Vehicles through wetland (including bicycles)?	Yes	
Insect damage?	No	
Disease?	No	

Wetland Drainage

Augmentation equipment in place?	No	
Augmentation occuring at time of WAP?	No	
Clear evidence of direct stormwater inflow?	No	
Clear evidence of direct drainage from wetland?	No	
Other drainage activities in area?	No	
Borrow pit/retention pond in wetland vicinity?	No	

Wetland Impact Comment(s)

none

Wetland Drainage Comment(s)

none

Fire

Signs of Fire? No ☐ Yes ☐ No

Lakes/Docks

☐ Docks completely out of water
☐ Docks touching water or with < 50% of dock over water
☐ Docks > 50% out of water
☐ N/A

2013 Is the littoral zone stranded? ☐ Current: ☐ Yes ☐ No

Fire Comment (year, expanse, intensity)

none

Lakes/Docks Comments:

Soil Subsidence

New signs of oxidation/subsidence: No ☐ Yes ☐ No

Soil Subsidence Comment:

none

General Comments/Observations:

Future users of these data may not want to analyze/compare these data with other wetlands due to the extensive level of:

2013 Current

☐ ☐ Non-grounded water withdraw related disturbance
☐ ☐ Soil subsidence

Species Count	Common Name	Evidence Description	Comment

Photos

443 StkDD 6In WAP2016.jpg

443 StkDD 6StakeWaterward WAP2016.jpg

443 StkDD Tzone WAP2016.jpg

443 StkDD GaugeCardinalN WAP2016.jpg

Wetland Willie

Delaware Wetland Restoration Project

Wetland Assessment Procedure P. 1

DID:	Wellfield/Property: Portfolio	Wetland Name	Wetland Type
No DID	J.B. STARKEY	Starkey T	Cypress Isolated

Wetland ID:	Site ID:	Data Owner:	Personnel's Employer:	Date:	Start Time:	End Time:	Transect
503	776584	DIST					Starkey T A

WAP Assessment Personnel:

Photo Documentation

Frame	Description	Photo Point Desc	Direction

Water Level Information

Dry? Yes ☐ No ☐

Elevation (ft): Device Type: Well/Gauge ID:

Water Levels with description

Impacts and Drainage

Please enter Yes (Y), No (N), or Not Sure (NS) for the following questions and provide comments/explanations (2015 data shaded).

Wetland Impacts			Wetland Drainage		
Wetland edges filled or disturbed?	No		Augmentation equipment in place?	No	
Excessive dumping or trash in wetland?	No		Augmentation occuring at time of WAP?	No	
Hog disturbance?	Yes		Clear evidence of direct stormwater inflow?	No	
Significant impact from cattle (trampling)?	No		Clear evidence of direct drainage from wetland?	No	
Vehicles through wetland (including bicycles)?	Yes		Other drainage activities in area?	No	
Insect damage?	No		Borrow pit/retention pond in wetland vicinity?	No	
Disease?	No				

Wetland Impact Comment(s)

none

Wetland Drainage Comment(s)

none

Datsun Engineering

Fire

Signs of Fire? No ☐ Yes ☐ No

Fire Comment (year, expanse, intensity)

none

Lakes/Docks

☐ Docks completely out of water

☐ Docks touching water or with < 50% of dock over water

☐ Docks > 50% out of water

☐ N/A

2014 Is the littoral zone stranded? ☐ Current: ☐ Yes ☐ No

Lakes/Docks Comments:

Soil Subsidence

New signs of oxidation/subsidence: No ☐ Yes ☐ No

Soil Subsidence Comment:

none

General Comments/Observations:

Future users of these data may not want to analyze/compare these data with other wetlands due to the extensive level of:

2014	Current
☐	☐ Non-grounded water withdraw related disturbance
☐	☐ Soil subsidence

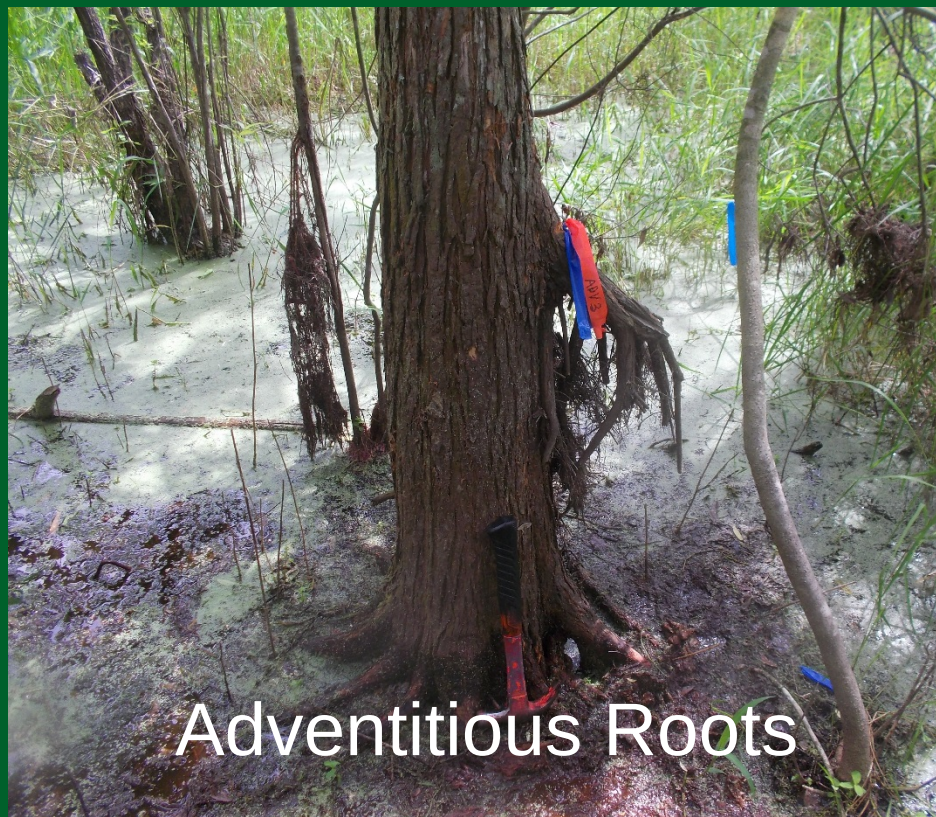
Species Count	Common Name	Evidence Description	

FWC

Subsidence


Fire


Subsidence


Adventitious Roots

Vegetation Type

- Groundcover (page 2)
- Shrubs and Small Trees (page 3)
- Trees (page 4)

Groundcover (page 2)

Groundcover

For each zone assessed, please document the following: species abbreviation, WAP zone (ZONE) (U, AD, T, OD, or D), percent cover (%) (5% or 10% - 100% in increments of 10%), count(#)(1-4), and distribution (DIST) (E=edge, B=beyond a few feet, or T=throughout).

Transition Zone

Check if no groundcover ☐

Species	Z	%	#	D

Outer Deep Zone

Check if no groundcover ☐

Species	Z	%	#	D

Deep Zone

Check if no groundcover ☐

Species	Z	%	#	D

Groundcover Comments

Shrubs and Small Trees (page 3)

Shrubs/Small Trees

For each zone assessed, please document the following: species abbreviation, WAP zone (ZONE) (U, AD, T, OD, or D), percent cover (%) (5% or 10% - 100% in increments of 10%), count (#) (1 - >50), and distribution (DIST) (E=edge, B=beyond a few feet, or T=throughout).

Transition Zone

Check if no shrubs/small trees ☐

Species	Z	%	#	D

Outer Deep Zone

Check if no shrubs/small trees ☐

Species	Z	%	#	D

Deep Zone

Check if no shrubs/small trees ☐

Species	Z	%	#	D

Shrubs/Small Trees Comments

Zonation

Zonation Score ☐ Please assign a score of 1-5 or 0 (for N/A) and provide an explanation

Zonation Score Explanation:

Stress

Signs of stress of appropriate shrubs and small trees (including dead species)

☐ Little or None
☐ Noticeable
☐ Significant
☐ Not Applicable

Signs of stress of inappropriate shrubs and small trees (including dead species)

☐ Little or None
☐ Noticeable
☐ Significant
☐ Not Applicable

Stress

- Do not include if species not on zonation list (dead shrubs and trees an exception).
- Do not include if there was not enough of a species to influence a zonation decision.
- Exclude all on hummocks, overhanging vegetation, etc.
- Explain species referring to, specify zones, and nature of stress

Trees (page 4)

Trees

For each zone assessed, please document the following: species abbreviation, WAP zone (ZONE) (U, AD, T, OD, or D), percent cover (%) (5% or 10% - 100% in increments of 10%), count (#) (1 - >50), and distribution (DIST) (E=edge, B=beyond a few feet, or T=throughout).

Transition Zone Trees — Check if no trees ☐

Species	Z	%	#	D

Outer Deep Zone Trees — Check if no trees ☐

Species	Z	%	#	D

Deep Zone Trees — Check if no trees ☐

Species	Z	%	#	D

Tree Comments:

Zonation

Zonation Score ☐ Please assign a score of 1-5 or 0 (for N/A) and provide an explanation

Zonation Score Explanation:

Stress

Signs of stress of appropriate trees (do not include dead species)

☐ Little or None
☐ Noticeable
☐ Significant
☐ Not Applicable

Signs of stress of inappropriate trees (include dead species)

☐ Little or None
☐ Noticeable
☐ Significant
☐ Not Applicable

Dead/leaning trees (include standing dead trees and dead trees on ground that are appropriate.

☐ Little or None
☐ Noticeable
☐ Significant

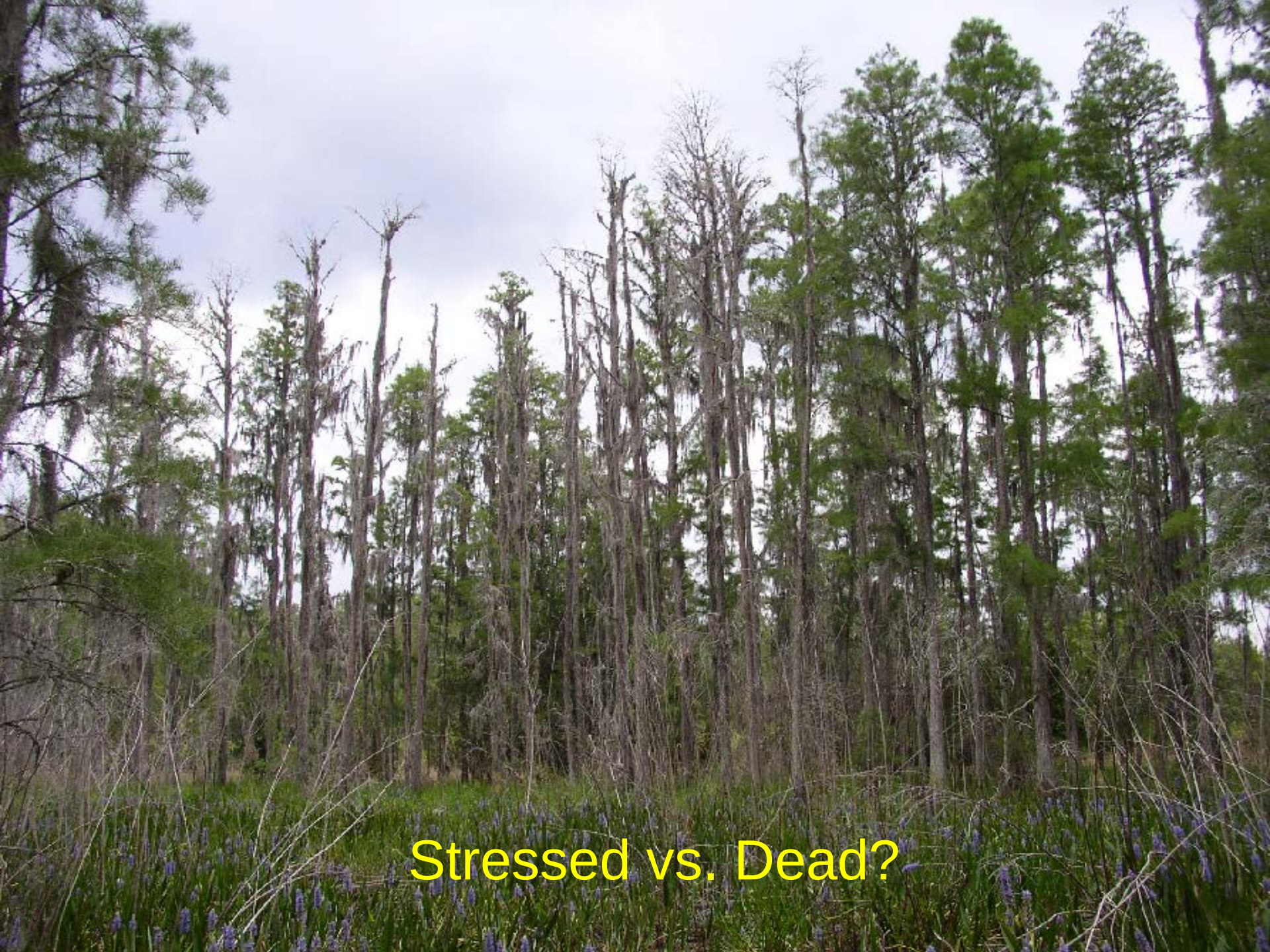
Recovery

Signs of tree recovery

☐ Yes
☐ No
☐ Not Sure
☐ Not Applicable

Inappropriate vine death suggesting recovery

☐ Yes
☐ No
☐ Not Sure
☐ Not Applicable


Stressed vs. Dead?

