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# NIGHTLY TREES



Chapter 1

**Southern Roots**





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Read the  
Mighty Tree Key!

# The Mighty Tree Key

Mighty Trees is a merger of both science and fantasy. It is a strategic card game that faithfully simulates the dynamic relationship between trees and the environment. Each card has a real world counterpart and interacts with other cards in the game much as they would in nature. As you learn to play Mighty Trees and develop winning strategies, you are actually learning about the physical world of trees and uncovering actual strategies trees employ to survive.

The cards and rules of Mighty Trees are introduced in three different stages: **Seedling Stage** (Basic); **Timber Stage** (Intermediate); & **Elder Stage** (Advanced). Each stage builds upon the previous stage by introducing 2-3 new card types and a few new rules. Once you are familiar with the cards and rules of one stage move on to the next. In no time you will find yourself immersed in the exciting challenges that await in the Elder Stage.

This Guidebook is color coded to aid in identifying the stage in which different cards and rules are first used. Elements introduced in the **Seedling Stage** are written in blue type or under a blue heading. **Timber Stage** elements are green, and **Elder Stage** elements are red.

One final note, whether you are interested in the scientific principles that drive Mighty Trees or not, enjoy yourself. Mighty Trees was designed to be challenging and rewarding, but most of all, it was designed to be fun. So head over to the Seedling Stage & have a good time!

## Ready to Play

To begin playing the Seedling Stage, read **only** the sections containing **Blue Type** on pages **6, 8-9 & 22-32**.

Then, check out the first 4 turns of the Game Example which begins on Page 46.

# The Story So Far

The time has come for you to assume command of our Mighty Tree Army. The promotion is a great honor, but it also bears a tremendous burden. As our leader, you must guide our forces to victory on the battlefield. If you fail and our army is truly defeated, then our kind will perish from the Wilderness.

The challenges that face you are great and many. Throughout our Domain there are countless legions that oppose us. Our troops remain eternally on guard from rocky perches atop arid cliffs to muddy sinkholes in soggy swamps.

From this day forward, it will be your duty to protect and expand our realm. You must be cunning & shrewd, resourceful & observant. But most of all, you must be knowledgeable of the natural forces that both serve you and serve against you. This is not a position for the faint of heart nor the feeble of mind.

Good luck fearless general, our survival rests in your hands.



## The Science of Mighty Trees

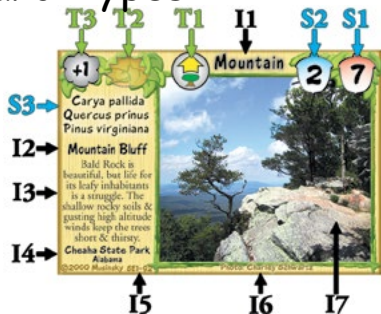
Some passages in this Guidebook provide insight into the relationships between Mighty Trees and nature. These science discussions are presented in tan boxes with green borders, like this one. It is not essential to read these sections to play the game; however, you may find the discussions interesting and useful. Each card in Mighty Trees is full of valuable information.

Southern Roots is but the first chapter of Mighty Trees. This chapter focuses on habitats and trees found in the southeastern states of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North & South Carolina, and Tennessee. Future expansions will focus on different geographic areas across North America & the world. All expansions will be compatible.

# Card Types

## Habitat Cards

Habitats are natural environments in which you expect to find specific types of plants and animals. In nature, there are many types of habitats. Mighty Trees is no different. Each habitat card presents a real world habitat complete with its own picture, description, & climate variables. Habitats greatly influence the success of different tree species and game strategies. Be mindful to evaluate each habitat before sending your Legion into battle.



## Seedling Stage (S#)

**S1-Temperature Value:** Use when planting trees (p.28), and during Temperature Disasters. Based on the Hardiness Zone (p.7) of the habitat. [Range 1(coldest) to 9(hottest)]

**S2-Water Value:** Use when planting trees, and during Water Disasters. Based on the soil moisture (p.15) typical of the habitat. [Range 1(driest) to 9(wettest)]

**S3-Preferred Species :** Preferred species receive a bonus of +2 to their Sun, Shade, Fire & Wind Strengths. Listed are 3 tree species that are common in the habitat. If a genus name is followed by ???, any tree within the genus that can be planted is preferred.

## Timber Stage (T#)

**T1-Power Symbol:** When present, symbols enable disasters or alter game rules (p.39)

**T2-Fire Modifier:** Use during Fire Disasters. Measure of the influence of fire on trees in the habitat. [Range -1(minor influence) to +1(major influence)].

**T3-Wind Modifier:** Use during Wind Disasters. Measure of the influence of wind on trees in the habitat. [Range -1 (minor influence) to +1 (major influence)].

## Information (I#)

**I1-Region:** Region in which the habitat is found (p.11).

**I2-Name:** Name of the habitat.

**I3-Description:** Brief description of the habitat.

**I4-Location:** Park and state where the habitat is found.

**I5-Card Number:** Deck abbreviation followed by card number.

**I6-Photographer**

**I7-Photograph**

## Hardiness Zone Map

The United States Department of Agriculture assigns Hardiness Zones (HZs) based on the average annual minimum temperature of a region. HZs are numbered from 1 (coldest) to 11 (warmest) [Mighty Trees combines HZs 9&10]. Each HZ number indicates a temperature increase of 10° Fahrenheit (F). Temperatures typically increase as elevation decreases (ex. moving down a mountain) or Latitude decreases (ex. moving toward the Earth's equator).



Eastern US Hardiness Zones

The map at left does not show micro-climates within each HZ region where temperatures may be warmer or cooler. You can contact your local agricultural extension office to find the HZ for your area.

HZ# [Temperature Range]	
1 [Below -50F]	6 [-10F to 0F]
2 [-50F to -40F]	7 [0F to 10F]
3 [-40F to -30F]	8 [10F to 20F]
4 [-30F to -20F]	9 [20F to 30F]
5 [-20F to -10F]	10 [30F to 40F]
	11 [Above 40F]



## Tree Cards



Each tree card is modeled upon a real tree species. There are over 600 tree species recognized as native to the United States & Canada. Physical appearances and climate preferences vary greatly between species. While one species may grow quickly in the sun of a wet swamp, another may be best suited to slow growth in the shade of a dry forest. Tree cards form the bulk of your legion so learning each tree's strengths and weaknesses is essential.

### Seedling Stage (S#)

**S1-Scientific Name:** Use to identify Preferred Species. Each tree species has a unique scientific name. The name consists of two words: 1) the genus name (Capitalized); & 2) the species name (lower case). In scientific literature, the name of the botanist who classified the tree is typically placed after the species name.

**S2-Background Color:** Background color is based upon the tree's soil moisture range (p. 15). Green indicates a balanced range. Blue is weighted toward wet habitats. Yellow is weighted toward dry habitats.

**S3-Growth Sols:** Use when growing a tree (p.32). Number of Sols that must be spent to grow the tree into the canopy. If an asterisk (\*) is present, the tree is considered a shrub tree and can not grow into the canopy.

**S4-Planting Sols:** Use when planting a tree (p.28). Number of Sols that must be spent to plant the tree in a habitat.

### Cards- Tree Card

**S5-Water Range:** Use when planting a tree, during Water Disasters, or when a Weather-Trend card is played. Range of soil moisture in which the tree is typically found.

**S6-Temperature Range:** Use when planting a tree, during Temperature Disasters, or when a Weather-Trend card is played. Range of Hardiness Zones in which the tree is naturally found.

**S7-Sun Growth Strength:** Use during Sun Tree Combat (p.30). How well the tree grows in the sun. Principally based upon the tree's growth rate, but the following are also considered: successional status (p. 19), range of soil types in which found, salt tolerance, allelopathy, average & maximum heights.

**S8-Shade Growth Strength:** Use during Shade Tree Combat (p.30). How well the tree grows in the shade. Principally based upon the tree's shade tolerance, but the following are also considered: successional status, range of soil types in which found, salt tolerance, allelopathy, average height, & longevity.

### Timber Stage (T#)

**T1-Fire Strength:** Use during Fire Disasters. A measure of the trees overall resistance to fire. The rating is assigned based on an evaluation of: tree height, bark thickness, clear trunk/bole length, trunk diameter, root depth, & longevity.

**T2-Wind Strength:** Use during Wind Disasters. A measure of the trees overall resistance to wind. The rating is assigned based on an evaluation of: tree height, wood strength, root distribution, disease resistance, & longevity.



### Cards- Tree Card

## Information (I#)

### I1-Card Number

**I2-Family Name:** Botanical family to which the tree belongs. Family is one classification step above genus. For example *Cornus florida* & *Nyssa sylvatica* belong to different genera (plural of genus), but belong to the same family, Cornaceae.

**I3-Height:** Minimum and maximum height of a mature tree (feet).

**I4-Description:** A few brief facts about the tree.

**I5-Quote:** Famous battlefield quote believed to have been spoken by or about a member of the tree species.

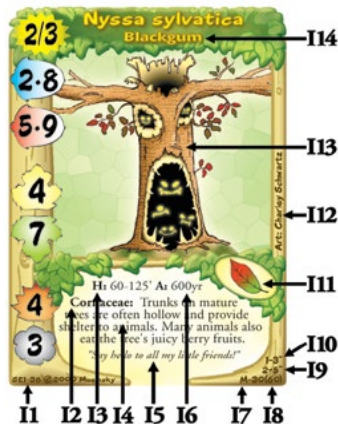
**I6-Longevity:** Maximum recorded age of the tree species is listed. For trees where a maximum recorded age was not found, the term short, moderate or long is listed.

**I7-Salt Tolerance:** "H", "M", "S" or "?" identifies the tree's ability to resist damage from exposure to salt. (H= highly tolerant of salt) (M= at least some salt tolerance) (S=sensitive to salt) (?=insufficient data).

**I8-Trunk Diameter:** Average and maximum trunk diameter of a mature tree (inches).

**I9-Leaf Length:** Typical length of the tree's leaves.

**I10-Leaf Variation:** This information is different depending upon the type of tree leaf. For trees with simple leaves, the leaf width is given [#"]. For trees with compound leaves, the number of leaflets per compound leaf is given [#L]. For needle-leaved trees, the number of needles per bundle is given [#N].



**I11-Leaf Detail:** Drawing of a typical leaf from the tree. Evergreen trees do not shed their leaves in winter and the leaf drawing is green. Deciduous trees shed their leaves and the leaf drawing is multi-colored. The transition colors in the drawing indicate colors the leaves may display in fall.

### I12-Artist

**I13-Art:** Each character is inspired by the tree species represented, and most characters actually incorporate several features of the tree into the artwork. Compare the art to tree photos and see how many similarities you can find.

