

Interdependent Relationships in Ecosystems & Theater

THEME	CONTENT	ART
Who Are We?	SCIENCE MS-LS2-2	THEATER Th:Cr1.1.6

KEY VOCABULARY

Ecosystem Predator
 Producer Prey
 Consumer Scavenger
 Decomposer Symbiosis
 Mutualism Parasitism
 Commensalism

PACING: 2-3 DAYS

ASSESSMENT (Summative):

Interdependent Relationships Performance

ELEMENTS OF THEATER:

Space
 Action

MATERIALS LIST

- Video: [Understanding Ecosystems](#)
- [John D. Dawson's Postage Stamps](#)
- Construction paper & markers
- Items from within your classroom that can be used as props or scenery (ie: a chair could be a boulder.)

LESSON OBJECTIVE

Students will be able to explain and predict interaction patterns in ecosystems through drama performance.

ESSENTIAL QUESTION

How can we use drama to explain and predict patterns in the interactions of organisms in a variety of ecosystems?

21st CENTURY SKILLS:

- ✓ Critical Thinking ✓ Creative Thinking ✓ Collaborating □ Initiative
- ✓ Communicating □ Media Literacy □ Informational Literacy
- Tech Literacy □ Flexibility ✓ Social Skills
- Leadership □ Productivity

CONTENT STANDARDS:

Science: MS-LS2-2

Construct an explanation that predicts patterns of interactions among organisms in a variety of ecosystems.

ARTS STANDARDS:

Theater: Th:Cr1.1.6a

Explore a scripted or improvised character by imagining the given circumstances in a drama/theatre work.

WARM-UP OPTIONS (10 MIN)

Suggested: I'm A Bird

- 33- Crazy 8s
- 34- Finding Our Voices
- 35- Guided Improv

- 36- I'm a Bird
- 37- Memory
- 38- Mrs. Mumble

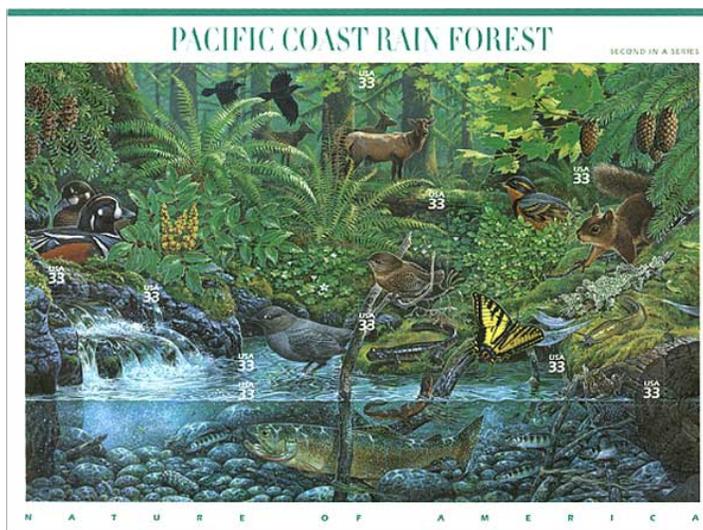
- 39- Pedestrians
- 40- Pepperoni

LESSON OVERVIEW

Ecosystems are made up of living and nonliving things that live in the same area. Producers make their own food. Consumers eat other organisms. Decomposers break down animal waste, dead plants and dead animals. Predators feed on living animals (the prey). A scavenger eats the remains of dead animals.

The interdependent relationships among these organisms have an impact on each of them in predictable patterns. In symbiosis, one or both organisms benefit from the relationship. In parasitism, only one organism benefits. The other is harmed by the relationship. During mutualism, both organisms benefit. Finally, in commensalism one organism benefits by the relationship while the other is not harmed or helped.

ENGAGEMENT



ACTIVITY 1

Share [this image](#) with students.

Guiding questions:

- What do you see?
- What organisms do you see??
- What do you think has happened?
- What may happen next?
- Where is this?

ARTFUL THINKING ROUTINE

See, Think, Wonder Routine. Have students analyze [another of John D. Dawson's postage stamps](#).

- Brainstorm a list of three questions you have about the artwork. Use these question starts to help you think of interesting questions:
- Why...? What are the reasons...? What if...? What is the purpose of...?
- Reflect: What new ideas do you have about the artwork?

Artful Thinking by Project Zero is licensed under a Creative Commons AttributionNonCommercial 4.0 International License. Routine found here: <http://pzartfulthinking.org/>

STEP 1

Understanding Ecosystems

Show the video [Understanding Ecosystems for Kids: Producers, Consumers, Decomposers](#). Hand out the *Notes Resource* for students to use while they are watching the video. They should add information to their notes using words, pictures or both as they watch the video. When the video is finished review the information with students. They can share some of their doodles at this time. Hand out the *Vocabulary Resource* and make sure students have a solid understanding of the vocabulary words by reviewing them as a class.

Students need to have a firm understanding of the words: ecosystem, producer, consumer, decomposer, predator, prey, scavenger and the types of relationships these words have for the main lesson activity.