Dead and Leaning Trees

- Include only appropriate trees.
- Include trees in entire wetland.
- Include standing dead trees.
- Include trees dead on the ground.
- Include trees that died and were removed, if known.
- Leaning = 30 degrees or more.
- Do not include timbered trees or “tornado” related.


30º

Zonation

Zonation Score ☐ Please assign a score of 1-5 or 0 (for N/A) and provide an explanation

Zonation Score Explanation:

Stress

Signs of stress of appropriate trees (do not include dead species)

- ☐ Little or None
- ☐ Noticeable
- ☐ Significant
- ☐ Not Applicable

Signs of stress of inappropriate trees (include dead species)

- ☐ Little or None
- ☐ Noticeable
- ☐ Significant
- ☐ Not Applicable

Dead/leaning trees (include standing dead trees and dead trees on ground that are appropriate.

- ☐ Little or None
- ☐ Noticeable
- ☐ Significant
- ☐ Not Applicable

Recovery

Signs of tree recovery

- ☐ Yes
- ☐ No
- ☐ Not Sure
- ☐ Not Applicable

Inappropriate vine death suggesting recovery

- ☐ Yes
- ☐ No
- ☐ Not Sure
- ☐ Not Applicable

Zonation Assessment

Three key terms/phrases:

- Vegetation Type: GC, Shrubs &SmallT, T
- Zones & Assigned Species: U, AD, T, OD, D
- Vegetation Zonation Score 0-5

Groundcover

- All woody species < one meter, and all non-woody species

- *Always GC:*

  Pokeweed (Phyto. am.), vines, and Rubus spp.

- Rooted in the wetland

Shrubs and Small Trees

- Woody plants > 1 meter high & < 4 cm DBH
- Generally have multiple stems
- Includes Hypericum f., Gallberry, Wax Myrtle, Buttonbush, and Lyonia when > 1 meter
- Cabbage Palm > 1 meter, < 6 meters
- Must be rooted in wetland

Trees

- All woody plants ≥ 1 meter and ≥ 4 cm DBH
- Includes Cabbage Palm > 6 meters high
- Never a tree:
  - *Calicarpa a*.
  - *Cephalanthus o*.
  - Myrica c.
  - *Schinus t.*
- Rooted in the ground (~~overhanging~~)

Zones & Assigned Species

Appendix A – Plant Zones

- Upland (U) – Plant species that are not expected to be seen in wetlands. It is possible that a few specimens may be found along wetland edges, but are not expected throughout the transition zone.

- Adaptive (AD) – Plant species commonly seen in the T in limited numbers. When adaptive plants are found in the OD or D, they should be treated the same as transition zone plants. Designated as FAC or UPL by DEP.

- Transition (T) – Plant species commonly found in the transition zone, and designated either FACW or OBL by DEP.
- Outer Deep (OD) – Plant species commonly found in the outer deep zone, and designated either FACW or OBL by DEP.
- Deep (D) - Plant species commonly found in the deep zone, and designated either FACW or OBL by DEP.

Appendix A. Plant list used for WAP methodology.

Botanical Name	Common Name	Synonymy	Wetland Zone
Acer rubrum	red maple		OD
Amaranthus australis	southern amaranth		T
Ambrosia artemisiifolia	common ragweed		U
Amorpha fruticosa	Bastard indigobush; false indigobush		T
Ampelopsis arborea	Peppervine		AD
Amphicarpum muhlenbergianum	blue maidencane		OD
Andropogon glomeratus	bushy bluestem		T
Andropogon glomeratus var. glaucopsis	purple bluestem		OD
Andropogon virginicus	broomsedge bluestem		AD
Andropogon virginicus var. decipiens	broomsedge bluestem		AD
Andropogon virginicus var. glaucus	chalky bluestem		U
Axonopus spp.	Carpetgrass		AD
Baccharis spp.	silverling, groundsel tree, sea myrtle		AD
Bacopa caroliniana	lemon bacopa; blue waterhyssop		OD
Berchemia scandens	alabama supplejack; rattan vine		T
Callicarpa americana	American beautyberry		U
Campsis radicans	trumpet creeper		T
Carex longii	long's sedge		T
Celtis laevigata	sugarberry; hackberry		T
Centella asiatica	Spadeleaf		T
Cephalanthus occidentalis	common buttonbush		D

Zone Designation
Appendix A

- If species not a WAP plant, no zone should be assigned (NA)
- However, all species should be included

Wetland Assessment Procedure

Wellfield/Property: Portfolio	Wetland Name	Wetland Type
J.B. STARKEY	Starkey T	Cypress Isolated

Wetland ID:	Prev Yr. Assessment Area Width 2013	Zone Assessment Notes	Transect
503	5M on each side of transect		Starkey T A

Groundcover (2015 data shaded)

For each zone assessed, please document the following: species abbreviation, WAP zone (ZONE) (U, AD, T, OD, or D), percent cover (%) (5% or 10% - 100% in increments of 10%), count(#)(1-4), and distribution (DIST) (E=edge, B=beyond a few feet, or T=throughout).

Transition Zone

Check if no groundcover 2015 ☐ Current ☐

		2015			Current		
Species	Z	%	#	D	%	#	D
Erioca decang	NA	10		T			
Amphic muhlen	OD	10		T			
Stilli aquati	D	5		T			
Eupato leptop	OD	5		T			
Pluche baccha	OD	5		T			
Droser capill	NA	5		T			
Dichan commut	NA	5		T			
Gratio ramosa	T	5		T			
Hyperi fascic	OD	5		T			
Syngon flavid	NA		1	T			
Xyris elliot	NA		1	T			
Sagitt gramin	NA		1	T			
Juncus scirpo	NA		1	T			

Outer Deep Zone

Check if no groundcover 2015 ☐ Current ☐

		2015			Current		
Species	Z	%	#	D	%	#	D
Stilli aquati	D	10		T			
Gratiola sp.	NA	5		E			
Pluche baccha	OD	5		T			
Eupato leptop	OD	5		T			
Amphic muhlen	OD	5		T			
Rhynch inunda	NA	5		T			
Erioca decang	NA		2	T			
Androp glomer glauco	OD		2	T			
Rhynch cephal	NA		2	T			
Taxodi ascend	D		1	T			
Xyris jupica	NA		1	T			
Androp glomer	T		1	T			

Deep Zone

Check if no groundcover 2015 ☐ Current ☐

		2015			Current		
Species	Z	%	#	D	%	#	D
Rhynch inunda	NA	30		T			
Panicu hemito	NA	5		T			
Sagitt gramin	NA	5		T			
Carex verruc	NA	5		T			
Erioca decang	NA	5		T			
Cladiu jamaic	NA		4	T			
Pluche baccha	OD		2	B			

10 min Break

Zonation Scoring How To

- Walk the Transect, and write down all the plant species you see in each zone
  - Use scientific names (eventually!)
  - Focus on species with significant cover. Identify all plants (future inclusion)

Convention

- If any zone has been temporarily disturbed (pig rooting, prescribed burn activities, etc.):
  - Check “no cover”
  - Add an explanation
  - Re-evaluate next year

Guidance/Reminders

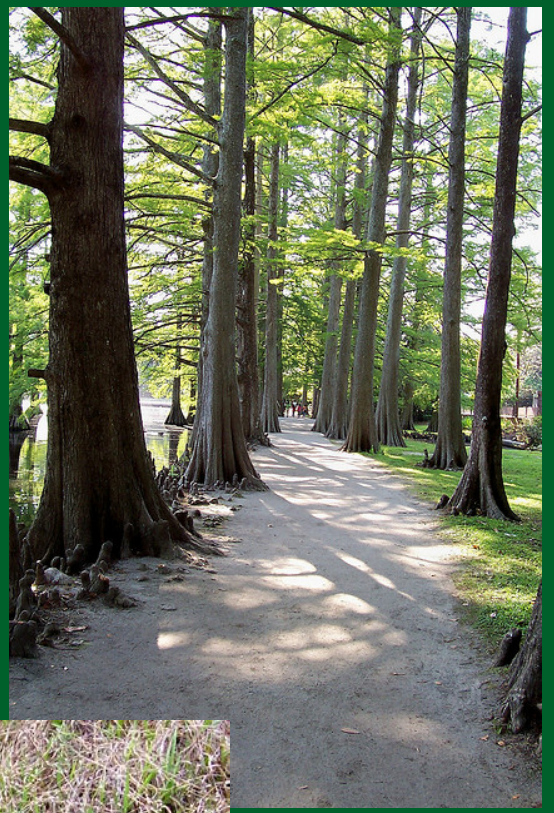
- Don’t include plants in pathways
- Add any notes to explain yourself as needed
- Remember to include only living plants

- Include planted plantation and backyard landscape species etc.

- Species differ from last year? Especially on Shrubs and Small Trees, or Trees. Take a second look.

Other Guidance

- aquatic plants



- ~~Hummocks/upland islands~~
- ~~Pathways or highly disturbed ground~~

- ~~Dead vegetation~~

Vegetation Cover and Number

- Estimate the percent cover of each species, and, for “shrubs and small trees” and “trees”, <u>count the number of plants.</u>
  - Percentage of wetland zone in assessment area covered by species
  - For groundcover, if one, two, three, or four clumps – write 1, 2, 3 or 4
  - Otherwise, choose 5% or increments of 10% (10, 20, 30, etc.)
  - If >50 individuals, write “>50”
  - No ranges, no “>” or “<“

Groundcover (2015 data shaded)

For each zone assessed, please document the following: species abbreviation, WAP zone (ZONE) (U, AD, T, OD, or D), percent cover (%) (5% or 10% - 100% in increments of 10%), count(#)(1-4), and distribution (DIST) (E=edge, B=beyond a few feet, or T=throughout).

Transition Zone

Check if no groundcover 2015 ☐ Current ☐

		2015			Current		
Species	Z	%	#	D	%	#	D
Erioca decang	NA	10		T			
Amphic muhlen	OD	10		T			
Stilli aquati	D	5		T			
Eupato leptop	OD	5		T			
Pluche baccha	OD	5		T			
Droser capill	NA	5		T			
Dichan commut	NA	5		T			
Gratio ramosa	T	5		T			
Hyperi fascic	OD	5		T			
Syngon flavid	NA		1	T			
Xyris elliot	NA		1	T			
Sagitt gramin	NA		1	T			
Juncus scirpo	NA		1	T			

Outer Deep Zone

Check if no groundcover 2015 ☐ Current ☐

		2015			Current		
Species	Z	%	#	D	%	#	D
Stilli aquati	D	10		T			
Gratiola sp.	NA	5		E			
Pluche baccha	OD	5		T			
Eupato leptop	OD	5		T			
Amphic muhlen	OD	5		T			
Rhynch inunda	NA	5		T			
Erioca decang	NA		2	T			
Androp glomer glauco	OD		2	T			
Rhynch cephal	NA		2	T			
Taxodi ascend	D		1	T			
Xyris jupica	NA		1	T			
Androp glomer	T		1	T			

Deep Zone

Check if no groundcover 2015 ☐ Current ☐

		2015			Current		
Species	Z	%	#	D	%	#	D
Rhynch inunda	NA	30		T			
Panicu hemito	NA	5		T			
Sagitt gramin	NA	5		T			
Carex verruc	NA	5		T			
Erioca decang	NA	5		T			
Cladiu jamaic	NA		4	T			
Pluche baccha	OD		2	B			

Shrubs/Small Trees (2015 data shaded)

For each zone assessed, please document the following: species abbreviation, WAP zone (ZONE) (U, AD, T, OD, or D), percent cover (%) (5% or 10% - 100% in increments of 10%), count (#) (1 - >50), and distribution (DIST) (E=edge, B=beyond a few feet, or T=throughout).