**I14-Common Name:** A common name by which the tree may be known. One tree species may have several common names, and many different tree species may share the same common name. Dendrologist (those who study trees) and the Mighty Trees game primarily refer to trees by their unique scientific names.

## Mighty Tree Regions

Mighty Trees divides the Eastern United States into six regions. The region in which each habitat is located is written at the top of the habitat card. The regions are based primarily on reported boundaries between prominent forest communities in the Eastern United States. Each forest community is defined by the principle plants and animals that coexist within that region. Climate and geology are perhaps the most significant factors in determining

which animals and plants thrive in an area, but natural disasters and other weather phenomenon are also influential. The boundaries between forest communities can be abrupt or gradual but are always changing. As the climate continues to change so do the forests.



### KEY

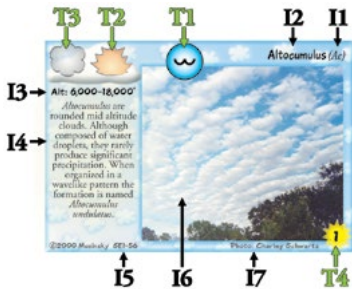
- Boreal
- Coastal
- Mountain
- North Forest
- South Forest
- Tropical

## Weather Cards

There are two types of weather cards: Cloud Cards & Trend Cards. Weather cards can make habitats more or less stable and can enable different types of natural disasters. One cloud and one trend card may be present in each habitat.

### Cloud Cards

Each cloud card is modeled upon a real cloud formation. Clouds are short term weather phenomenon that may change hour to hour or even minute to minute. Before mastering the Mighty Trees game, you must be able to control weather in your habitats, and identify dangerous clouds that may unleash strong disasters. All cloud cards cost only 1 Sol to play which ensures that cloud formations & habitat conditions will continually change.



### Timber Stage (T#)

**T1-Cloud Symbol:** Use to enable Wind Disasters. The international weather symbol for the cloud type.

**T2-Fire Modifier:** Use during Fire Disasters. Precipitation clouds or clouds that form during moist stable conditions are assigned a (-1). Clouds with strong winds & little to no precipitation are assigned a (+1).

**T3-Wind Modifier:** Use during Wind Disasters. Range from (-1) to (+2). Higher modifiers indicate clouds with higher winds. (+2) only assigned to clouds capable of producing violent disasters.

**T4-Sol Cost:** Use when placing Cloud into Habitat. All cloud cards cost 1 Sol to place.

### Information (I#)

**I1-Cloud Abbreviation:** Accepted abbreviation for the cloud type.

**I2-Cloud Type:** Name of the major cloud type into which the cloud formation shown may be grouped.

**I3-Cloud Height:** Altitude range in which the base of the cloud formation may form (feet).

**I4-Cloud Description:** Basic information about the cloud formation.

**I5-Card Number**

**I6-Cloud Photo:** Photo of the cloud formation.

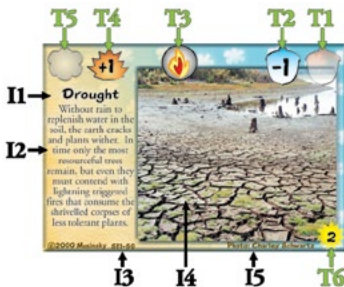
**I7-Photographer Name**



## Trend Cards

Trend cards represent long term weather conditions that may affect the growth of trees. Trends occur over the span of days to even years. Like cloud cards, trend cards can enable disasters and make habitats more or less stable. However, trend cards can also change the entire climate of a habitat.

Significant weather trends can change the amount of moisture in the soil and the temperature of the air. If timed right, trend cards may actually remove opponent's trees from a habitat. Because of their strength and long duration all trend cards cost 2 Sols to play.



## Timber Stage (T#)

**T1-Temperature Modifier:** Modifies Habitat Temperature Value. Trend's influence on temperature. Range from (-1) to (+1)

**T2-Water Modifier:** Modifies Habitat Water Value. Trend's influence on soil moisture. Range from (-1) to (+1).

**T3-Power Symbol:** When present, symbols enable disasters or alter game rules (p.39).

**T4-Fire Modifier:** Use during Fire Disasters. Trends that increase moisture in a habitat receive a (-1). Trends that reduce moisture or increase the amount of fuel for fire receive (+1).

**T5-Wind Modifier:** Use during Wind Disasters. Trends that may reduce the potential for damage from wind receive a (-1). Trends that loosen soils or otherwise increase potential damage from wind receive a (+1).

**T6-Sol Cost:** Use when placing Trend into Habitat. All Trend cards cost 2 Sols to place.

## Information (I#)

**I1-Trend Name**

**I2-Trend Description:** Basic information about the trend.

**I3-Card Number**

**I4-Trend Photo**

**I5-Photographer Name**

## Soil Moisture Guide

All trees need water to grow; however, the amount of water needed varies greatly between species. Some trees can suffocate from too much water while others die from too little. The following table defines the significance of each soil moisture level in Mighty Trees:

- 9 (Hydric):** Trees with High Flood Tolerance that can endure flooding for at least 25% of the growing season [Swamps].
- 8 (Hydric):** Trees with Some Flood Tolerance that can endure occasional prolonged flooding or frequent short term flooding [Swamp & Lake Borders, Lower River Floodplains].
- 7 (Hydric-Mesic):** Trees with Questionable Flood Tolerance but frequently found next to streams [Stream borders, Upper Floodplains]
- 6 (Mesic-Hydric):** Trees with No Flood Tolerance and not found along streams [Moist to wet forests]
- 5 (Mesic):** Ideal growing conditions for most trees, ample but not excessive moisture [Moist forests]
- 4 (Mesic-Xeric):** Trees with Little to No Drought Tolerance [Uplands of moist forests, Fields]
- 3 (Xeric-Mesic):** Trees with Some Drought Tolerance [Upper Slopes, Shaded Ridges]
- 2 (Xeric):** Trees with Moderate to High Drought Tolerance [High Uplands, Mid Sand Dunes]
- 1 (Xeric):** Trees with High Drought Tolerance that are uncommon in moist areas [Upper Sand Dunes, Rocky Bluffs]

Hydric=Wet Soil

Mesic=Moist Soil

Xeric=Dry Soil



## Disaster Cards

Disasters can be both a great asset and a tremendous threat to your tree legions. Controlling weather conditions and effectively using Disasters can eliminate opposing trees and secure command of habitats. If you use disasters foolishly; however, you may destroy your own forces and hand your opponent victory. Each player is armed with an arsenal of havoc-wreaking natural disasters. Each disaster card unleashes its own unique attack which is modeled upon the real world phenomenon. Some disasters are extremely powerful and capable of instantly destroying every tree in a habitat. Other disasters are relatively weak, but provide your forces just enough time to regroup and stage a rally in a habitat that would otherwise be lost. Learning to control the weather and use disasters wisely is an essential part of success.



### Timber Stage (T#)

**T1-Secondary Attack:** Small symbol(s) to the right of the Primary Attack indicate additional effects of the disaster on trees within the habitat. Not all disasters have Secondary Attacks.

**T2-Primary Attack:** Symbol indicates the type and strength of the Disaster. The color and shape of the symbol indicate the type of attack: Water (blue circle), Temperature (orange circle), Fire (red circle), Wind (grey circle), Tree Combat (green circle) & Fate (yellow circle). The attack strength is written inside the attack symbol (Fate attacks do not have attack strengths).

**T3-Trees Effected:** Number of trees effected by the Primary Attack.

**T4-Disaster Sols:** Number of Sols required to unleash the Disaster.

**T5-Disaster Conditions:** Habitat conditions in which Disaster may be unleashed. If multiple conditions are listed, only 1 must be present in the habitat to unleash the disaster. If no symbols are present, the Disaster may be played in any habitat.

**T6-Disaster Description:** The effect of some attacks (especially secondary attacks) are described here.

### Information (I#)

**I1-Disaster Name**

**I2-Disaster Photo**

**I3-Photographer or Artist Name**

**I4-Disaster Description:** Information about the Disaster.

**I5-Card Number**

### Disasters: Menace or Misunderstood?

People often focus only on the destructive aspects of a Natural Disaster. Indeed the haunting images in the wake of a truly violent disaster can be overwhelming. Once seen, few forget the acres of charred tree corpses smoldering after an intense wildfire, or the long path of destruction trailing a mighty tornado.

It is important, however, to note that disasters also serve as a source of renewal. By destroying old trees in a forest, disasters free up essential resources for young plants. Sunlight once blocked by a dense canopy of leaves is free to flood the earth with energy and warmth. Nutrients once reserved for the established tree elders are plentiful and feed many infant plants.

There are many herbs, weeds, flowers, shrubs and trees that can only grow in the environmental conditions left by a disaster. The survival of these plants and the animals that consume them are therefore reliant on the brief window of opportunity that each disaster brings. So for many organisms, natural disasters are essential for survival.

## Mutation Cards

Each mutation card presents a different anatomical part of a tree. You can use the mutation cards to alter the abilities of trees in your Legion. The manner in which the mutation card affects a tree is based on the actual function of the tree part presented. Mutation cards can be played as either temporary or permanent mutations. Permanent mutations are attached to a tree and augment the tree's abilities as long as it remains in play. Temporary mutations only last for one tree combat, but allow you to boost the tree's growth strength during the combat. Because of their flexibility and ability to be used during any tree combat, even those initiated by your opponent, mutation cards bring more strategy to gameplay than any other card type.

### Elder Stage (E#)

#### E1-Permanent Mutations:

Use when planting a tree or during your turn (can not be played during tree combat). Permanent mutations are listed along the left border of the card. The mutations may give the tree an additional ability (written text) or augment some of the trees strengths (Symbol(s) with numbers).

**E2-Temporary Mutation:** Use during Tree Combat. Each mutation card can temporarily boost a tree's sun or shade growth strength, but not both. The growth strength that can be augmented by the card is written below the temporary bonus.

**E3-Mutation Sols:** Number of Sols required to play the mutation card.



## Information (I#)

**I1-Mutation Name:** Refers to the part of the tree that is mutated.

**I2-Tree Diagram:** Tree location where the mutation occurs.

**I3-Mutation Diagram:** Schematic drawing(s) of the mutation.

**I4-Artist Name**

**I5-Mutation Description:** Information about the mutated tree part

**I6-Card Number**

**I7-Flavor Text**

## Tree Succession

Tree Succession is the natural progression of plant species within a habitat. It is very rare that the first plants to appear in a recently disturbed area will be the last. More likely, the first layer of vegetation will give way to a second, which will give way to a third, and so on. Each stage of vegetation is different and better adapted to the current conditions than the last. This process of gradual vegetative replacement is called succession. Perhaps the best way to describe succession is through an example.

