PHYLO: The Trading Card Game celebrates ecosystems in all their awesomeness. It showcases the many wonderful, weird, and wacky species that live on our planet Earth. It also deals with some serious threats to ecosystems like wildfires, oil spills, and climate change.

ECOSYSTEMS are communities of species who interact with one another and interact with a common environment. An environment is defined by its TERRAIN and CLIMATE. When many different species make up a particular ecosystem, we say that the ecosystem is rich in BIODIVERSITY. Biodiversity is a good thing because it makes ecosystems more stable and resilient to threats.

The PHYLO Ecosystem Game allows players to use their PHYLO cards to build food chains, create stable ecosystems, sabotage opponents’ ecosystems, and rack up points in the process. The game is flexible, and we encourage you to modify and play by your own house rules. For detailed rules, more gameplay options, and hundreds of free printable PHYLO cards, check out our website at www.phylogame.org.

**THIS IS A PHYLO CARD!**

1. COMMON NAME: the simple, everyday name for a particular species.
2. LATIN NAME: the scientific name for a species, often used in research.
3. POINTS VALUE: the number of points that the card is worth.
4. CARD TEXT: may provide additional information on how the card can be played, along with a cool fact about the species.
5. LEGAL STUFF: PHYLO cards are licensed under Creative Commons Attribution-NonCommercial-NoDerivs 2.0 Generic. This means that anyone can share, copy, and freely distribute the cards, so long as credit goes to the artists and the card images aren’t used to these rules belong only to the artists and to the deck’s official host.
6. ARTIST INFORMATION: this tells you who did the artwork on the card and where you can find more of their work.
7. SCALE: the size of the species. Carnivores and meat-eating omnivores may only eat species of equal or lesser scale. Herbivores and plant-eating omnivores may eat species of any scale. Full details about species’ scale value can be found at phylogame.org/glossary
8. FOODCHAIN#: the species’ relative position in its food web. Autotrophs such as photosynthetic plants are always FOODCHAIN#1. Herbivores, omnivores and carnivores will tend to have higher FOODCHAIN numbers, depending on where they fit in the food web.
9. DIET: the type of food a species eats. See colour legend above, but note that the black colour generally means you should read the card text for specific details.
10. CLASSIFICATION: how the organism is categorized scientifically. There are various ranks in this classification, and PHYLO cards display the three highest: Kingdom, Phylum/Division, and Class.
11. TERRAIN: the geographical and geological conditions of an organism’s habitat. Essentially, where the organism lives (see icons below). An organism may have multiple terrain preferences.
12. CLIMATE: the climate preference of the organism: cold, cool, warm, or hot. An organism may have multiple climate preferences.
THE PHYLOMON ECOSYSTEM GAME!

**Age:** 8 years old and up.

**Game Duration:** Approximately 20-30 minutes

**Number of players:** 2

**Deck Requirements:** Each player will need a deck of about 20 to 25 cards, which should include one HOME card each, as well as a mixture of SPECIES and EVENT cards. These decks you can build yourself, or you can use a “starter” deck such as the one you have bought (or one of several that you can download at phylogame.org). For these “starter” decks, you can take out the two HOME cards, and shuffle the rest between the two players.

**Quick Instructions:** Two players sit across from one another at a table. At the start of the game, each player places his or her HOME card on the table. HOME cards should be placed adjacent to one another, facing in opposite directions (see right). Each player’s remaining cards must be kept face-down in a pile (called the PICK-UP pile). Players should also reserve a spot on the table for their discarded cards (called the DISCARD pile).

Players draw 5 cards from their respective PICK-UP piles to form their hand. The PHYLO Ecosystem Game is played in turns, and players may play rock, paper, scissors, to determine who will go first.

On each turn, a player will draw 1 new card from their PICK UP pile and may take 3 of the following ACTIONS (any combination):

- **PLAY** a card from your hand onto the table (SPECIES or EVENT card - see Playing a Card).
- **DROP** one card from your hand into a DISCARD PILE and PICK UP three new cards.
- **MOVE** a SPECIES card (see Moving a Card).
- **PASSING** (essentially to end their turn).