Transition Zone

Check if no shrubs 2015 ☐ Current ☐

		2015			Current		
Species	Z	%	#	D	%	#	D
Stilli aquati	D		4	T			

Outer Deep Zone

Check if no shrubs 2015 ☐ Current ☐

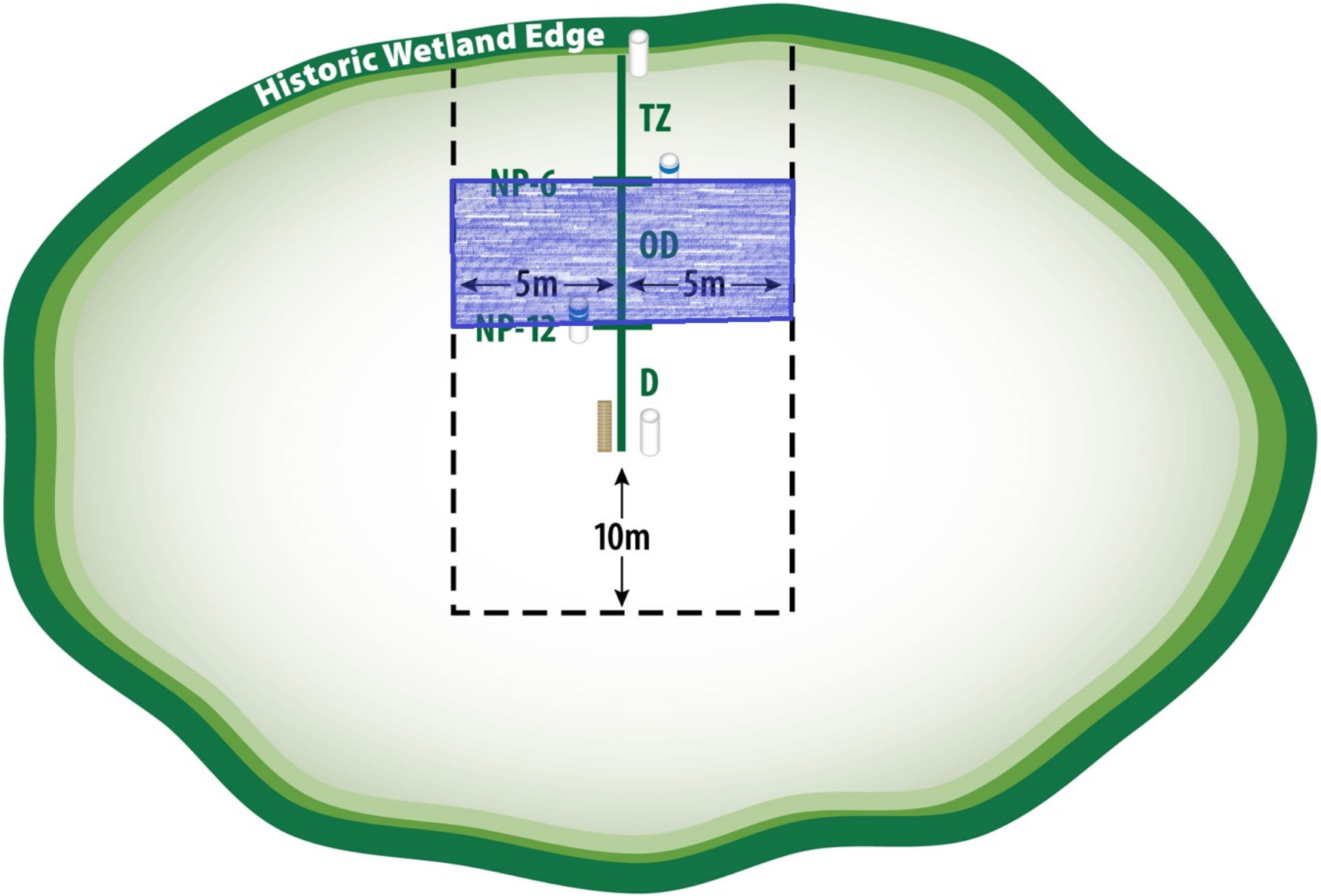
		2015			Current		
Species	Z	%	#	D	%	#	D
Myrica cerife	AD	20	15	T			
Taxodi ascend	D	10	10	T			
Stilli aquati	D	5	10	T			
Hyperi fascic	OD	5	5	T			
Pinus elliot	AD	5	3	T			
Persea palust	OD		1	T			

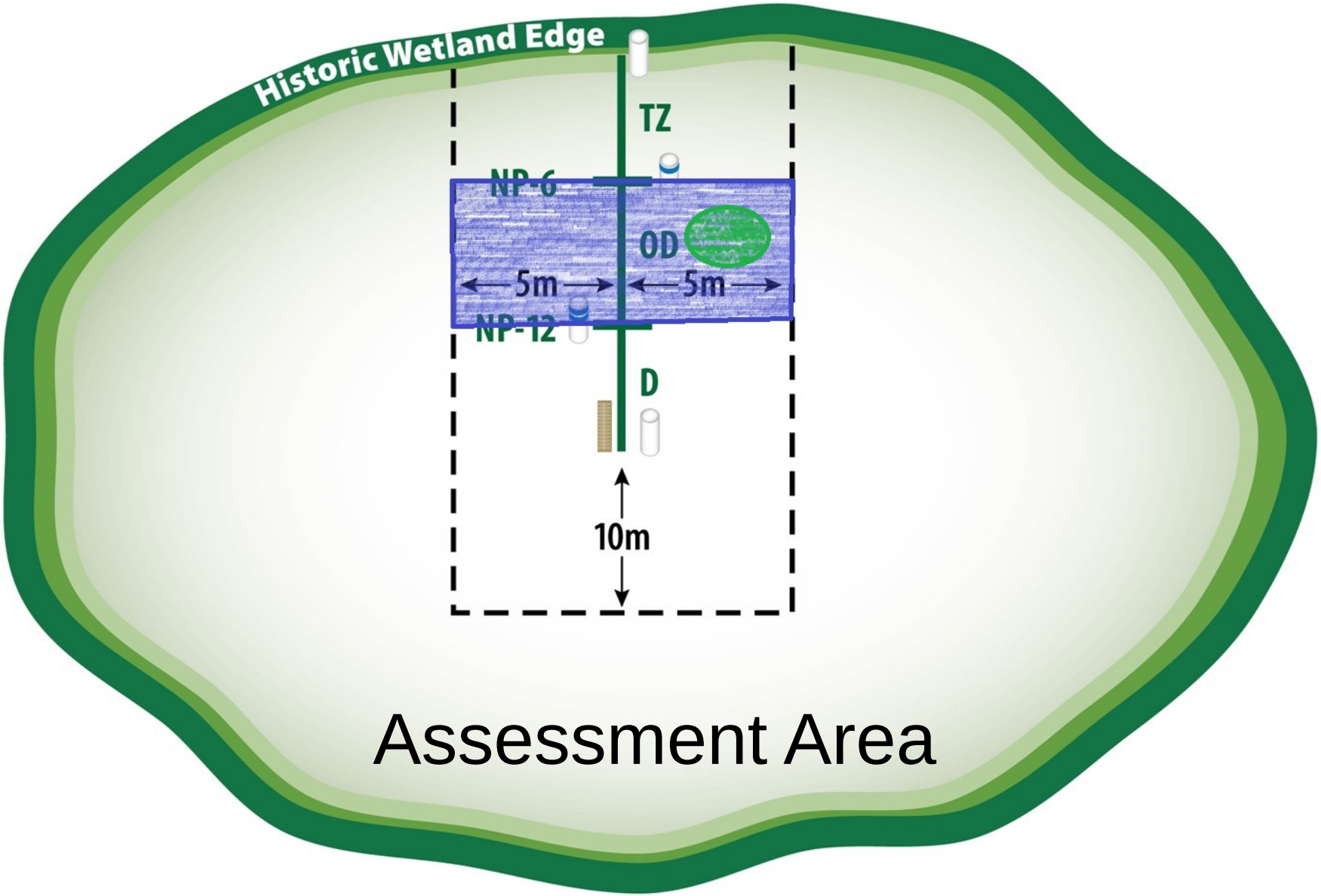
Deep Zone

Check if no shrubs 2015 ☐ Current ☐

		2015			Current		
Species	Z	%	#	D	%	#	D
Taxodi ascend	D	10	17	T			
Stilli aquati	D	5	8	T			
Myrica cerife	AD	5	6	B			


1
2


Historic Wetland Edge
TZ
NP-6
OD
5m
5m
NP-12
D
10m



Assessment Area

Distribution

- E – Edge
- B - Beyond a few feet (inside transect)
- T - Throughout

Shrubs/Small Trees (2015 data shaded)

For each zone assessed, please document the following: species abbreviation, WAP zone (ZONE) (U, AD, T, OD, or D), percent cover (%) (5% or 10% - 100% in increments of 10%), count (#) (1 - >50), and distribution (DIST) (E=edge, B=beyond a few feet, or T=throughout).

Transition Zone

Check if no shrubs 2015 ☐ Current ☐

	2015				Current		
Species	Z	%	#	D	%	#	D
Stilli aquati	D		4	T			

Outer Deep Zone

Check if no shrubs 2015 ☐ Current ☐

			2015			Current	
Species	Z	%	#	D	%	#	D
Myrica cerife	AD	20	15	T			
Taxodi ascend	D	10	10	T			
Stilli aquati	D	5	10	T			
Hyperi fascic	OD	5	5	T			
Pinus elliot	AD	5	3	T			
Persea palust	OD		1	T			

Deep Zone

Check if no shrubs 2015 ☐ Current ☐

			2015		Current		
Species	Z	%	#	D	%	#	D
Taxodi ascend	D	10	17	T			
Stilli aquati	D	5	8	T			
Myrica cerife	AD	5	6	B			

WAP History and Issues

- Trees shouldn’t change much
- Width of transect is not critical
- When disagreeing with previous years, please make corrections

Ranking Score

- Assign score for each vegetation type
  - Stick closely to the rules
  - A choice of 1-5 or 0 for NA must be made for each vegetation type
  - Two guidance sheets

COVER CATEGORIES RANKING SCALE

Wetland ID_____
Personnel_____
Date_____

*Check the **ONE** box that applies for each Cover category. Each Cover category can have **only 1 Rank Score**, e.g.: Rank 2, GC; Rank 4, Tr; Rank 4, S; that best describes the most degraded condition for each cover category. Two different Rank Scores can never be assigned to a cover category. **DO NOT** accumulate percentages or numbers between zones. Copy the ranking scales derived for each Cover category to the WAP Field Form*

RANK
SCORE

5 **No Migration or Inward 1 Zone**

Species distributed THROUGHOUT MUCH of the Zone *or* **Species found ONLY along Zone Edge**

GC	☐	< 5% cover for all species	GC	☐	5% - 25% cover for all species
S	☐	< 2 specimens	S	☐	2 or 3 specimens
Tr	☐	< 2 specimens	Tr	☐	2 or 3 specimens

AND/OR (Adaptive Species located a few feet into OD Zone)

Transition Zone ☐ < 25% GC *and/or* ☐ < 5 specimens S *and/or* ☐ < 5 specimens Tr

4 **Migration Inward 1 Zone – Species distributed BEYOND a few feet into a Zone**