An intense fire sweeps through a forest leaving nothing but a charred field. The first plants to appear are grasses and weeds. In time, a few fragile seedlings and shrubs poke through the weed carpet. The shrubs flourish and begin to shade out the grasses and weeds while a few of the sun-loving seedlings (pioneer trees) grow into saplings.

The saplings grow taller stealing more and more sunlight and nutrients from the shrubs. In time the shrubs are in full retreat, but beneath their withering limbs a new breed of seedlings emerge. These young shade tolerant trees (Climax trees) grow slowly. They wait patiently, until finally one of the early pioneers falls. The saplings rush upward seizing control of the canopy and ultimately control of the forest.

Yet, the dormant seeds of sun loving weeds and trees fear not. They know the fires will come again. They know the shade tolerant trees will fall. They know their reign will begin anew.

# Critter Cards



Each critter card portrays a different animal species. Once you populate your legions with critters, battles will never be the same. Critters are not restricted by tree laws and whatever is written on their cards goes. While some critters take advantage of existing rules, others make their own rules. Learning when to play critters and how to effectively use their quirky abilities is the last step in becoming a Mighty Tree General.

## Elder Stage (E#)

**E1-Size:** Use when eating critters (p.44). Each critter is assigned a size which is based on its weight: **S** Small (less than 5 pounds); **M** Medium (5 to 50 pounds); **L** Large (greater than 50 pounds).

**E2-Abilities:** Each critter has 2 abilities. The number of sols required to use an ability is listed first. The ability name is listed 2nd. The effect of the ability is described last.

## Information (I#)

### I1-Artist Name

**I2-Age:** The number range indicates the animal's typical lifespan in the wild. The number in parenthesis is the maximum age reported for the animal (wild or captive).

**I3-Common Name:** Name or names by which the animal is commonly referred.

**I4-Scientific Name:** Like trees, every animal has a unique scientific name. The name consists of two words: 1) the genus name (Capitalized); & 2) the species name (lower case).

**I5-Track Front:** Track left by the forward paw/hand of the animal.

**I6-Track Width:** Width of tracks left by mature animal (inches).

**I7-Track Back:** Track left by the hind paw/foot of the animal.

**I8-Length:** Number range indicates the body length (head to butt) of the animal. Number in parenthesis indicates average tail length (inches).

**I9-Quote:** A famous quote from or regarding a member of the animal species.

**I10-Weight:** Weight range of mature specimens. Weights often vary significantly between sexes and even geographically.

**I11-Card Number**

## Guide to Animal Tracks

When using the critter cards to help identify real animal tracks there are a few important items you should keep in mind.

**Track Location:** By far the best place to look for tracks is near a stream or other source of water. All animals need water and most make occasional trips to the local water hole. Mud and wet sand are also two of the best mediums for preserving animal tracks. Areas covered in snow or dust are also good.

**Track Shape:** The card tracks are colored with up to 3 shades of grey. The different shades indicate the depth and prominence of that area of the track. Darker areas leave deeper impressions and are more likely to be found on firm soils. You can use the card to help determine track dimensions (**cards are 2.5" x 3.5"**).

**Track Variation:** Not all tracks, even those left by the same animal, look alike. The final shape of a track is effected by many factors. An animal's size, age, sex, and even speed (is it walking or running) ultimately influence the spacing, size and shape of a track. Comprehensive track resources are in the Bibliography (p.63)

**Caution:** Wild animals are WILD! Always maintain a respectful distance between yourself and any wild animal.

# Game Layout

**Wilderness:** The Wilderness is the main battlefield of Mighty Trees. The Wilderness is located in the center of the game area and must contain 3 habitats at all times. It is in the Wilderness that your Legion engages the opponent to capture habitats. Your Legion competes in the 3 habitats simultaneously.

**Domain:** Your Domain contains the habitats owned by your Legion at the beginning of the game. Domain habitats are moved into the Wilderness at the start of a game, and immediately after a habitat is captured. When you capture a Wilderness habitat, a new habitat from your opponent's Domain is placed into the Wilderness (Your opponent always places their top Domain habitat into the Wilderness).

**Command:** The cards in your hand form your Command. Only cards from your Command can be played in the Wilderness. At the end of each turn, you must draw from your Nursery until 6 cards are in your Command.



**Nursery:** Your Legion's resources are managed in the Nursery. The Nursery contains both Draw Piles & Litter Piles. All of your cards, except habitats, begin the game in your Draw Pile(s). Your Command is formed & maintained by drawing cards from your Draw Piles. Cards discarded from your Command or the Wilderness go to your Litter Pile(s). You should always draw from or discard to the top of a Nursery pile. The layout of the Nursery differs in each stage (see figure at left). The advanced nurseries are more complex, but offer much greater flexibility in managing your Legion.

Stage	Draw	Litter
<b>Seedling Stage</b>		
<b>Timber Stage</b>		
<b>Elder Stage</b>		

Game Layout

**Player 1**

Domain

Nursery (Timber)

Litter Pile

Draw Piles

**Wilderness**

Habitat #1

Habitat #2

Habitat #3

Tree Slots (empty)

Tree Slots (empty)

Draw Piles

Litter Pile

Nursery (Timber)

**Player 2**

Domain

Game Layout

# Habitat Layout

## Seedling Stage

**Habitat Card:** A habitat card is located at the center of a habitat. The card shows a picture of the actual habitat and presents the Water & Temperature values trees must tolerate in order to be planted within the habitat.

**Understory:** The understory is the tree layer located closest to the habitat card. Trees are planted in the understory. Only trees in the understory can engage in Tree Combat. Each habitat has 4 tree slots in the understory (2 for each player); however, **only 3 understory trees can remain in a habitat at the same time. A 4th tree may be planted in the understory, but one tree must be eliminated immediately by Tree Combat.** Think of understory trees as scrappy young saplings struggling to reach the canopy.

**Canopy:** The canopy is the tree layer located furthest from the habitat card. Trees must be grown from the understory into the canopy. Each player has 2 canopy tree slots. **When a player fills both canopy slots they capture the habitat!** Once grown, trees in the canopy do not need understory trees in order to remain in the canopy. Canopy trees can not be attacked in Tree Combat. Think of canopy trees as towering mature trees that have firmly established their position in the habitat.

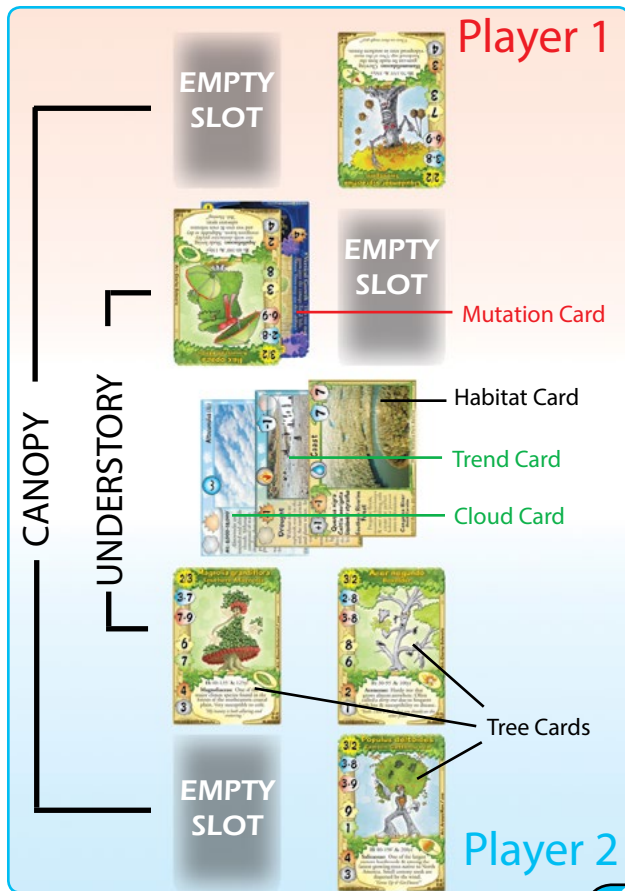
## Timber Stage

**Trend Card:** Trend cards should be placed directly under the habitat card with the symbols visible. Some trend cards may alter the Water or Temperature value of the habitat.

**Cloud Card:** Cloud cards should be placed under the habitat card & trend card (if present) with the symbols visible. **(1 trend card and 1 cloud card are allowed in each habitat)**

## Elder Stage

**Mutation Card:** Permanent mutations should be placed directly beneath the mutated tree with the symbols visible. Mutations remain under the mutated tree until the tree is discarded.





# Seedling Stage

The Seedling Stage is the basic version of Mighty Trees. Only Tree and Habitat Cards are used. This stage focuses on planting and growing trees in habitats, tree combat & the solar energy (Sol) game system. Because the principles & concepts presented in this stage serve as the backbone for the advanced stages, mastery of the material is essential before moving on.

## Winning

The first player to capture 3 habitats wins the game.

## Capturing a Habitat

The first player to have 2 trees in a habitat's canopy captures the habitat. The player that **does not** capture the habitat should immediately move their top Domain habitat into the Wilderness.

## Starting a Game

1. Form a Tree Legion of 28 different cards (each player):

4 Habitat Cards

24 Tree Cards

2. Shuffle the 4 Habitats & place them face down in your Domain (each player).

3. Shuffle the 24 Trees & place them face down in your Nursery (each player).

4. Player One turn over the top card in your Domain & place it into the Wilderness.

5. Player Two turn over the top 2 cards in your Domain & place them into the Wilderness.

6. Draw the top 6 cards from your Nursery to form your Command (each player).

7. Player One's turn begins...  
**Seedling Turn**

During the game, players alternate turns. Each turn is divided into 3 phases. The phases and actions allowed within each phase are as follows:

### Mobilization Phase

Start with 6 Sols (p.27)

### Battle Phase

Plant Trees (p.28)

Initiate Tree Combat (p.30)

Grow Trees (p.32)

Discard/Remove Cards (p.27)

### Regroup Phase

Draw from your nursery until 6 cards are in your command.

Draw



Start  
24 Trees

Litter



0  
Cards

## Seedling Nursery

The Seedling Nursery contains one draw pile and one litter pile. When your draw pile becomes empty, shuffle your litter pile & place it face down to create a new draw pile.

## Solar Energy (Sols)

During your Mobilization Phase, your Tree Legion is able to harness 6 units of energy from the sun (Sols). During your Battle Phase, you spend Sols to perform actions (like planting or growing a tree, discarding from your Command, etc.). Different actions have different Sol Costs with stronger actions costing more. You may spend Sols any way you desire provided that you comply with the **3 Sol Laws** (see table below). If you run out of Sols or can not afford any additional actions, you must proceed to the Regroup Phase. You can use a 6-sided die or 6 pennies to track Sols.