**Playing a Card:** It is important that players continue to place their own cards on the table “facing them” (and opposite to their opponent). This allows players to keep track of their own cards. Note that players may play cards adjacent to both their own or their opponent’s cards.

SPECIES cards may only be placed next to cards which share at least one common CLIMATE and one common TERRAIN. Species which share a common CLIMATE and TERRAIN are said to be environmentally COMPATIBLE.

SPECIES cards must also be foodchain COMPATIBLE. FOODCHAIN#1 cards can be played anywhere, so long as they are placed in an environmentally COMPATIBLE manner. Note that any FOODCHAIN#1 card may be played adjacent to a HOME card.

In general, FOODCHAIN#2 cards (a herbivore for instance) must be placed adjacent to at least one FOODCHAIN#1 card. FOODCHAIN#3 cards which are carnivores (meat-eating, as indicated by a red circle) may be played next to at least one FOODCHAIN#2 prey of equal or smaller SCALE (i.e. it can’t eat something bigger than itself, unless specified in the card text). Omnivores (FOODCHAIN#3, brown circle) may be played next to SPECIES which are FOODCHAIN#2 (meat) or FOODCHAIN#1 (plant). It’s also a good idea to read the card text (especially if the diet is a black circle), as specific instructions regarding FOODCHAIN connections may be provided (i.e. the organism has exceptional diet needs).

EVENT cards may be played as directed by instructions on the card. Unless otherwise specified, EVENT cards take immediate effect, and are then removed from the table and placed in the DISCARD pile.

EVENT cards will often result in cards that are INCOMPATIBLE to all adjacent cards (i.e. no shared CLIMATE or TERRAINS, and no proper FOODCHAIN connection). If so, the affected player has only their next turn (i.e. next 3 ACTIONS) to react to an EVENT before any of these newly INCOMPATIBLE SPECIES cards are removed. These players may choose actions to play new cards that replenish broken food chains, and/or MOVE affected cards to COMPATIBLE areas on the table. Any cards that cannot be saved after this reaction turn must be placed in the DISCARD pile.

**Moving a Card:** MOVE# (located in the card text) indicates how many places a species may move per action. Species can be moved up, down, left, or right, and must be played in an open spot, adjacent to at least one other COMPATIBLE card on the table. Birds, insects, and other organisms that travel by FLIGHT may also move along a diagonal path. Like before with EVENT cards, any card made INCOMPATIBLE due to a MOVE is only discarded if the card is still INCOMPATIBLE after the affected player has been given his/her turn to react.

**Ending the Game:** When a player picks up his/her last card from their PICK-UP pile, then that player will finish his/her turn, and their opponent will then also play their one last turn. At that point, the game ends, UNLESS an EVENT card or a MOVE is played resulting in INCOMPATIBLE cards during that last turn – essentially, when this happens, the other player always has the right to react by getting one extra turn. In the end, players will then add up all points that remain on the table: player with the most points wins.

**Keywords:** Note that some cards will have special keywords. These can be ignored or played as described at the website’s glossary (phylogame.org/glossary). For instance, the INVASIVE keyword, allows a player to play a card directly on top of (and thereby discard) a similar SPECIES card.

**Optional Rule:** Sometimes, cards which are compatible in the game are not actually compatible in real life. This might be because, despite sharing compatible terrains and climates, species may actually live in different areas of the world. As well, some species may have highly specialized diets and eat only a limited selection of things in the wild.

Because of this, some players choose to include a CHALLENGE or “call your bluff” rule. With this rule, players may challenge strange or questionable SPECIES connections (just as one would challenge a misspelled word in Scrabble). We recommend using Wikipedia (www.wikipedia.org) or the Encyclopaedia of Life (www.eol.org) to verify real-world species compatibility.

The player that wins the “call your bluff” CHALLENGE may subsequently remove any card from the table with immediate consequences. For more gameplay options, check out our website at www.phylogame.org!
BEATY BIODIVERSITY DECK
STARTER DECK VERSION 3.0

Phylo  THE TRADING CARD GAME  BETA

THIS DOCUMENT INCLUDES 8 PAGES OF CARDS (48 PHYLO CARDS) AND 1 CARD BACK PAGE.