GC	☐	5% - 25% cover for all species
S	☐	2 or 3 specimens
Tr	☐	2 or 3 specimens

AND/OR (Adaptive Species Only located THROUGHOUT MUCH of the Trans Zone)

Transition Zone ☐ > 25% GC *and/or* ☐ > 5specimens S *and/or* ☐ > 5 specimens Tr

3 **Migration Inward 1 Zone – Species distributed THROUGHOUT MUCH of the Zone**

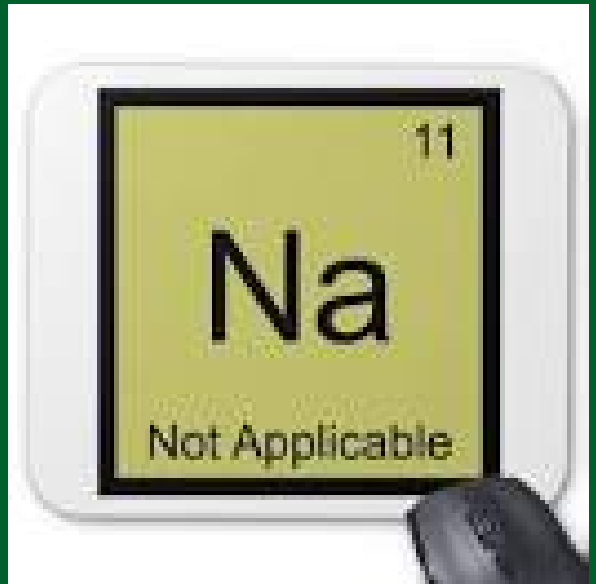
GC	☐	>25% cover for all species
S	☐	> 5 specimens
Tr	☐	> 5 specimens

AND/OR (Inward Migration into 2 Zones distributed BEYOND a few feet of a Zone)

GC	☐	5% - 25% cover for all species
S	☐	2 or 3 specimens
Tr	☐	2 or 3 specimens

NA is:

Not enough cover to make evaluation

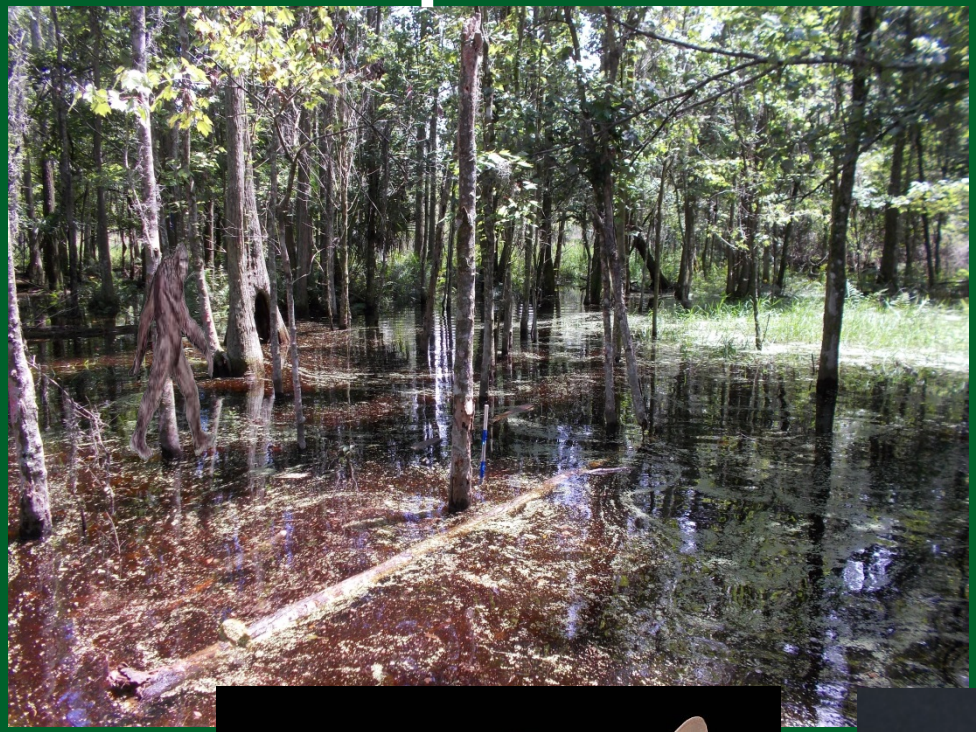


When is NA Appropriate?

Guidance –

- If you have 1 or 2 shrubs and small trees or trees, and/or if you have <5% groundcover
- Can be due to high water, drought, inaccessibility, or other temporary reasons
- Explain reasons

Examples of Not enough groundcover



Percentages

- Percentages are not cumulative between zones
  - 3 AD plants into the OD zone, and 3 OD plants into the D zone is not a one zone move for 6 plants
  - 15% AD species into the OD zone, and 20% OD species into the D zone is not a 35% one zone move.

Scoring a 5

Definition

- Some species may have migrated inward one zone, but they are not in enough numbers and/or right along the zone edge.

- Adaptive species in the transition zone are not considered abnormal if they are not in high numbers and distribution.

Scoring a Four

Score 4…

- Species have moved in one zone in enough numbers and **distribution** to be of concern, and/or;
- Species with an adaptive classification are in high numbers and **distribution** in the transition zone.

Scoring a Three

Score 3…

- Species have moved in one zone in high numbers and distribution, and/or;

- Species have moved in two zones in enough numbers and distribution to be of concern

Scoring a Three

Score 3…

- Species have moved in one zone in high numbers and distribution, and/or;
- Species have moved in two zones in enough numbers and distribution to be of concern

Scoring a Two

Score 2…

- Species have moved in two zones in high numbers and distribution, and/or;

- Some species with an upland classification have moved into the deep zone in enough numbers and distribution to be of concern.

Scoring a One

Score 1…

- Species with an upland classification have moved into the deep zone in high numbers and distribution.

Special Case

If there are not enough species or #’s to justify one score, choose the higher score.

Explanations

- Explain your choice
  - 5 and NA too!
  - Critical and mandatory part of process
  - Comments in the comments section

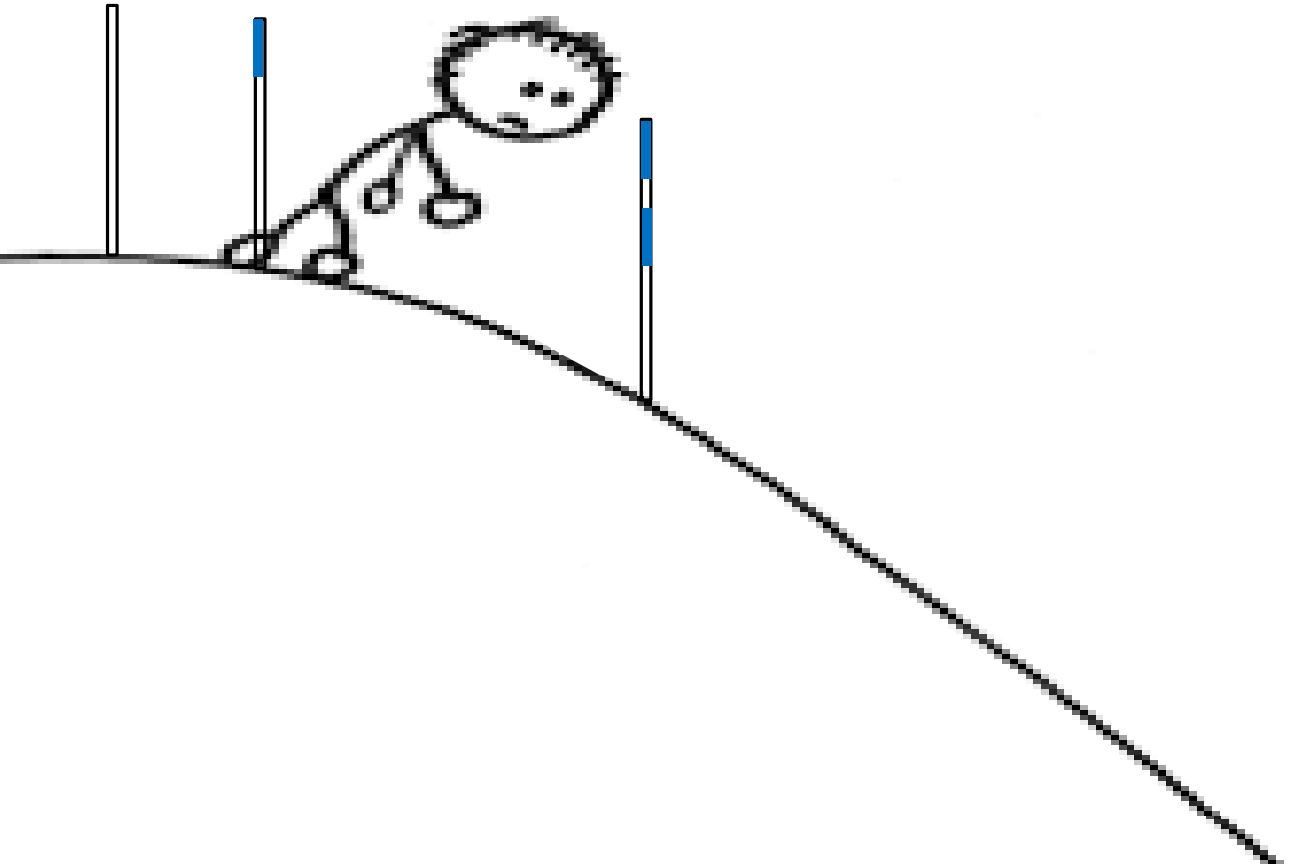
Note:

- If a zone does not exist, check the appropriate box
- If no species exist in a zone, check the appropriate box
- If the wetland is not accessible, write NA in the Score area and give an explanation

Challenging Aspects of WAP

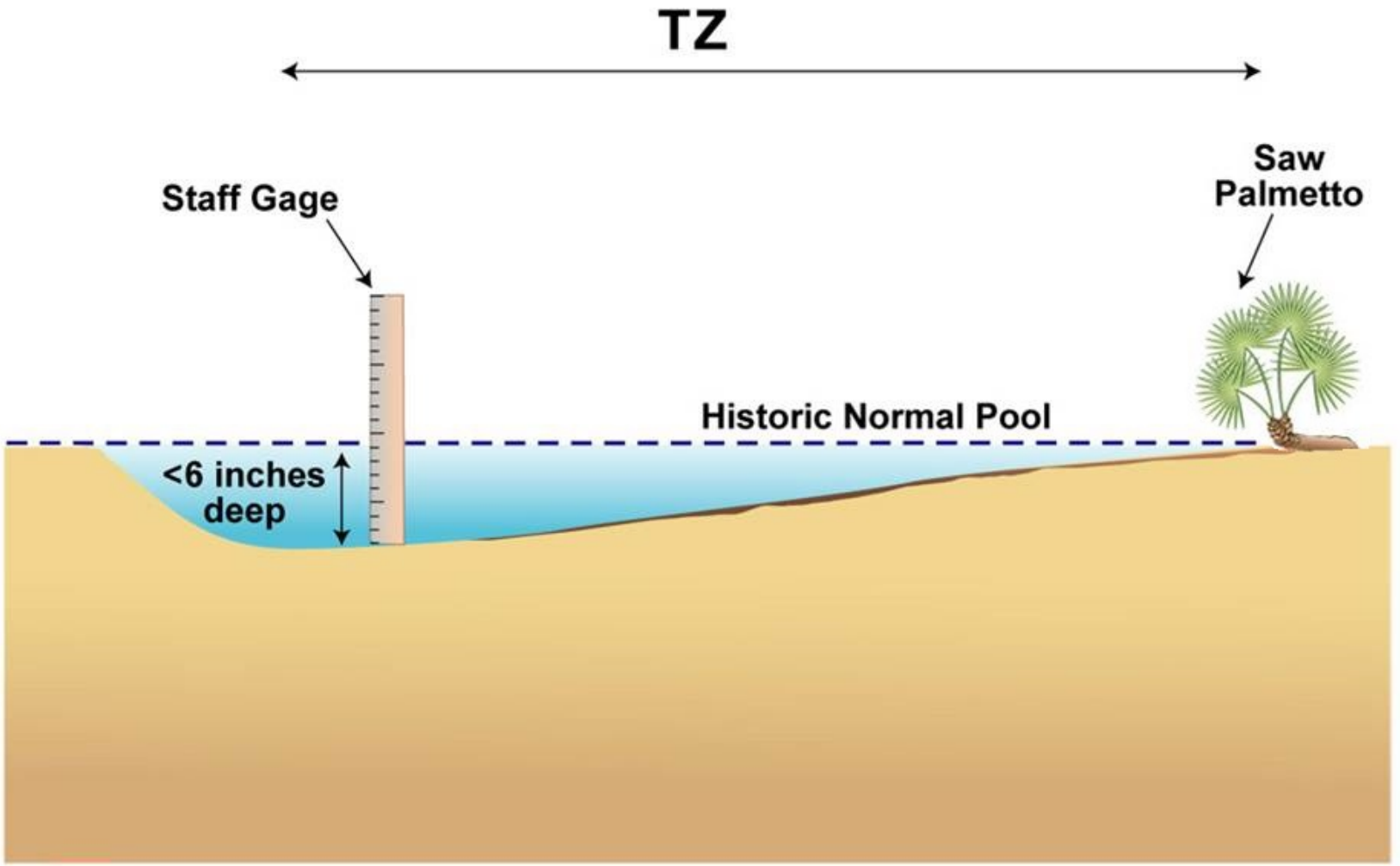
- Knowing your plants, and field i.d.
- Topography
- Writing down explanations
- Trusting your judgment