Sol Laws	
6 Sols/Turn	Law #1: You begin each turn with 6 Sols. Any unused Sols from your previous turn are lost.
3 Sols/Habitat	Law #2: You can spend a maximum of 3 Sols within each habitat during your turn (provided you have Sols remaining <i>see Law #1</i> ).
3 Sol ini u	Law #3: You must spend at least 3 sols during your turn.
<p><b>is llan ouS Sol osts</b></p> <p>1 Sol to voluntarily discard ard from your ommand. 1 Sol to voluntarily remove of your healthy trees from a abitat.</p>	

# Planting Trees

Learning to plant trees in suitable habitats is a core principle of Mighty Trees. To be competitive you must learn where, when, and even why trees should be planted. To plant a tree within a habitat the following criteria must be met:

## Seedling Stage

1. Trees may only be planted in the Understory of a habitat;
2. The Habitat's Water & Temperature Values must be within the Tree's Water & Temperature Ranges;
3. You must pay the tree's Planting Sol Cost. Remember in paying the Planting Sol Cost you can not exceed the 3 Sol Maximum for a habitat - Sol Law #2;
4. If your tree is the 4th tree in the habitat's Understory when planted, you must defeat another tree in Tree Combat to remain in the habitat (only 3 trees may remain in the Understory of a habitat);

## Timber Stage

5. Some Trend Weather Cards alter a Habitat's Temperature or Water Value (Habitat C in example on next page);
6. Trees may not be planted in a Habitat with a Lingering Disaster; and

## Elder Stage

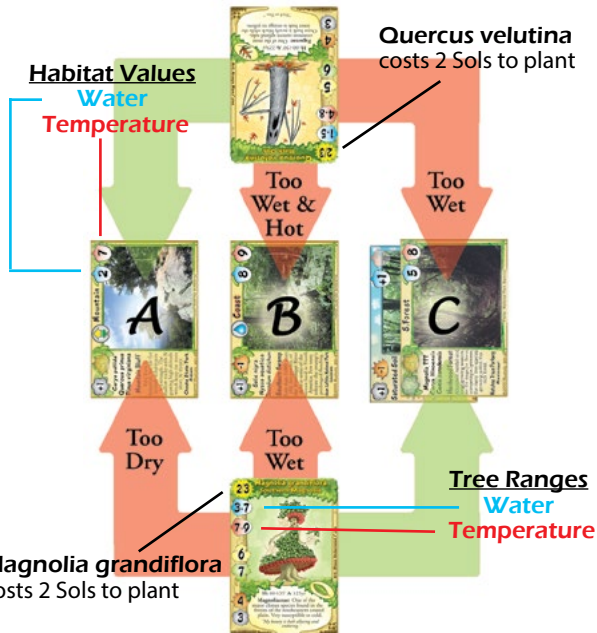
7. You may use permanent mutations (p. 42) to aid tree planting. A permanent mutation card may be attached to a tree prior to planting. By attaching a mutation card you can not exceed the 3 Sol Habitat Maximum.

## Misplanted Trees

Occasionally your opponent may plant a tree in a habitat where it can not grow (Ex. Habitat Water Value outside a Tree's Water Range). If you catch the misplanting before beginning your turn, your opponent must immediately discard the tree and does not recover any Sols spent planting the tree. However, once your turn begins, a misplanted tree is treated just like a properly planted tree.

# Tree Planting Examples

**Quercus velutina:** Habitat A is suitable. Habitat B is unsuitable [8 Water Value is greater than tree Water Range & 9 Temperature Value is greater than tree Temperature Range]. Habitat C is unsuitable [6 Water Value (5 Habitat + 1 Trend Modifier) is greater than tree Water Range].



**Magnolia grandiflora:** Habitat A is unsuitable [2 Water Value is less than tree Water Range]. Habitat B is unsuitable [8 Water Value is greater than tree Water Range]. Habitat C is suitable.

# Tree Combat

Habitats possess a limited amount of water and nutrients. Trees must compete for these essential resources to survive. In Mighty Trees, this fierce tree competition is resolved through Tree Combat.

## Initiating Tree Combat

1. Initiating Tree Combat does not cost any Sols (0 Sol Cost).
2. Only trees planted in the 3rd or 4th Understory slot of a habitat can initiate Tree Combat. The 3rd Tree may initiate combat while the 4th Tree must initiate combat (see figure below).
3. Only the player planting a tree can initiate combat (combat must be initiated & resolved immediately after planting).
4. Tree Combat must be between the tree planted & another tree in the habitat's Understory.



## Sun vs. Shade Combat

The first step in Tree Combat is to determine your tree's Base Growth Strength. Each tree has two Base Growth Strengths: Sun Growth Strength (#); and Shade Growth Strength (#). Use the Sun Growth Strength when there are no trees in the habitat's Canopy. Use the Shade Growth Strength when there is at least 1 tree in the Canopy (the canopy tree can be on either side of the habitat or both sides). If the Sun Power Symbol (☀️) is present, use the Sun Growth Strength even when trees are in the Canopy.

Tree Combat

## Calculating Growth Strength

The tree with the highest **Total Growth Strength** wins a Tree Combat. Total Growth Strength is determined by adding Base Growth Strengths, preferred species status & mutation cards. Use the following chart to calculate each tree's Total Growth Strength.

Calculate Growth Strength	
# or #	Base Growth Strength is listed on the Tree Card.
+2	Preferred species listed on the Habitat Card receive a bonus of +2 in all combats (Sun or Shade).
+2 or +2	Per anent utations already attached to a tree may alter the Tree's Growth Strength (p.42).
+ Sun or Shade	Special mutations can be used to boost the growth strength that is listed on the mutation card (p.43). (If attacking, you can only spend 3 sols in a habitat during your turn. If defending, you can use as many mutations as you have Sols remaining.)

## Resolving Combat

To determine which tree (if any) is defeated in a Tree Combat refer to the following conditions. Defeated trees are discarded to a litter pile (there is no Sol Cost to discard a defeated tree):

- \***The Defending Tree** is only defeated when its Total Growth Strength is less than the Attacker's Total Growth Strength.
- \***The Attacking Tree** is defeated when either of the following conditions is met:
  1. Attacker's Total Growth Strength is less than the Defender's Total Growth Strength; or
  2. The Total Growth Strengths are equal and the attacking tree was planted in the 4th Understory slot of the habitat.
- \* **A Tie** occurs if none of the defeat conditions are met. Both trees may remain in the habitat.

Tree Combat

# Growing Trees

To capture a habitat you must have 2 trees in the habitat's Canopy. Trees can only reach the Canopy by growing them from the Understory. To grow a tree into the Canopy the following criteria must be met:

1. Your side of the understory must be full (2 trees);
2. You must pay the Growth Sol Cost of the tree to be grown (do not exceed the 3 Sol Habitat Maximum). Trees with an asterik (\*) for Growth Sol Cost are called shrub trees & can not grow into the Canopy. If the Shrub Growth Power Symbol (🌱) is present on the habitat card, shrub trees may be grown into the Canopy for 3 Sols.
3. Trees can not be grown in a habitat while a Lingerin Disaster is present.

Once in the Canopy, trees can not be attacked in Tree Combat but can be removed by disasters. Trees do not have to be present in the Understory to maintain a tree in the Canopy.

## Tree Growth Examples

**2 Sol Growth**

**Understory is not full.**  
Ilex opaca may not grow into the canopy.

**Understory is full.** Ilex opaca may grow for 2 Sols. Cercis canadensis is a shrub tree & may not grow.

**Understory is full.** Either Ilex opaca may grow for 2 Sols or Cercis canadensis may grow for 3 Sols (Growth Power Symbol).

**Shrub Growth Power Symbol (Timber Stage\*)**

# Timber Stage

The Timber Stage is the intermediate version of Mighty Trees. Weather and Disaster cards are introduced in this stage.

## Winning

First player to capture 3 habitats wins (increase or decrease the number for longer or shorter games).

## Capturing a Habitat

Same conditions as in the Seedling Stage.

## Starting a Game

1. Form a Tree Legion of 38 different cards (each player):
  - 4 Habitat Cards
  - 24 Tree Cards
  - 6 Weather Cards (includes Trend & Cloud Cards)
  - 4 Disaster Cards
2. Shuffle the 4 Habitats & place them face down in your Domain (each player).

3. Shuffle the 24 Trees & place them face down in your Nursery (each player).
4. Combine & Shuffle the 10 Weather & Disaster Cards. Place them face down in the Nursery next to your Trees.
5. Player One turn over the top card in your Domain & place it into the Wilderness.
6. Player Two turn over the top 2 cards in your Domain & place them into the Wilderness.
7. Draw cards from the Nursery to form your Command. You may draw cards from the top of each draw pile until a total of 6 cards have been drawn (each player).
8. Player One's turn begins...

**Draw**

**Start** 24 Trees

6 Weather  
4 Disaster

**Litter** 0 Cards

## Timber Nursery

The Timber Nursery begins with 2 draw piles and one litter pile. When **both** draw piles are empty, shuffle your litter pile & place it face down to create one new draw pile.

## Timber Turn

Players alternate turns that are divided into 3 phases. Actions introduced in the Timber Stage are green:

### Mobilization Phase

Remove your Lingered Disasters (p. 38)

Start with 6 Sols

### Battle Phase

Plant Trees

Initiate Tree Combat

Grow Trees

Place Weather (p. 34)

Unleash Disasters (p. 35)

Discard/Remove Cards

### Regroup Phase

Draw from your nursery until 6 cards are in your command.

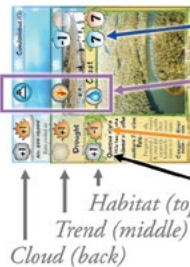


## Placing Weather

There are two types of weather cards: Cloud cards and Trend cards. Weather cards can intensify or diminish some disasters, enable other disasters, or in the case of Trend cards even modify the Water or Temperature Value of a habitat. One Cloud card & one Trend card are allowed within each Wilderness habitat. To place a weather card in a habitat simply do the following:

1. Pay the Sol cost to place the weather card (Remember, you may not exceed the 3 Sol habitat maximum).
2. Place the weather card face up under the habitat card so that the symbols are showing. Trend cards should be directly under the habitat card & cloud cards always at the very bottom (see figure on next page). If a weather card of the same type already exists in the habitat, discard the existing card (new weather always replaces old weather, there is no Sol cost to discard old weather).

3. If a Trend card alters the Water or Temperature value of a habitat, any trees that do not meet the habitat's modified Water or Temperature Values should be discarded immediately.
4. The weather card remains in the habitat until either the habitat is captured or another weather card of the same type replaces it.