NOTE THAT CARD SIZE IS IDENTICAL TO THAT OF POKEMON CARDS (62 mm x 87 mm or 2 7/16 inches x 3 7/16 inches).

WE RECOMMEND PRINTING THESE CARDS, IN COLOUR, ON 65LB+ WHITE CARD STOCK.

USING CARD SLEEVE PROTECTORS (~64mm x 89mm) OR LAMINATING CARDS WILL ALSO GREATLY ENHANCE THE FEEL OF THE CARDS.

FOR MORE CARDS, GAME RULES, AND GENERAL INFORMATION ABOUT THE PHYLO PROJECT, PLEASE GO TO:

http://phylogame.org
Marbled Murrelet
Brachyramphus marmoratus
6 3
Animalia, Chordata, Aves
6 POINTS
Play: Brachyramphus marmoratus has a FLIGHT of 2
Fact: Unusual for a seabird, Brachyramphus marmoratus nests inland in old-growth forests.

Sea Otter
Enhydra lutris
7 3
Animalia, Chordata, Mammalia
8 POINTS
Play: Enhydra lutris has a MOVE of 2
Fact: Enhydra lutris have the densest fur in the animal kingdom, with nearly one million hairs per square inch.

Himalayan Blackberry
Rubus armeniacus
6 1
Plantae, Angiospermae, Rosidae
1 POINT
Play: Rubus armeniacus is an INVASIVE species of Plantae cards of identical scale.
Fact: Rubus armeniacus is native to Armenia and northern Iran, but is now widespread across most of the temperate world.

Killer Whale
Orcinus orca
9 3
Animalia, Chordata, Mammalia
8 POINTS
Play: Orcinus orca has a MOVE of 2
Fact: Orcinus orca feed on fish, sea lions, seals, walruses and even large whales

Steller Sea Lion
Eumetopias jubatus
8 3
Animalia, Chordata, Mammalia
8 POINTS
Play: Eumetopias jubatus has a MOVE of 2
Fact: Eumetopias jubatus feed on a variety of fish, squid and octopus, and sometimes even other seals.
**Giant Kelp**

*Species: Macrocystis pyrifera*

**Fact:** Macrocystis pyrifera is one of the fastest-growing organisms on Earth, growing more than 60 centimetres per day.

**3 POINTS**

Graphic by Lindsay Chetek

[www.lindsaychetek.com](http://www.lindsaychetek.com/)

Cool, Warm

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**Oil Spill**

*Event Card*

**Play:** Place this card on any ocean or fresh water based SPECIES card

**Effect:** The SPECIES card is IMMEDIATELY discarded.

**Cold, Cool, Warm, Hot**

Graphic by Kyu Hwang

[www.kyuhwang.com](http://www.kyuhwang.com/)

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**Species Protection**

*Event Card*

**Play:** You can play this card immediately after your opponent has played an EVENT card on one of your SPECIES.

**Effect:** Negates the effect of the EVENT card. Does not work on EVENT cards that are not played specifically on top of SPECIES.

**Cold, Cool, Warm, Hot**

Graphic by Brandy Marsh

[www.brandymarch.com](http://www.brandymarch.com/)

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**Wildfire!**

*Event Card*

**Play:** Place on top of any SPECIES card of Grassland or Forest TERRAIN

**Effect:** The species card beneath the Wildfire is IMMEDIATELY discarded.

**Cold, Cool, Warm, Hot**

Graphic by Alexandra Noonan

[alexnoonan.com](http://alexnoonan.com/)

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**Habitat Loss**

*Event Card*

**Play:** Place this card on any SPECIES card and change it’s habitat to URBAN permanently

**Effect:** This SPECIES card must be IMMEDIATELY removed. You may leave this card on the table to show this place is now URBAN terrain.