Transect Issues: Topography and Such

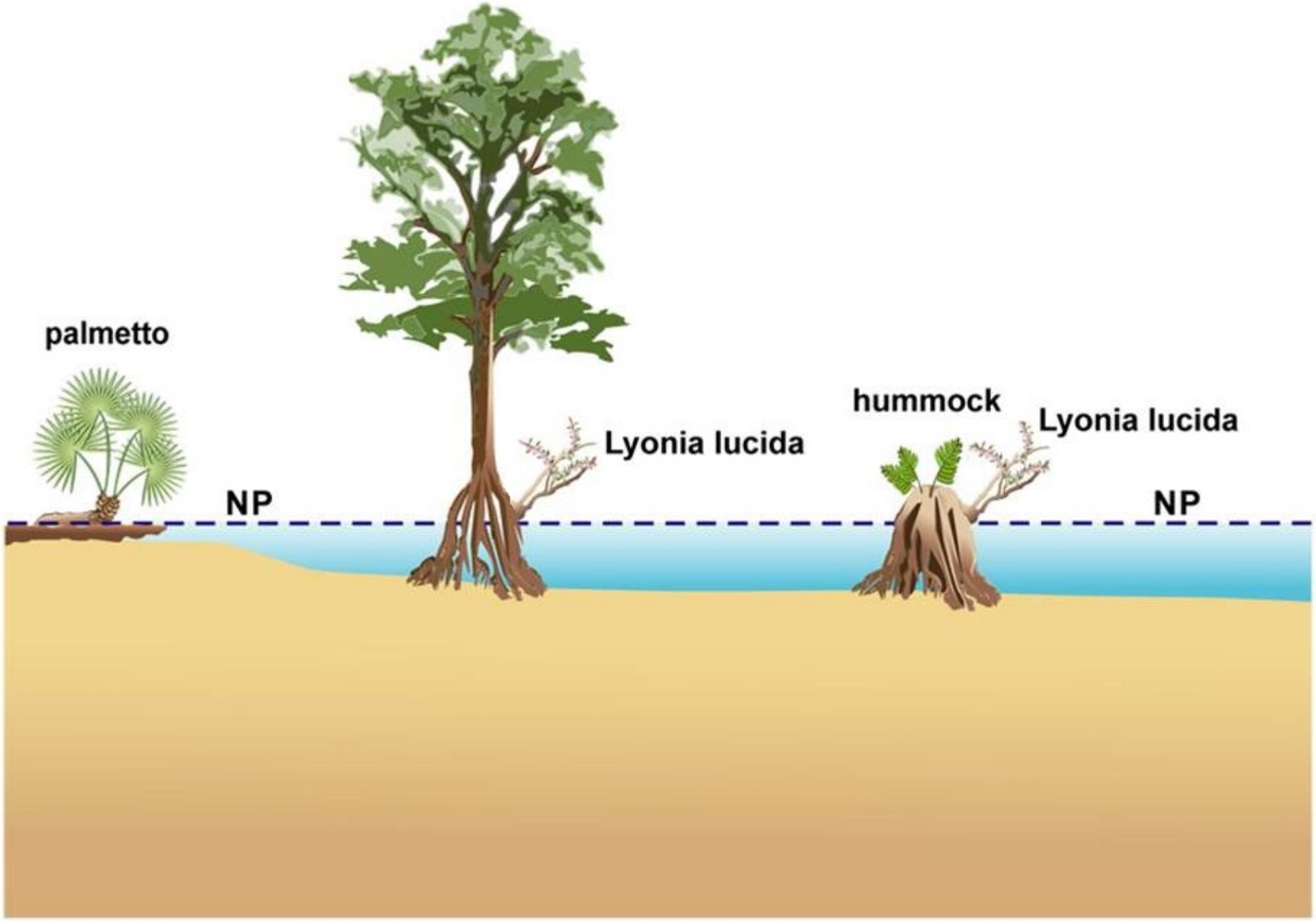


Missing Zone

Example of WAP Transect in a Shallow Wetland



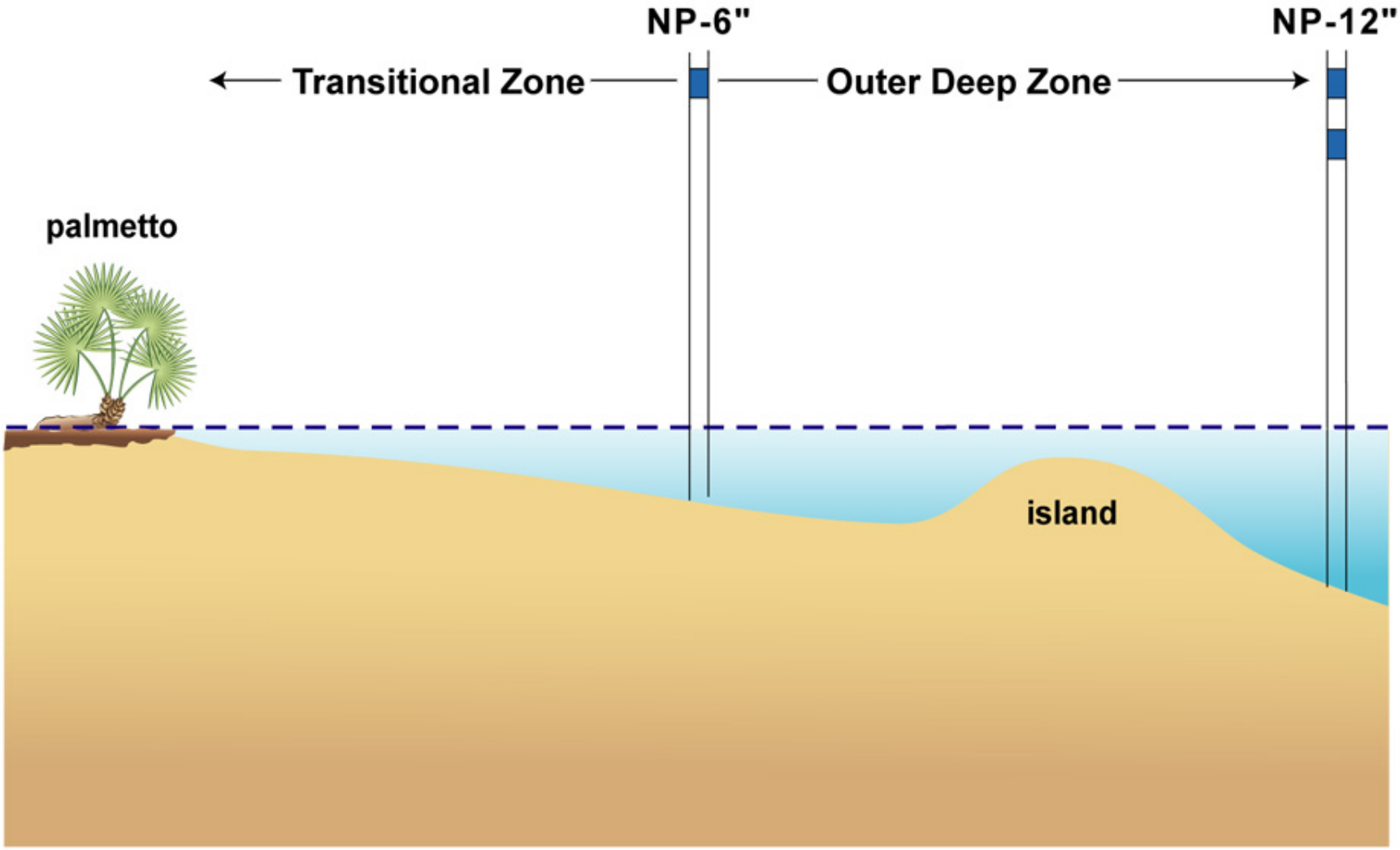
Tree Bases and Hummocks



Hummock

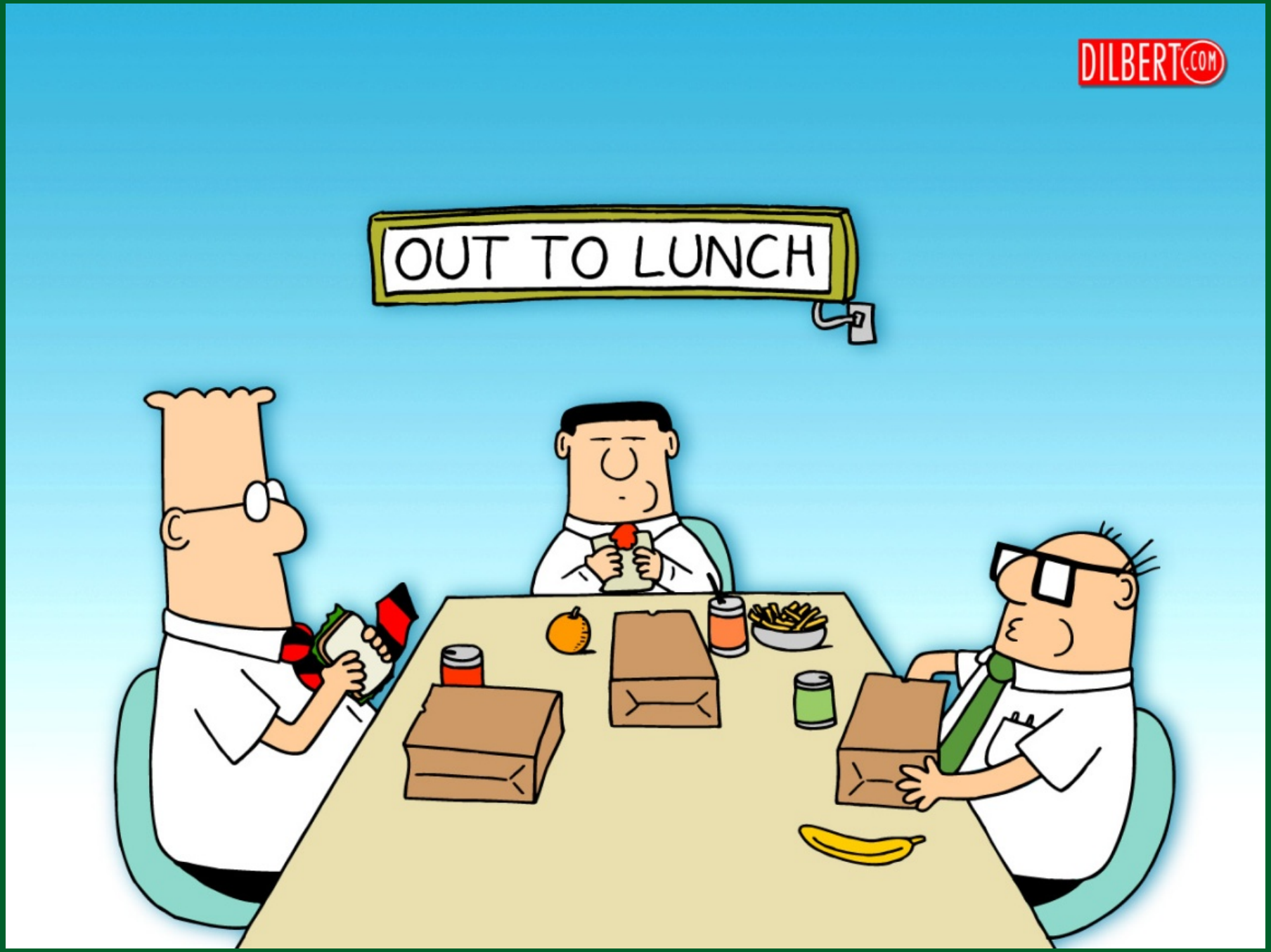
Hummock

"Island" in the Outer Deep Zone