*Trend Card reduces habitat Water Value to 6.*

*Flood & Fire Power Symbols as well as Cumulonimbus Cloud Symbol make habitat vulnerable to many disasters.*

*+1 Strength to Fire Disasters  
(-1 Habitat, +1 Trend, +1 Cloud)  
+2 Strength to Wind Disasters  
(+1 Habitat, 0 Trend, +1 Cloud)*

## Unleashing Disasters

Your Legion has the ability to unleash fires, tornadoes, lightning and other devastating natural disasters. Once unleashed; however, some disasters can destroy your trees in addition to your opponent's. Below is a brief outline of how to play a disaster card. Each step is described in detail on the following pages and examples are found on pages 38 & 39:

1. Confirm that at least one of the Disaster Conditions is present within the habitat;
2. Pay the Sol Cost to unleash the disaster (do not exceed the 3 Sol habitat maximum);
3. Resolve the Primary Attack (determine trees effected, calculate attack strength, & discard destroyed trees);
4. Resolve Secondary Attack (when present read card); and
5. Discard disaster (unless a "Lingered" disaster).










## Disaster Conditions


Before unleashing a disaster, appropriate weather or habitat conditions may be required within the target habitat. Just as in the real world, fierce tornadoes do not simply drop out of clear blue skies. In general, stronger disasters occur under more restricting conditions.

Disaster conditions are listed in the bottom left corner of each disaster card. If there are no conditions listed, the disaster may be unleashed in any habitat regardless of weather. If there are several conditions listed, only one of the conditions must be met in the target habitat. Disasters with one condition can only be played within a habitat possessing that condition.

### Four Types of Disaster Conditions

- 1. Cloud Symbols** [, , etc.] Corresponding Cloud Symbol must be present on the habitat's Cloud card.
- 2. Power Symbols** [, , , etc.] Corresponding Power Symbol must be present on the Habitat card or the Trend card.
- 3. Fire Modifier** [] After adding the Fire Modifiers on the Habitat, Trend and Cloud card, the Total Fire Modifier Value must be equal to or greater than the number listed in the Fire Condition Symbol.
- 4. Wind Modifier** [] After adding the Wind Modifiers on the Habitat, Trend and Cloud card, the Total Wind Modifier Value must be equal to or greater than the number listed in the Wind Condition Symbol.

## Disaster Cost

The cost to unleash a disaster is identified inside the Sol Symbol () in the top left corner of the card. By unleashing a disaster you can not exceed the 3 Sol habitat maximum.

## Primary Attack






### Trees Effected

The number of trees effected by a disaster is identified by the term written in the top left corner of the disaster card. The effect terms are defined in the following table:

Disaster Term	Trees Effected
1 Tree	Any 1 Tree
2 Trees	Any 2 trees
1 Side	All trees on 1 side of the habitat
All	All trees in the habitat


### Attack Type and Strength

The following table identifies the different attack types and shows how to resolve each attack:

Disaster Attacks	
 Fire	The Base Strength is inside the fire symbol. Add all fire modifiers present in the habitat to the Base Strength to determine the Attack Strength. All effected trees with a Fire Strength less than the Attack Strength are destroyed.
 Wind	The Base Strength is inside the wind symbol. Add all wind modifiers present in the habitat to the Base Strength to determine the Attack Strength. All effected trees with a Wind Strength less than the Attack Strength are destroyed.
 Temp.	Add the Temperature change in the symbol to the current Temperature of the habitat. All effected trees with a Temperature change that does not include the modified Temperature are destroyed.
 Water	Add the water change in the symbol to the current water level of the habitat. All effected trees with a water change that does not include the modified water level are destroyed.
 Fate	Fate attack symbols vary but the term Fate Attack is always identified in the disaster description. Upon the disaster card for each tree effected, if heads the tree is destroyed.
Other	The effects of all other disasters are described in the description area of the disaster card.

## Secondary Attacks

Some disasters have secondary attacks. Secondary attacks are identified by smaller symbols to the immediate right of the primary attack symbol.

The most common secondary attack is a “lingering” attack which is identified by the  symbol. Lingering disasters are not immediately discarded and remain in the habitat until the attacking player’s next Mobilization Phase. **Trees may not be planted or grown in a habitat with a lingering disaster.**

The effects of all other secondary attacks are described in the Disaster description area of the Disaster Card.

### Disaster Examples Habitats->

#### Flood



**Condition:** Met-Flood Symbol  
**Cost:** 2 Sols  
**Primary Attack:** Habitat Water Value increased to 9. **ALL** trees whose Water Range were destroyed.  
**Secondary Attack:** “Linger”

#### Fire Storm



**Condition:** Not Met-The Total Fire Modifier Value is less than zero (+1 Cloud Card, -1 Trend Card, -1 Habitat Card = -1 Total Fire Modifier). Disaster may not be played in this habitat under the existing weather.

### Habitat A



### Habitat B



**Condition:** Met-Flood Symbol  
**Cost:** 2 Sols  
**Primary Attack:** Habitat Water Value increased to 8. **ALL** trees whose Water Range were destroyed.  
**Secondary Attack:** “Linger”

**Condition:** Met-The Total Fire Modifier Value is equal to zero.  
**Cost:** 3 Sols  
**Primary Attack:** Fire has a 2 Strength (2 Base Strength +0 Total Modifier). Any trees on 1 side of the habitat with a Fire Strength less than 2 destroyed.  
**Secondary Attack:** None

### Thunderstorm



**Habitat A**  
**Condition:** Met-Cloud Symbol  
**Cost:** 2 Sols  
**Primary Attack:** Wind has a 4 Strength (1 Base Strength +3 Total Modifier). **ALL** trees with a Wind Strength less than 4 are destroyed.  
**Secondary Attack:** Fate Attack  
 Drop the card for 1 tree. If heads, the tree is destroyed.

### Habitat B

**Condition:** Not Met- The Cloud Symbol in the habitat does not match either symbol on the Disaster Card. Disaster can not be played in this habitat under the existing weather.

## Power Symbols

Power symbols can enable disasters or alter game rules and are only found on Habitat and Trend cards. The different power symbols are described below:



**Flood Symbol** - Enables flood disasters. Found in habitats along streams or other bodies of water.



**Mountain Symbol** - Enables landslides, avalanches & other disasters that occur on steep terrain. Found in habitats located on steep mountains.



**Fire Symbol** - Enables very strong fire disasters.



**Sun Symbol** - Forces Sun strength Tree Combat even when canopy trees are present.



**Shrub Growth Symbol** - Allows shrub trees (trees with ‘\*’ for growth cost) to grow into the canopy for 3 Sols.



# Elder Stage

The Elder Stage uses all of the cards and is the complete version of Mighty Trees. Additions to the Timber Stage rules are written in Red. It is possible to gradually adopt the Elder Stage cards and rules into your games. First, introduce only Mutation cards & continue to use the Timber Stage Nursery layout. Next, add Critters to your game. Finally, begin using the expanded Elder Nursery outlined in 3 & 4 below.

## Winning & Capturing Habitats

Same conditions as previous stages.

## Starting a Game

1. Form a Tree Legion of 46 different cards (each player):

4 Habitat Cards

24 Tree Cards

6 Weather Cards

(includes Trend & Cloud Cards)

4 Disaster Cards

4 Mutation Cards

4 Critter Cards

2. Shuffle the 4 Habitats & place them face down in your Domain (each player).

3. Divide your trees into 2 piles of 12. You may divide the trees any way you want. Shuffle each pile & place face down in your Nursery to form 2 tree draw piles. One pile should be above the other (each player).

4. Divide your remaining cards into 2 piles of 9. You may divide the cards any way you want. Shuffle each pile and place face down in your Nursery. 1 pile should be located to the immediate right of each tree pile. (each player).
5. Player One turn over the top card in your Domain & place it into the Wilderness.
6. Player Two turn over the top 2 cards in your Domain & place them into the Wilderness.
7. Draw cards from the Nursery to form your Command. You may draw cards from the top of each pile until a total of 6 cards have been drawn (each player).
8. Player One's turn begins...

# Elder Turn

Players alternate turns that are divided into three phases. Actions introduced in the Elder Stage are red.

## Mobilization Phase

Remove your Lingering Disasters

Start with 6 Sols

## Battle Phase

Plant Trees - attach Permanent Mutation before planting (p. 42)

Initiate Tree Combat - use Temporary Mutations (p. 43)

Grow Trees

Discard/Remove Cards

Place Weather

Unleash Disasters

Attach Permanent Mutations to your already planted trees (p.42)

Release a Critter (p.43)

## Regroup Phase

Draw cards from your nursery until 6 cards are in your command.

Opponent draw cards from nursery until 6 cards in command.

## Opponent's Turn

Release Critters

Play Temporary Mutations

## Elder Nursery

The Elder Nursery begins with 4 draw piles and 2 litter piles (2 draw piles & 1 litter pile in each of 2 rows). During play, cards may be drawn from any draw pile & discarded to either litter pile. Before a litter pile can be shuffled to create a new draw pile, there can not be an active draw pile on the same row and there must be at least 12 cards in the litter pile. Eventually you will have 1 draw pile & 1 litter pile on each row.



# Playing Mutation Cards

You may play a Mutation Card as a Permanent Mutation or a Temporary Mutation.

## Permanent Mutations

A mutation card can be permanently attached to a tree card. The tree's strengths and abilities are modified until the tree is discarded to a Litter Pile. To attach a permanent mutation to an already planted tree, pay the 1 Sol cost and place the mutation card under the tree card. Make sure the mutation symbols are visible.

You may also attach a mutation card to a tree before planting it (do not exceed the 3 Sol habitat maximum). There is no limit to the number of mutation cards that may be attached to a single tree. Permanent mutations cannot be attached during Tree Combat.

### Permanent Mutation Examples



Smart Stoma expands Quercus velutina's Water and Temperature Ranges:

New Water Range 1-9  
upper limit increased +4

New Temperature Range 2-9  
lower limit decreased -2  
upper limit increased +2,  
9 is maximum upper limit



Extended Bole increases Cercis canadensis' Fire Strength to 5. The Vertical Growth ability allows the tree to grow into the canopy for 2 Sols.

Permanent Mutations

# Temporary Mutations

Temporary mutations can only be used during Tree Combat. You can use temporary mutations during any combat, even those initiated by your opponent. Once a Tree Combat has begun, pay the 1 Sol cost of a Mutation card to boost your tree's growth strength by the amount indicated on the mutation card. You may play as many temporary mutations as you wish as long as you have Sols remaining and do not exceed the 3 Sol Habitat Maximum. You are not limited by the 3 Sol Habitat Maximum if you are defending during your opponent's turn. At the end of a Tree Combat, all temporary mutations played are discarded.

## Releasing Critters

To use a critter ability you must: 1) Release a critter from your Command; 2) Declare which ability you are using; 3) Pay the Sol Cost listed to the left of the ability; & 4) Follow the ability's directions. Unless otherwise stated on the critter card, abilities may be used during either player's Battle Phase and must be discarded after the ability is performed.