**Cold, Cool, Warm, Hot**

Graphic by Kyle McQueen

[kylemcqueen.net](http://kylemcqueen.net/)

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**Phytoplankton**

*Class: Bacillariophyceae*

**Play:** Symbiodinium spp has a MOVE of 1, and is often eaten by KRILL SPECIES.

**Fact:** Symbiodinium spp are also crucially dependent on minerals.

**Cold, Cool, Warm**

Graphic by Kyu Hwang

[www.kyuhwang.com](http://www.kyuhwang.com/)
Zooplankton: Copepoda subclass

Play: Copepoda has a MOVE of 2. Can also feed on ZOOPANKTON SPECIES.
Fact: Copepoda are primarily transported by ambient water currents.

Giant Kelp: Macrocystis pyrifera

Fact: Macrocystis pyrifera is one of the fastest-growing organisms on Earth, growing more than 60 centimetres per day.

Dragonfly: Anisoptera infraorder

Play: Anisoptera has a FLIGHT of 2
Fact: Anisoptera are some of the fastest insects in the world.

Sockeye Salmon: Oncorhynchus nerka

Play: Oncorhynchus nerka has a MOVE of 2. Can also feed on ZOOPANKTON SPECIES.
FACT: The young fish, known as fry, spend up to three years in the freshwater lake before migrating to the ocean.

Clark’s Nutcracker: Nucifraga columbiana

Play: Nucifraga columbiana has a flight of 2
Fact: Nucifraga columbiana eat a wide range of insect prey, berries and other fruits, small mammals and flesh from carcasses.

Oil Spill: Event Card

Play: Place this card on any ocean or fresh water based SPECIES card
Effect: The SPECIES card is IMMEDIATELY discarded.
European Honey Bee
Apis mellifera

- **Animalia**, *Arthropoda*, *Insecta*
- **Play:** Apis mellifera has a FLIGHT of 2 and is considered a POLLINATOR.
- **Fact:** Apis mellifera collect nectar and pollen to feed on, pollinating flowers in the process.

Moss Mite
Oribatida order

- **Animalia**, *Arachnida*, *Arthropod*
- **Play:** Oribatida has a MOVE of 1.
- **Fact:** Oribatid mites help to enrich soil by breaking down organic matter.

Whitebark Pine
Pinus albicaulis

- **Plantae**, *Pinophyta*, *Pinopsida*
- **Fact:** Pinus albicaulis may grow more than 20 meters in height if in favorable conditions.

Wildfire!
Event Card

- **Animalia**, *Arthropoda*
- **Play:** Place on top of any SPECIES card of Grassland or Forest TERRAIN
- **Effect:** The species card beneath the Wildfire is IMMEDIATELY discarded.

Black Bear
Ursus americanus

- **Animalia**, *Chordata*, *Mammalia*
- **Play:** Ursus americanus has a MOVE of 2
- **Fact:** Ursus americanus are omnivores and their diets vary greatly depending on season and location

Human
Homo sapiens

- **Animalia**, *Chordata*, *Mammalia*
- **Play:** Homo sapiens has a MOVE of 2. Although an omnivore, this card can only be played next to a SPECIES CARD that represents food that humans would actually eat.
- **Home:** Sapiens may be played on any terrain

Graphic by Kyle McQueen
kylemcqueen.net/

Graphic by Victoria Heryet
victoriaheryet.com/

Graphic by Alexandrov Naonakis
alexneonakis.com/

Graphic by Lindsay Chetek
www.lindsaychetek.com/
Himalayan Blackberry
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1 POINT
Play: Rubus armeniacus is an INVASIVE species of Plantae cards of identical scale.
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Species Protection
Event Card

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Species Protection
Event Card

European Honey Bee
Apis mellifera

2 POINTS
Play: Apis mellifera has a FLIGHT of 2 and is considered a POLLINATOR.
Fact: Apis mellifera collect nectar and pollen to feed on, pollinating flowers in the process.

Wildfire!
Event Card

Play: Place on top of any SPECIES card of Grassland or Forest TERRAIN
Effect: The species card beneath the Wildfire is IMMEDIATELY discarded.

Wildfire!
Event Card

Oil Spill
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