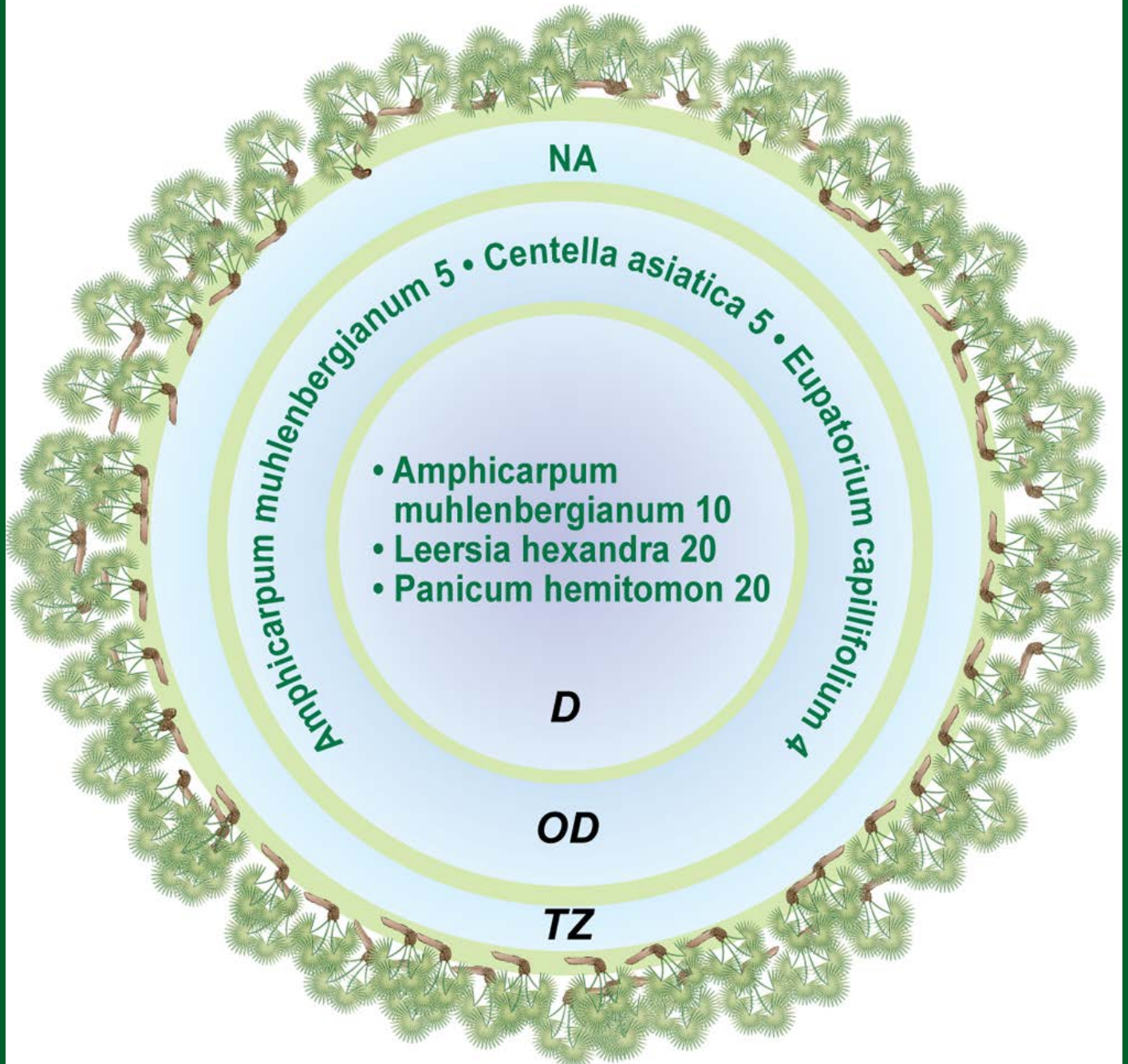
Vehicle Impact


ATHENS
167

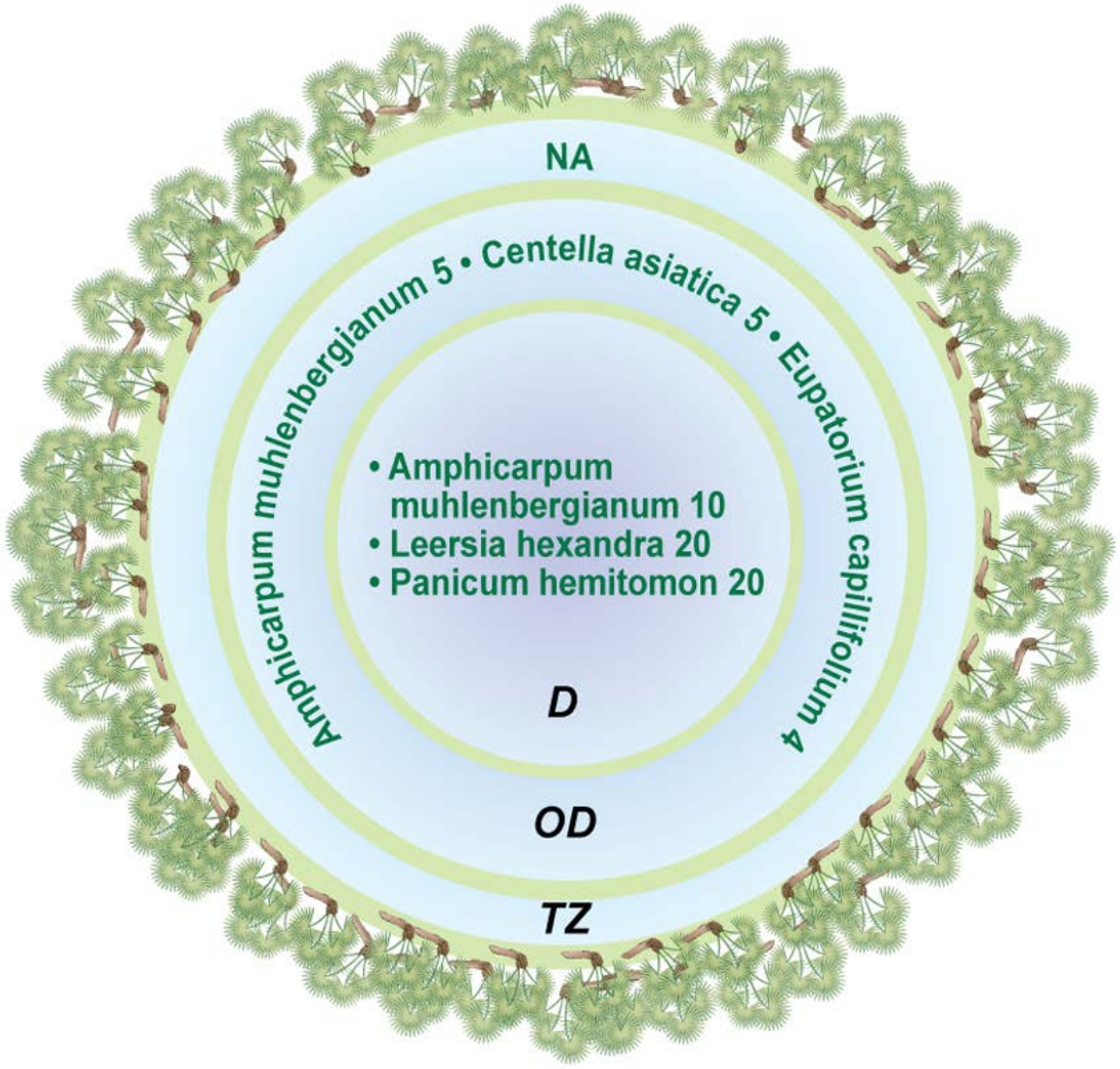

DILBERT.COM
OUT TO LUNCH

Example Exercises

Groundcover



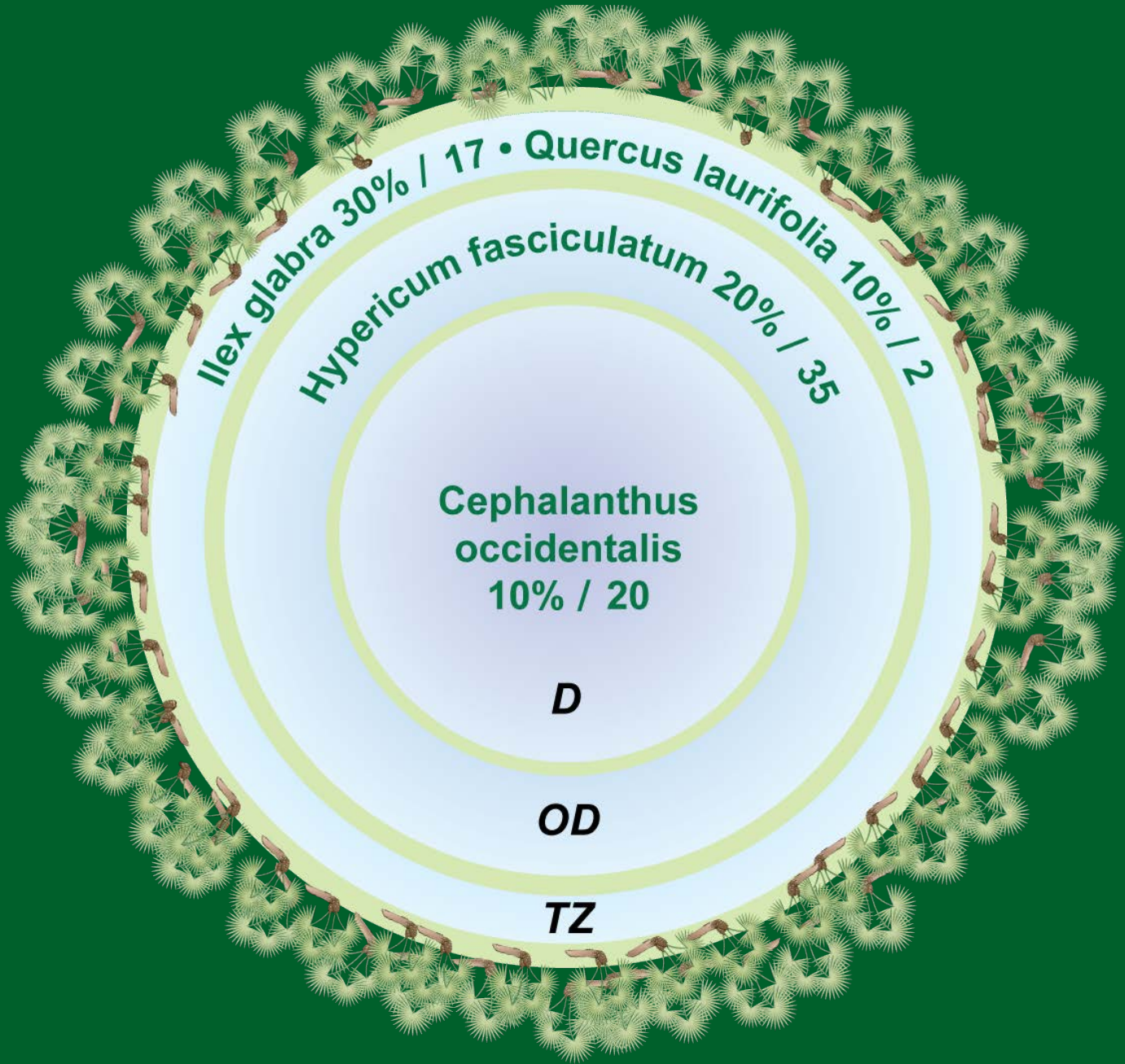
Groundcover



Groundcover Zonation Explanation

SCORE	
3	Species have moved one zone in high numbers and distribution.