While you may release critters during your opponent's Battle Phase, your opponent is always entitled to the first action in their Battle Phase. In addition, if you release a critter at the same time your opponent announces an action during their turn, your opponent decides who goes first.

If a critter's ability affects any cards within a habitat, the Sol Cost counts toward the Habitat's Sol Maximum (this rule does not apply when releasing critters during your opponent's Battle Phase).



Temporary Mutations & Critters

## Eating Critters

Whenever your opponent releases a critter to use an ability, you may attempt to eat it with a critter from your Command. Before eating the opposing critter; however, you must first capture it in a Chase. If the prey escapes during the chase, your critter will become exhausted & forced to retire to a litter pile. Bear in mind that once you start a Chase, your predator can quickly become the prey of any critters lurking in the opponent's Command.

### Starting a Chase:

1. Your opponent releases a critter to use one of its abilities.
2. Release a critter from your Command to eat the opposing critter.  
**The size of the opposing critter must be listed to the right of your critter's Eat ability!** This action starts a chase.
3. Your opponent may release a critter to eat your critter first.
4. You and/or your opponent may release as many additional critters as you desire (Alternate turns). Each critter must declare a target to eat immediately upon release. Once both players are finished releasing critters, the Chase is resolved.

### Resolving a Chase:

1. Critters eat in the reverse order released (the last critter released is the first to eat and so on).
2. A critter must attempt to eat the critter it targeted. If the targeted critter has already been eaten, the critter must return to its Command. The critter can not declare another target.
3. When it is a critter's turn to eat, drop the critter card:
  - A. **If the card lands face up, the targeted critter is eaten.** The targeted critter must be discarded and may not use an ability. A player does not lose any Sols for attempting to play and discarding an eaten critter. The successful eating critter returns to the owning player's Command (with a full stomach)!
  - B. **If the card lands face down, the opposing critter escapes & remains in play.** The critter that attempted to eat is unsuccessful & must be discarded to a Litter Pile (exhausted & hungry).

## Eating Example



**Player 1** releases *Tamias striatus* (Eastern Chipmunk) to use its Big Cheeks ability. The chipmunk is a **SMALL** critter.

**Player 2** releases *Vulpes vulpes* (Red Fox) to eat the chipmunk. The red fox can eat **SMALL** critters. The red fox is a **MEDIUM** critter.



**Player 1** releases *Ursus americanus* (Black Bear) to eat the red fox. The bear can eat **SMALL, MEDIUM & LARGE** critters. The bear is a **LARGE** critter.



**Player 2** releases *Procyon lotor* (Raccoon) to eat the chipmunk. The raccoon can eat **SMALL** critters. Yes, multiple critters can have the same target in a chase.



**Both players agree to resolve the Chase.**

The Raccoon was the last critter released & is the first to eat. Player 2 drops the Raccoon & it lands **face up**. The Chipmunk is eaten & discarded. The chipmunk is not able to use the Big Cheeks ability. The Raccoon returns to Player 2's Command.

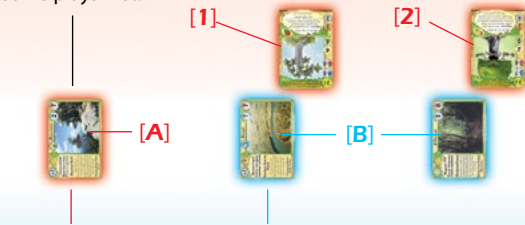
The Black Bear eats next (it was the next to last critter played & its target, Red Fox, still remains). Player 1 drops the Black Bear & it lands **face down**. The Red Fox escapes & remains in play. The Black Bear is unsuccessful & is discarded to a Litter Pile.

The Red Fox is the only remaining critter. Since its target has already been eaten the Red Fox returns to Player 2's Command.



Player 1 placed only 1 Habitat in the Wilderness so he plays first.

## Player 1: Red



(Red Glow Player 1) (Blue Glow Player 2)  
Cards played during each turn have an outer glow.

## Player 2: Blue

Starting a game is different for each stage. To see how to start a game in each stage refer to the following pages: [Seedling \(p.26\)](#); [Timber \(p.33\)](#); & [Elder \(p.40\)](#).

This example only focuses on the action in the Wilderness. The acts of drawing cards into Commands and discarding into Litter Piles is not shown.

Before the example begins, both players have already:

- \*Created customized Tree Legions;
- \*Formed their Domains;
- \*Formed their Nurseries; &
- \*Decided that P2 will place two (2) habitats into the Wilderness while P1 will play first.

The Example Begins with the formation of the Wilderness:

- P1 draws his top Domain habitat, Mountain Bluff, & places it into the Wilderness.
- P2 draws his top 2 Domain habitats, Southern Riverine Forest & Hardwood Forest, & places them both into the Wilderness.

Both players draw from their Nurseries until 6 cards are in each player's Command. P1 goes first.

- P1 spends 3 Sols to Plant *Quercus michauxii*. 3 Sol Max in habitat.
- 3 Sols to Plant *Fagus grandifolia*. 3 Sol Max in habitat & 0 Sols remain (End Battle Phase).  
**P1 Draws 2 cards to fill Command**  
**\*\*\*END PLAYER 1 TURN\*\*\***

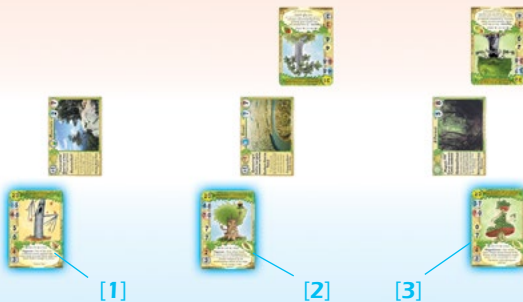
## Game Example

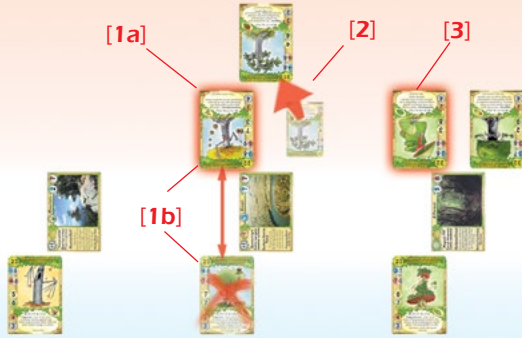
Pages 46-59 present 7 turns of a simulated game. Turns 1-4 are devoted exclusively to **Seedling Stage** actions. **Timber Stage** actions start in Turn 5. **Elder Stage** actions are included in Turn 7. While figures showing the players' actions are provided, we suggest playing along with your deck.

**Player 1's Turn** is on the even numbered pages. Player 1 (abbreviated "P1") actions are indicated by red numbers in the figures, and are described in the corresponding paragraph in the turn summary below the figure.

**Player 2's Turn** is on the odd numbered pages. Player 2 (abbreviated "P2") actions are indicated by blue numbers in the figures, and are described in the corresponding paragraph in the turn summary above the figure.

- 2 Sols to Plant *Quercus velutina*.
- 2 Sols to Plant *Quercus laurifolia*. P2 can not initiate combat since there are only 2 trees in the habitat's Understory.  
**P2 Draws 3 cards to fill Command**  
**\*\*\*END PLAYER 2 TURN\*\*\***
- 2 Sols to Plant *Magnolia grandiflora* which is a Preferred Species in the habitat. 0 Sols remain.





3rd tree planted in a habitat's understory MAY INITIATE tree combat.

- 1a. **2 Sols to Plant** *Liquidambar styraciflua* which is a Preferred Species in the habitat.
  - 1b. P1 chooses to initiate combat between *Liquidambar styraciflua* and *Quercus laurifolia*. Combat is optional when 3 trees are present in the habitat's understory. It does not cost any Sols to initiate a Combat. Compare the tree's Sun Strength since no canopy trees are present when the combat begins. *Liquidambar styraciflua*'s Sun Strength is 9 (7 Base Strength +2 Preferred Bonus). *Quercus laurifolia*'s Sun Strength is 7 (7 Base Strength).
  - \**Quercus laurifolia* is defeated & discarded since its Sun Strength is lower.
  - 2. **1 Sol to Grow** *Quercus michauxii* into the canopy. **3 Sol Max in habitat** (Planting *Liquidambar styraciflua* cost 2 Sols & Growing *Quercus michauxii* cost 1 Sol); therefore, a total of 3 Sols were spent in the habitat). Trees can only grow into the canopy when a player's understory is full (2 trees).
  - 3. **3 Sols to Plant** *Ilex opaca*. **3 Sol Max in habitat & 0 Sols remain**. P1 chooses not to initiate tree combat since *Ilex opaca* has a weaker Sun Strength than the opponent's *Magnolia grandiflora*.
- P1 Draws 2 cards to fill Command**  
\*\*\*END PLAYER 1 TURN\*\*\*

## Game Tip #1

*Quercus marilandica* (Blackjack Oak) is a handicap card. The tree should be used by weaker players against stronger players. If this tree is in your Legion, let your opponent know before the game.



## Game Tip #2

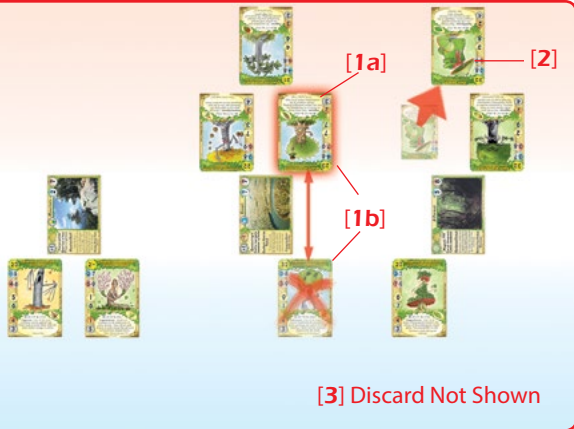
Trees that have a 3 / 1 Sol combination (3 to Plant / 1 to Grow) are weak in both the Sun & Shade. These trees will rarely win a tree combat; however, if you can plant these trees early, they can quickly reach the canopy.

- 1. **2 Sols to Plant** *Cercis canadensis*.
  - 2. **3 Sols to Plant** *Populus deltoides*. Remember P2 can not initiate combat since there are only 2 trees in the habitat's Understory.
  - 3. **1 Sol to Discard 1 card from Command. 0 Sols remain.**
- P2 Draws 3 cards to fill Command**  
\*\*\*END PLAYER 2 TURN\*\*\*



[1] [2]

[3] Discard Not Shown



[3] Discard Not Shown

- 1a. 2 Sols to Plant** *Quercus laurifolia*.  
**1b. P1 chooses to initiate combat** between *Quercus laurifolia* and *Populus deltoides*. Compare Shade Strength since a canopy tree is present. *Quercus laurifolia*'s Shade Strength is **7 (7 Base)**. *Populus deltoides*' Shade Strength is **1 (1 Base)**.  
 \**Populus deltoides* is defeated & discarded since its Shade Strength is lower.
- 2. 2 Sols to Grow** *Ilex opaca* into the canopy. Either tree could have been grown since the habitat's Understory is full (2 trees) & neither tree is a shrub tree.
- 3. 2 Sols to Discard** 2 cards from Command. **0 Sols remain**. You can discard as many cards as you wish, but each discard costs 1 Sol.

**P1 Draws 3 cards to fill Command**  
 \*\*\*END PLAYER 1 TURN\*\*\*

### Game Tip #3

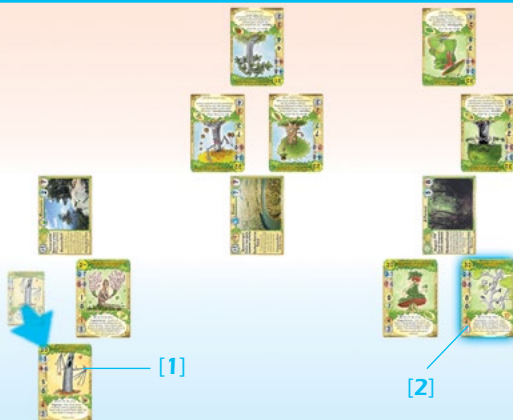
While playing, stare menacingly, laugh insanely, scream frequently & even chortle on occasion. These tactics may not give you a strategic advantage, but it sure is fun!



### Game Tip #4

Trees with high Shade Strength are very valuable. Try not to plant or discard them early in habitat development when tree combat is still in the Sun. Saving these shade warriors for later will serve you well.

- 1. 3 Sols to Grow** *Quercus velutina* into the canopy. **3 Sol Max in habitat**. *Cercis canadensis* is a shrub tree and can not grow into the canopy in the Seedling Stage. However, in the Timber or Elder Stages, the habitat's Shrub Growth Power Symbol would allow the tree to be grown for 3 Sols.
- 2. 3 Sols to Plant** *Acer negundo*. **3 Sol Max in habitat & 0 Sols remain**. P2 chooses not to initiate combat since his tree has a weaker Shade Strength than the opponent's Understory tree.
- P2 Draws 1 card to fill Command**  
 \*\*\*END PLAYER 2 TURN\*\*\*



**Turn 4  
Player 1**

[1]

[3]

[2]

1. 2 Sols to Grow *Liquidambar styraciflua* into the canopy. P1 now has 2 trees in the canopy and captures the habitat. All cards in the habitat are discarded & P1 places the habitat face up next to his Domain. P1 must capture 2 more habitats to win the game.

2. P2 draws the top card from his Domain and places it into the Wilderness to create a new habitat. Replacing a captured habitat does not cost any Sols.

3. 3 Sols to plant *Populus deltoides*. 3 Sol Max in habitat. Note P1 is allowed to perform actions in the replacement habitat. The Sols spent capturing the previous habitat do not count toward the replacement habitat's Sol Max.

**P1 Draws 1 card to fill Command (P1 has 1 Sol remaining)**  
**\*\*\*END PLAYER 1 TURN\*\*\***



You do not have to spend all of your Sols, but you must spend at least 3 Sols during your turn. (Sol Law #3)

## Game Tip #5

Follow a strategy when forming your Legion. Select trees and habitats that are complimentary. If you select several wet habitats, be sure to include many trees with high Water Ranges in your tree army. Don't forget to look at the Preferred Species listed for each habitat. Tree's are very tough when planted in habitats where they are Preferred.

- 3 Sols to Plant *Quercus michauxii*. 3 Sol Max in habitat.
- 2 Sols to Grow *Acer negundo* into the canopy.
- 1 Sol to discard 1 card from Command.

**P2 Draws 2 cards to fill Command**  
**\*\*\*END PLAYER 2 TURN\*\*\***

**Turn 4 - Player 2**

[1]

[2]

[3] Discard Not Shown



1. 2 Sols to Place Drought trend into the habitat. Drought reduces the habitat's Water Value by 1 to 1. *Cercis canadensis* is destroyed and discarded since its Water Range does not include 1. The habitat Water Value will remain at 1 as long as the Drought remains in the habitat.

2. 1 Sol to Place Cumulonimbus - Gust Front (Card#SE1-57) cloud into the habitat. 3 Sol Max in habitat. Remember, 1 Cloud & 1 Trend card are allowed in each habitat.

3a. 2 Sols to Plant *Celtis laevigata*.

3b. P1 initiates combat between *Celtis*

*laevigata* and *Quercus michauxii*. Compare Sun Strength since no canopy trees are present. *Celtis laevigata*'s Sun Strength is 6 (6 Base). *Quercus michauxii*'s Sun Strength is 4 (4 Base).

\**Quercus michauxii* is defeated & discarded.

4. 1 Sol to Place *Cumulus congestus* cloud into the habitat. 3 Sol Max in habitat & 0 Sols remain.

P1 Draws 4 cards to fill Command  
\*\*\*END PLAYER 1 TURN\*\*\*

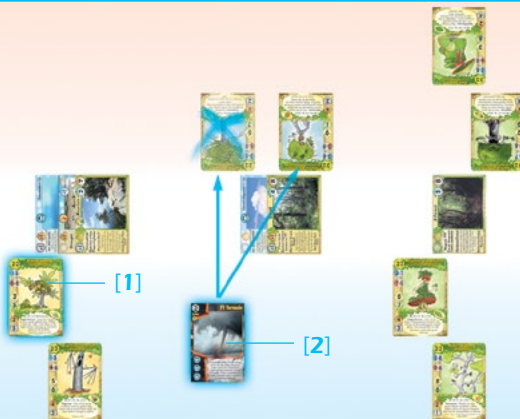
## Timber Stage begins in Turn 5

## Timber Stage begins in Turn 5

- 2 Sols to Plant *Carya pallida* which is a Preferred Species in the habitat.
- 3 Sols to Unleash F1 Tornado disaster. 3 Sol Max in habitat. The *Cumulus congestus* cloud meets one of the disaster conditions. The disaster only affects one side of the habitat (P2 selects P1's side). The F1 Tornado's Total Wind Strength is 3 (2 Base +1 Habitat). *Celtis laevigata*'s Wind Strength is 2 (2 Base). *Populus deltoides*' Wind Strength is 3 (3 Base).

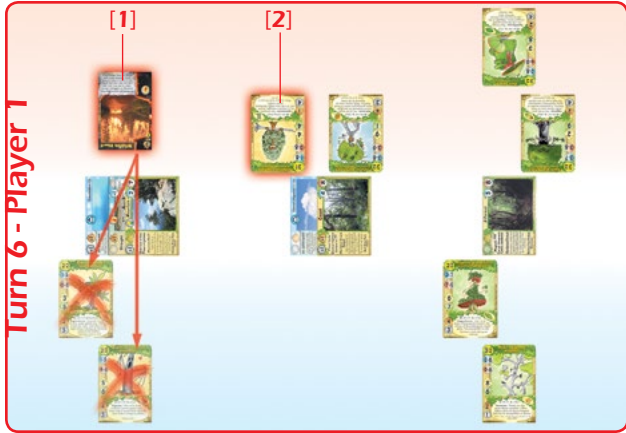
\**Celtis laevigata* is destroyed & discarded since its Wind Strength is less than the disaster. *Populus deltoides* survives the disaster since its Wind Strength is equal to the disaster. The F1 Tornado does not linger and is discarded.

P2 Draws 2 cards to fill Command  
(P2 has 1 Sol remaining)  
\*\*\*END PLAYER 2 TURN\*\*\*





Turn 6 - Player 1



1. 3 Sols to Unleash Wildfire disaster. 3 Sol Max in habitat. The Fire Power Symbol on the habitat's Drought Trend Card enables the disaster. The disaster affects all trees in the habitat. The Wildfire's Total Fire Strength is 5 (3 Base +1 Trend +1 Cloud). *Quercus velutina's* Fire Strength is 3 (3 Base). *Carya pallida's* Fire Strength is 4 (2 Base +2 Preferred).

\*Both trees are destroyed and discarded since the disaster's Fire Strength is higher. The Wildfire does not linger and is also discarded.

2. 3 Sols to Plant *Juniperus virginiana* which is a Preferred Species in the habitat. 3 Sol Max in habitat & 0 Sols remain.

P1 Draws 2 cards to fill Command \*\*\*END PLAYER 1 TURN\*\*\*

**!! Warning !!**  
Elder Stage mayhem awaits on Pages 58 & 59. Upon exposure, novice players may experience vivid hallucinations and suffer egregious mental harm!

1. 2 Sols to Unleash Surface Fire disaster. No conditions must be met to play the disaster. The disaster affects all trees in the habitat. The Surface Fire's Total Fire Strength is 2 (1 Base +1 Habitat). *Juniperus virginiana's* Fire Strength is 3 (1 Base +2 Preferred). *Populus deltoides'* Fire Strength is 4 (4 Base).

\*Both trees survive & remain in the habitat since their Fire Strengths are higher than the disaster; however, the Surface Fire lingers preventing either tree from growing into the canopy during P1's next turn.

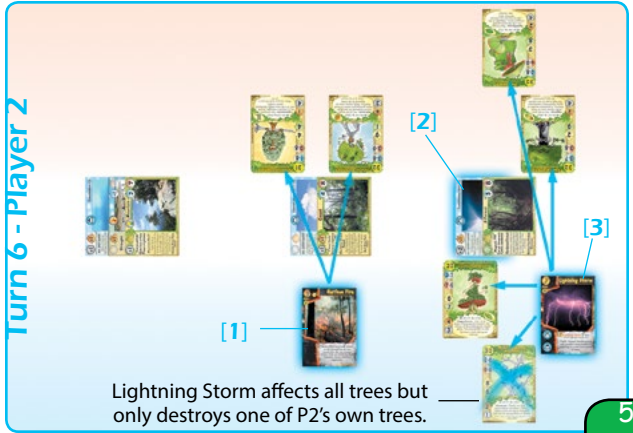
2. 1 Sol to Place *Cumulonimbus incus* - Mesocyclone (Card#SE1-52) cloud into the habitat.

3. 2 Sols to Unleash Lightning Storm disaster. 3 Sol Max in habitat. The *Cumulonimbus incus* cloud meets one of the disaster conditions. The disaster affects all trees in the habitat. The Lightning Storm is a Fate Disaster and the card is dropped for each tree in the habitat. The card lands face down when dropped for *Ilex opaca*, *Fagus grandifolia* & *Magnolia grandiflora*. The card lands face up when dropped for *Acer negundo*.