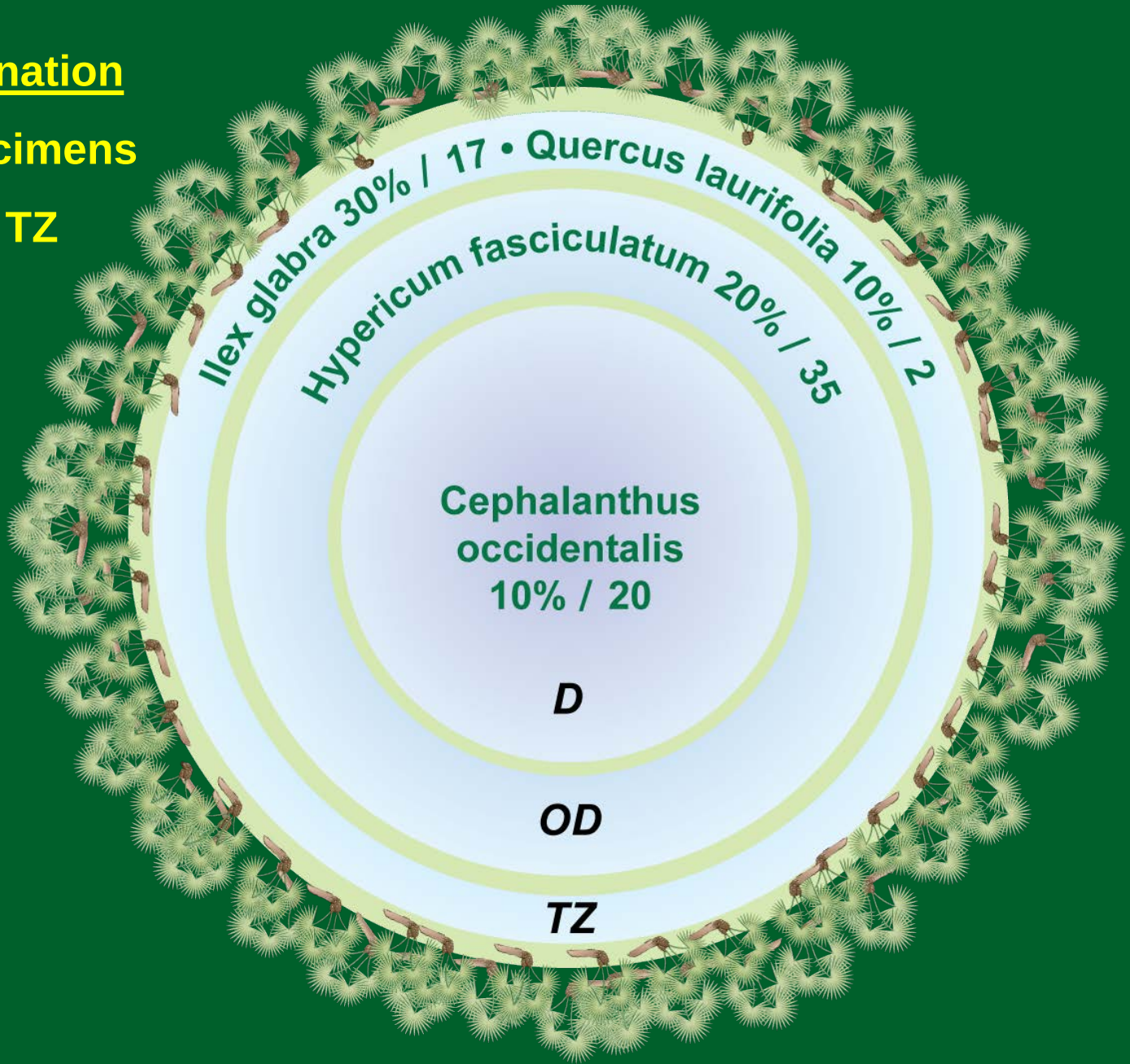
Shrubs and Small Trees



Shrubs and Small Trees

Zone Explanation

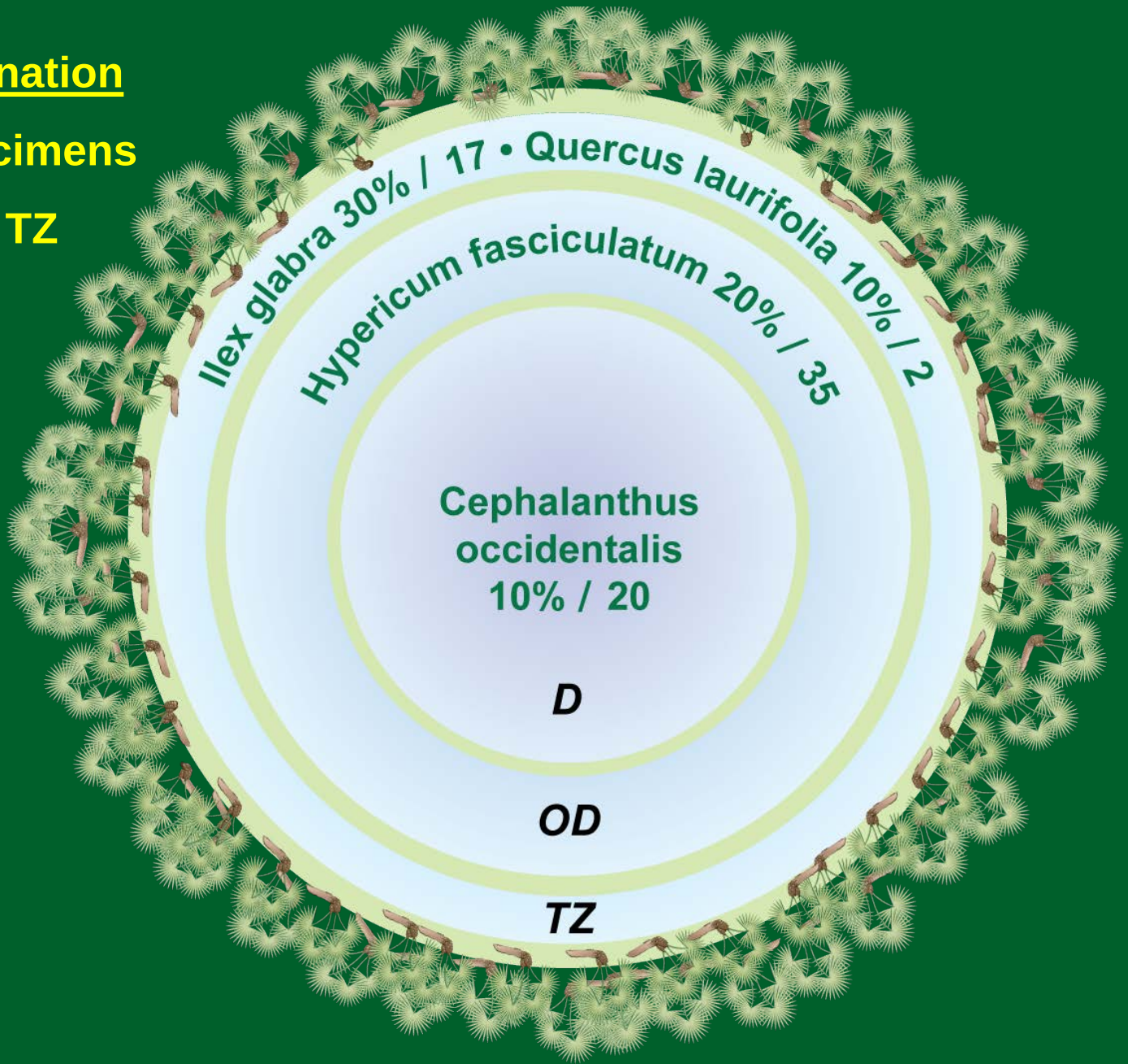
> 5 AD Specimens throughout TZ



Shrubs and Small Trees

Zone Explanation

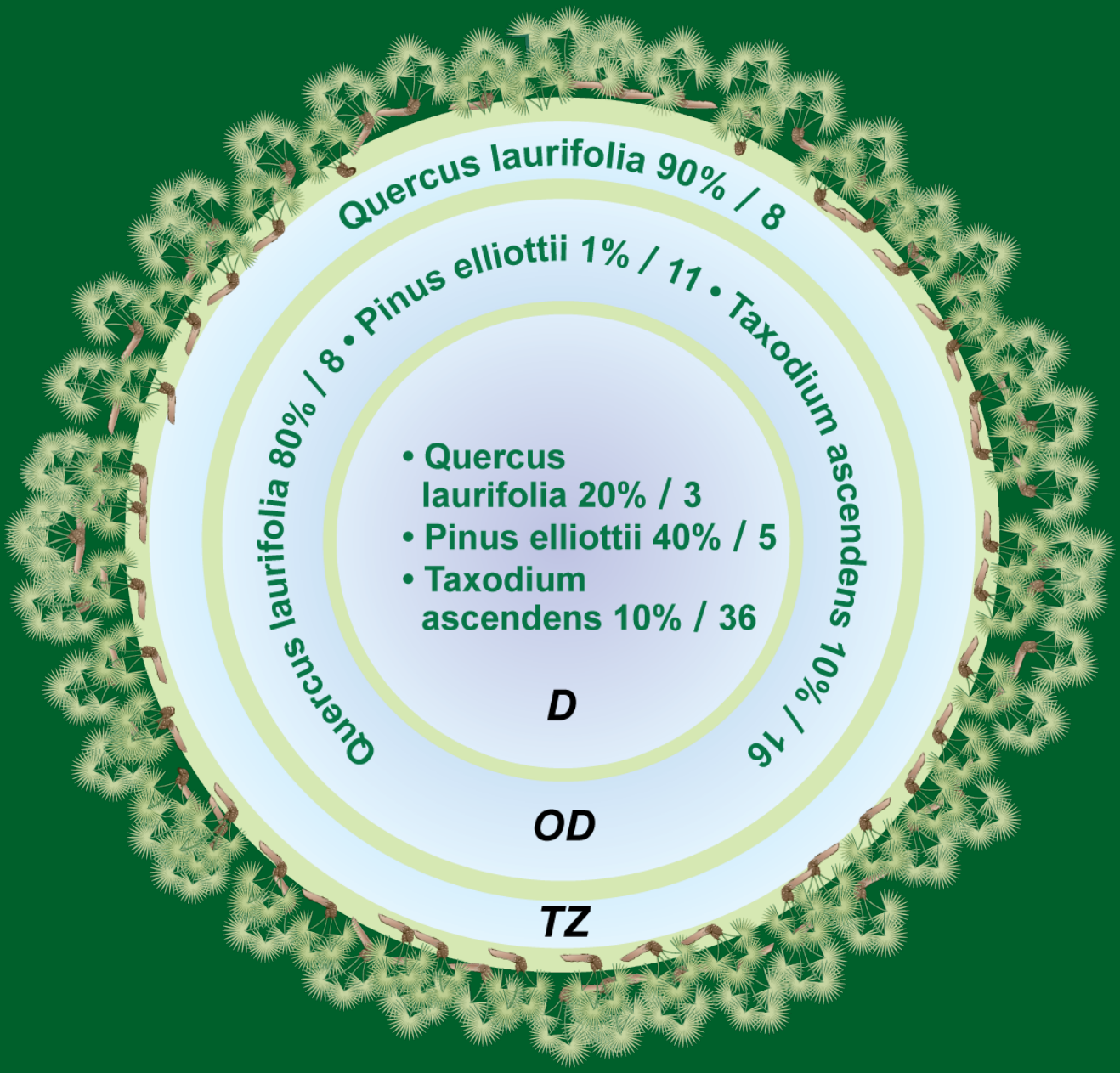
> 5 AD Specimens throughout TZ



Score

4

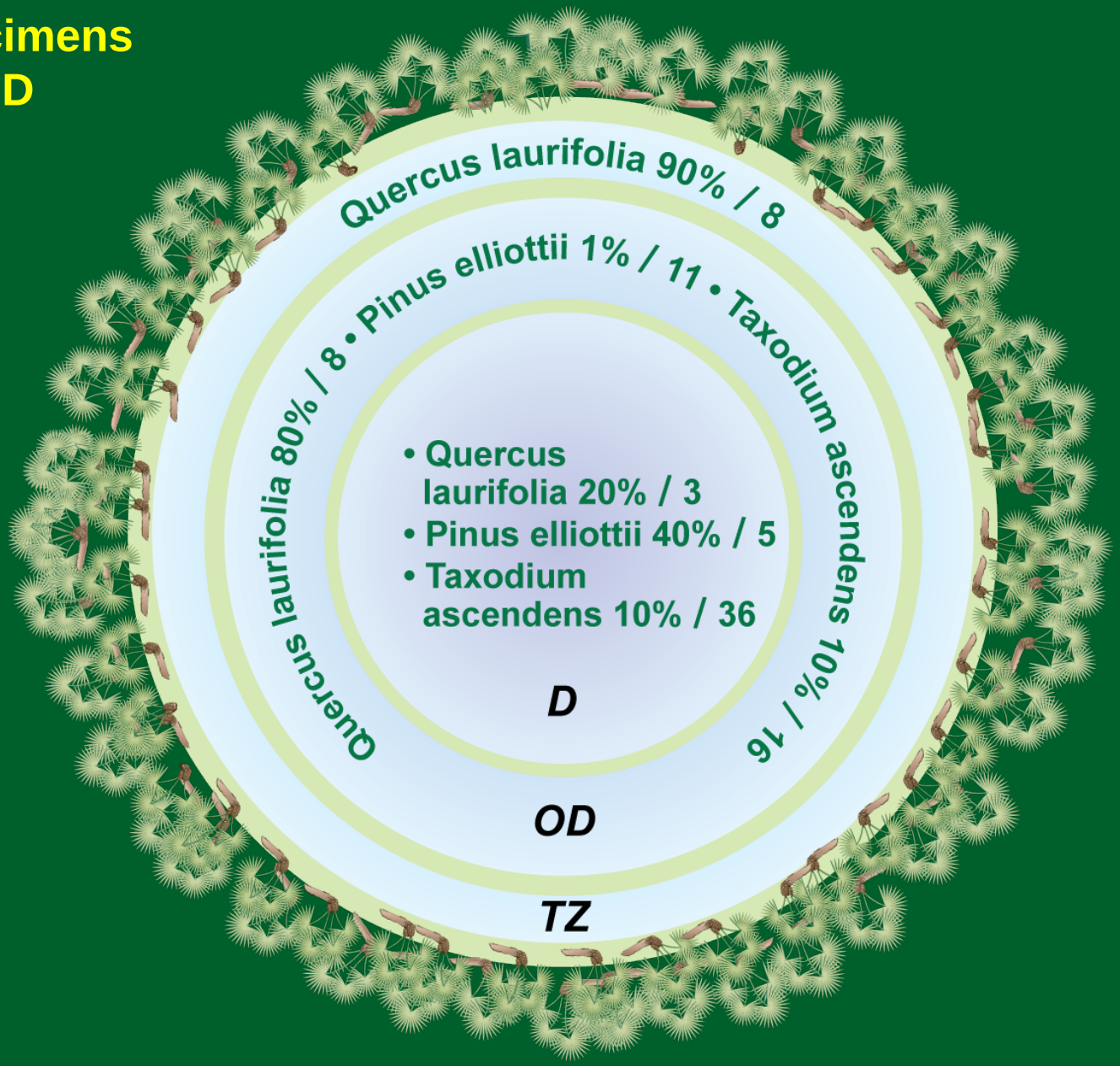
Trees


Quercus laurifolia 90% / 8
Pinus elliottii 1% / 11
Taxodium ascendens 10% / 16
Quercus laurifolia 80% / 8
• Quercus laurifolia 20% / 3
• Pinus elliottii 40% / 5
• Taxodium ascendens 10% / 36
D
OD
TZ

Trees

Zone Explanation

>5 T/AD Specimens throughout OD

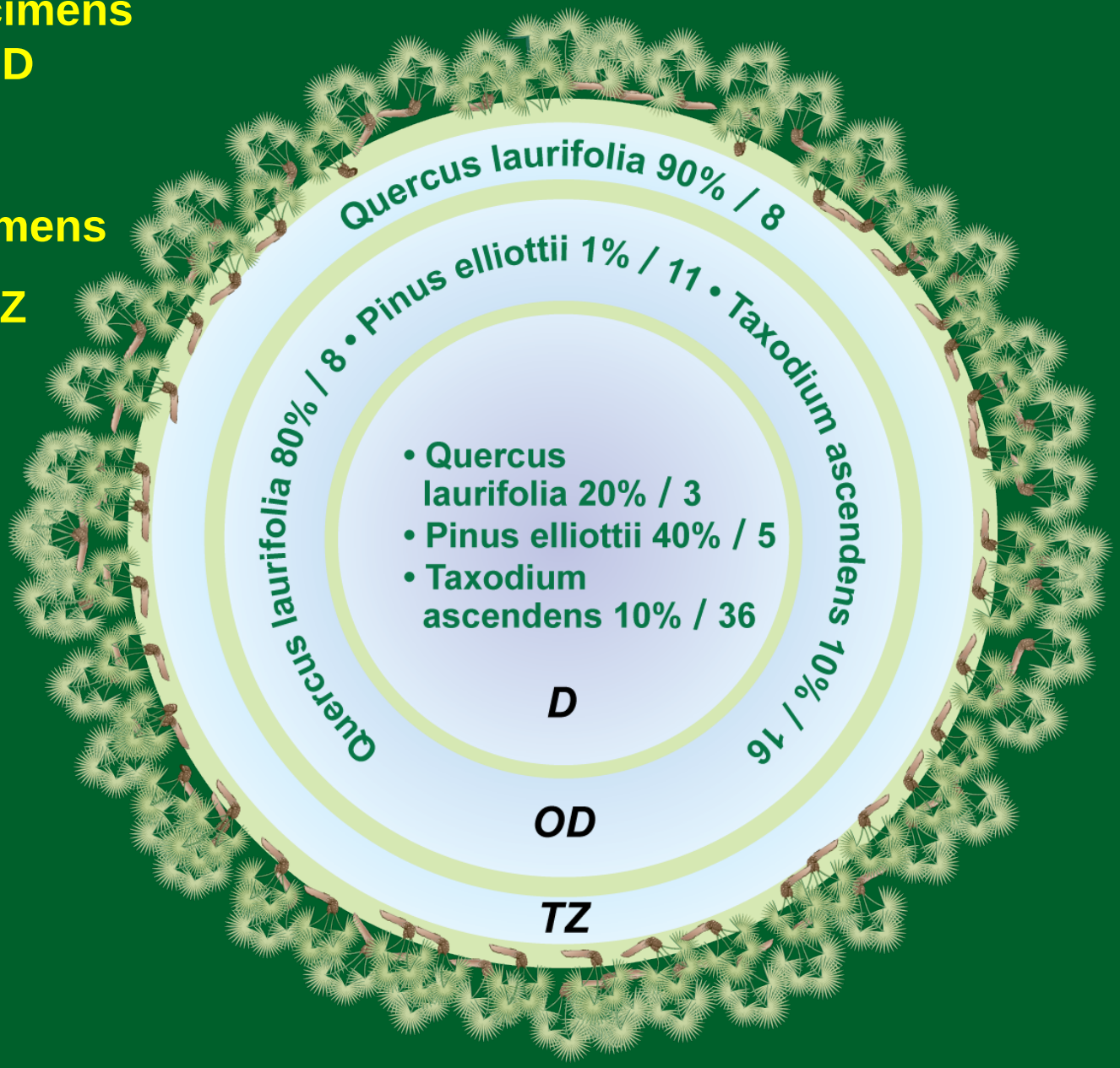


Trees

Zone Explanation

>5 T/AD Specimens throughout OD

5 T/AD Specimens throughout DZ

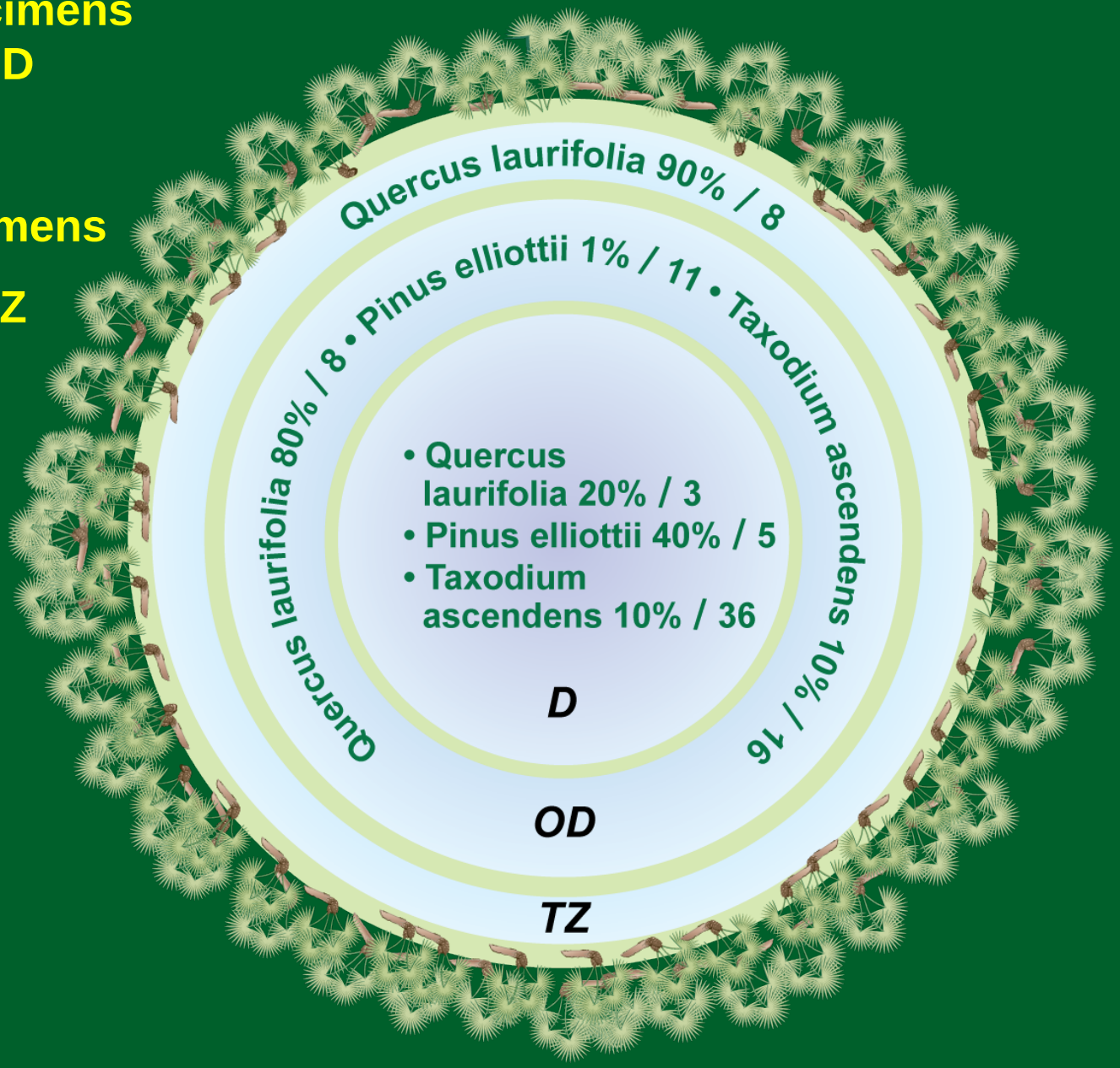


Trees

Zone Explanation

>5 T/AD Specimens throughout OD

5 T/AD Specimens throughout DZ



Score

2

Questions?

Field Exercises