\*Only *Acer negundo* is destroyed and discarded. The Lightning Storm does not linger & is discarded.

P2 Draws 3 cards to fill Command (P2 has 1 Sol remaining) \*\*\*END PLAYER 2 TURN\*\*\*

Turn 6 - Player 2



Lightning Storm affects all trees but only destroys one of P2's own trees.

## Turn 7 - Player 1

**[4a]** Discard *Stratus* cloud.

**[2]** Play *Hyper cambium* as a temporary mutation & boosts *Magnolia grandiflora*'s Shade Strength to 10.

**[3a]** Release *Procyon lotor* critter to use Steal ability.

**[3b]** Play *Cornus florida* as a permanent mutation.

**[3c]** P1 chooses to initiate combat between *Cornus florida* and *Magnolia grandiflora*. Compare Shade Strength since a canopy tree is present. *Cornus florida*'s Shade Strength is 10 (8 Base + 2 Broad Leaves). *Magnolia grandiflora*'s Shade Strength is 9 (7 Base + 2 Preferred).

**[3d]** P2 spends 1 Sol remaining from previous turn to play *Hyper cambium* as a temporary mutation & boosts *Magnolia grandiflora*'s Shade Strength to 10.

**[4b]** Play *Juniperus virginiana* as a permanent mutation.

Lingering Surface fire prevents P1 from growing either tree into the canopy.

1. 1 Sol to Place *Stratus* cloud into the habitat. *Stratus* replaces the existing *Cumulus congestus* cloud which is discarded by P1.
  2. 1 Sol to Attach *Deep Taproot* to *Juniperus virginiana* as a permanent mutation
  - 3a. 2 Sols to Plant *Cornus florida*.
  - 3b. 1 Sol to Attach *Broad Leaves* to *Cornus florida* as a permanent mutation
  - 3c. P1 chooses to initiate combat between *Cornus florida* and *Magnolia grandiflora*. Compare Shade Strength since a canopy tree is present. *Cornus florida*'s Shade Strength is 10 (8 Base + 2 Broad Leaves). *Magnolia grandiflora*'s Shade Strength is 9 (7 Base + 2 Preferred).
  - 3d. P2 spends 1 Sol remaining from previous turn to play *Hyper cambium* as a temporary mutation & boosts *Magnolia grandiflora*'s Shade Strength to 10.
  - 4a. Release *Procyon lotor* critter to use Steal ability.
  - 4b. P2 Releases *Ursus americanus* to Eat *Procyon lotor*. P2 drops critter card & it lands **face down**. Eating attempt is unsuccessful. P2 discards *Ursus americanus*.
  - 4a(cont.) P1 spends 1 Sol to use Steal ability. P1 views 4 cards from P2's Command & selects 3 for discard. P1 discards *Procyon lotor*.
- P1 Draws 5 cards to fill Command**  
**P2 Draws 5 cards to fill Command**  
**\*\*\*END PLAYER 1 TURN\*\*\***

1. During his Mobilization Phase, P2 Removes the lingering Surface Fire & discards it to a Litter Pile.
  - 2a. 2 Sols to Plant *Carpinus caroliniana*.
  - 2b. P2 **must initiate** combat (4 trees now in Understory) & chooses to attack *Fagus grandifolia*. Compare Shade Strength since a canopy tree is present. *Carpinus caroliniana*'s Shade Strength is 9 (9 Base). *Fagus grandifolia*'s Shade Strength is also 9 (9 Base).
  - 2c. P2 spends 1 Sol to play *Smart Stoma* as a temporary mutation & boosts *Carpinus caroliniana*'s Shade Strength to 10. 3 Sol Max in habitat.
  - 2d. P1 releases *Tamias striatus* critter & uses Hyper-Action ability to gain 1 Sol.
  - 2e. P1 spends the 1 Sol gained to play *Extra Thick Bark* as a temporary mutation & **boosts** *Fagus grandifolia*'s Shade Strength to 10.
- \*The Combat is a tie, but *Carpinus caroliniana* is defeated since it occupies the 4th Understory slot in the habitat.** *Smart Stoma*, *Extra Thick Bark* & *Tamias striatus* are also discarded.
3. Release *Sciurus carolinensis* to use Dig ability. P2 retrieves *Carpinus caroliniana* from the top of a litter pile & places it into Command. *Sciurus carolinensis* is discarded.
  4. 2 Sols to Plant *Carpinus caroliniana*. 0 Sols remain. P2 chooses not to initiate combat.

**P2 Draws 3 cards to fill Command**  
**P1 Draws 2 cards to fill Command**  
**\*\*\*END PLAYER 2 TURN\*\*\***

**[2d]** Discard *Surface Fire*.

**[1]** Removal of Lingering Disaster Not Shown

**[2e]** Play *Extra Thick Bark* as a temporary mutation & boosts *Fagus grandifolia*'s Shade Strength to 10.

**[2b]** Release *Sciurus carolinensis* to use Dig ability. P2 retrieves *Carpinus caroliniana* from the top of a litter pile & places it into Command. *Sciurus carolinensis* is discarded.

**[2a]** 2 Sols to Plant *Carpinus caroliniana*. 0 Sols remain. P2 chooses not to initiate combat.

**[2c]** P2 spends 1 Sol to play *Smart Stoma* as a temporary mutation & boosts *Carpinus caroliniana*'s Shade Strength to 10. 3 Sol Max in habitat.

**[4]** P1 releases *Tamias striatus* critter & uses Hyper-Action ability to gain 1 Sol.

## Turn 7 - Player 2

# Real World Applications

## Portable Outdoor Field Guide

The Mighty Trees cards are both small in size and full of information. This combination makes the cards perfect additions to any outdoor trip. Need a break, play a game!

## Tree Planting Guide

You can use the tree cards and this Guidebook to help identify native trees that can grow in your area. The process is simple. Just ask questions and sort cards. The 4 primary questions (as well as how to find the answers) are listed below (an example is provided on the next page):

- 1. Question: Where do I want to plant a tree?** Answer: Look outside and find a site to plant a tree.
- 2. Question: What is the climate for my site?** Answer: Determine the Temperature Value and Water Value for the site by referring to the Hardiness Zone Map (p.7) and Soil Moisture Guide (p.15), respectively.
- 3. Question: Which trees will grow on my site?** Answer: Select all of the trees with Water & Temperature Ranges that include the Values for your site (just like planting a tree in the game (p.28)).
- 4. Question: Which tree is the best for me?** Answer: Look over the information on each tree card to find the tree that best suits your needs. (ex: you want a fast growing windfirm tree=pick a tree with high sun & wind strengths : you want a small tree in the shade near your house = pick a tree with a high shade strength & short height).

## Cloud Identification

Each cloud card presents a photo and a description of a cloud formation. The cards are designed so that you can use them both as general reference cards and flash cards.

## Tree Planting Example

1. I want to plant a tree in southern Alabama on a shady site where the ground is almost always moist but only rarely has pools of water. The site is never waterlogged for very long. Hurricanes & strong winds may also be common.
2. Looking at the Hardiness Zone Map, I find that southern Alabama is in **Hardiness Zone 8**. Looking at the Soil Moisture Guide, the most appropriate **Water Value appears to be 8** (Site may be a 7 or 8, but I select 8 to be conservative and ensure I pick trees with at least Some Flood Tolerance).
3. I look through the 50 tree cards and eliminate 24 trees whose Temperature or Water range does not include 8.
4. I look through the 26 remaining trees and eliminate 10 with shade strengths less than 5 (may not grow well in shade).
5. I look through the 16 remaining trees and eliminate 6 with wind strengths less than 3 (susceptible to wind damage).
6. The 10 remaining trees are good candidates to plant on my site.
7. I look at the information on each tree card & decide I want to plant either *Ilex opaca* or *Magnolia virginiana*. I like that the trees are evergreen, don't grow to giant heights & tolerate Hardiness Zone 9 temperatures (less likely to die from heat wave in my area).
8. I choose *Ilex opaca* since it is carried by my local nursery.

Two other significant factors you may wish to consider when planting a tree are soil texture (compact clay, well-drained sand, etc.) and pH (acidic, neutral or alkaline soil). This information was not included on the tree cards on account of infrequent and contradictory reporting in the scientific literature reviewed.

You can use each tree's scientific name to look up additional information in books or on the web. You can also contact knowledgeable and friendly tree experts at your local nursery or agricultural extension office. Local experts may also be able to tell you which trees are most susceptible to local diseases and pests.

<http://mightytrees.weebly.com/>

Be sure to visit the Mighty Trees website.

### Acknowledgements

Mighty Trees would not have been possible without the existing body of research and literature created through the tireless efforts of scientists, environmentalists & other outdoor enthusiasts. The bibliography on the following page lists only the printed works that were most frequently referenced during the creation of Mighty Trees. If the game has sparked your interest in the science of nature, we strongly recommend giving some of these pieces a thorough reading (check out our web-site for links to some great on-line resources). Perhaps one day you too will contribute a few pages to the book of Science.

Web Site

### Mighty Trees Bibliography

#### Critters

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Bibliography

## Starting A Game

Seedling Stage (p.26)

Timber Stage (p.33)

Elder Stage (p.40)

Sol Laws (p.27)

6 Sols / Turn

3 Sols / Habitat

3 Sol Minimum

## Tree Legions

(no duplicate cards!)

4 Habitat Cards

24 Tree Cards

6 Weather Cards

(Trend & Cloud Cards)

4 Disaster Cards

4 Mutation Cards

4 Critter Cards

## Game Turn

### Mobilization Phase

Remove your Lingering Disasters (p.38)

Start with 6 Sols (p.27)

### Battle Phase

Plant Trees (p.28)\*

\* Permanent Mutation (p.42)

Initiate Tree Combat (p.30)\*

\*Temporary Mutations (p.43)

Grow Trees (p.32)

Discard/Remove Cards (p.27)

Place Weather (p.34)

Unleash Disasters (p.35)

Attach Permanent Mutations (p.42)

Release a Critter (p.43)

### Regroup Phase

Draw cards from your nursery until 6 cards are in your Command.

Opponent draws cards from nursery until 6 cards in Command.

### Opponent's Turn (Battle Phase)

Release Critters

Use Temporary Mutations

## Tree Combat

### Initiating

3rd Tree - may initiate

4th Tree - must initiate

### Shade vs. Sun

Sun - no canopy trees

Shade - canopy trees

### Total

### Growth Strength

Base Strength

+2 Preferred Species

+ Permanent mutations

+ Temporary mutations

## Power Symbols (p.39)



Flood disasters



Steep terrain disasters



Fire disasters



Sun Tree Combat



Shrub trees grow for 3 Sols