STEP 2

Research An Ecosystem

Break students into groups and assign each group a specific ecosystem. Computers and laptops should be made available to students so that students can look up information on their ecosystem. Provide them with some guiding questions such as:

- What is the environment like?
- What organisms live here?
- How do they interact?
- What happens as a result of their interactions?

Teacher-to-Teacher

This lesson can be shortened or lengthened depending on student needs and ability levels. If computers or laptops are not available they could take some out of the library or be given some pre-printed packets to use.

STEP 3

Understanding Elements of Theater

Present an overview of the elements of [theater, space, time, imitation, action and language](#). Discuss all the elements and be sure the students understand how they each aid in putting on a quality theater performance. Demonstrate the elements of space and action, which the students will need to focus on for their performance. A Resource Page is included in the lesson attachments to further assist students understanding of the elements of Theater. You might also choose to display the resource page in the classroom. Be sure that students have it as a reference for the main activity.

MAIN ACTIVITY/PROJECT

Instruct students to create and perform a short drama presentation (about 7-10 minutes), demonstrating the patterns formed through the interactions of the organisms living in their assigned ecosystem. Students should be placed into groups of 5-6 students. They will use the information they gathered during the research activity to create their skit. Students must explore the character they are portraying using the elements of space and action. How does the organism they are representing move about an area? How does it interact with other organisms. Students will construct an explanation for the predictable patterns created by these interactions.

ESTIMATED TIME: 45 minutes (15 for writing, 30 for performances)

CLOSURE

Reflection

Foster a student discussion comparing the different ecosystems presented and the organisms they portray.

Some questions for discussion include:

- How are the ecosystems different? How are they similar?
- How did each group use space/action to develop their ideas in their skit?
- What do you think your group/another group might do to improve their skit so that their explanation may be better understood?

TEACHER ASSESSMENT

THEME	CONTENT	ART
Who Are We?	SCIENCE MS-LS2-2	THEATER Th:Cr1.1.6

	3	2	1	0
Development/ clarity of the explanation predicting patterns of interactions among organisms created in group skit.	All interactions among organisms presented are accurate and predict a very clear pattern. It was easy to see which characters represented which organisms.	Interactions among most organisms are presented accurately and predict a clear pattern. It was easy to see where most characters represented most of the organisms.	Interactions among organisms are present but are not accurate. There is little evidence of a clear pattern predicted. It was unclear which characters represented which organisms.	There are no interactions demonstrated with no evidence of a pattern explained. None of the characters represented which characters. Or no skit was performed.
Group teamwork	Student participated in developing and performing the skit taking on a leadership role with peers. Student helped the group create a good explanation of interactions of organisms and participated with a positive attitude.	Student participated in developing and performing the skit. Student helped to create an explanation of interactions and participated with a positive attitude while working with members of the group.	Student participated minimally in developing and/or performing the skit needing prompting to do so.	Student did not interact with the group or did not participate at all.
Use of theater elements of space and action to explore the character/ organism being portrayed.	Student made good use of space and action when performing to portray a believable organism and its interactions in a clear and unmistakable manner.	Student used the space and action to help create a believable character and demonstrate its interactions with others.	Student attempts to use space and action to help create a character but it is unclear and inconsistent.	Student makes no attempt to use space and action or does not participate.

STUDENT ASSESSMENT

Interdependent Relationships Skit

Name: _____

Date: _____

Period: _____

Use the information you have learned and your research on your assigned ecosystem to create and perform a seven minute skit with your group explaining the predictable patterns of the interactions of the organisms in that ecosystem. Be sure to use the Theater Elements of space and action to help you explore your characters. Please use the rubric below to help your group be successful.

	3	2	1	0
Development/clarity of the explanation predicting patterns of interactions among organisms created in group skit.	All interactions among organisms presented are accurate and predict a very clear pattern using a lot of attention to detail. It was easy to see which characters represented which organisms.	Interactions among most organisms are presented accurately and predict a clear pattern. There is some attention to detail. It was easy to see which characters represented most of the organisms.	Interactions among organisms are present but are not accurate. There is little evidence of a clear pattern predicted. It was unclear which characters represented which organisms.	There are no interactions demonstrated with no evidence of a pattern explained. None of the characters represented which characters. Or no skit was performed.
Group teamwork	I worked with my team to develop and act in our performance. I took on a leadership role among peers. I helped the group create an accurate explanation of interactions of organisms and I participated with a positive attitude.	I participated in developing and performing the skit. I helped to create an explanation of interactions and participated with a positive attitude while working with members of my group.	I participated minimally in developing and/or performing the skit and I needed prompting to do so.	I did not interact with the group or did not participate at all.
Use of theater elements of space and action to explore the character/ organism being portrayed.	I made good use of space and action while performing to portray a believable organism and its interactions in a clear and unmistakable manner.	I used the space and action to help create a believable character and demonstrate its interactions with others.	I attempted to use space and action to help create a character but I was unclear and inconsistent.	I made no attempt to use space and action or I did not participate.

Ecosystem Vocabulary Sheet

Interdependent Relationships in Ecosystems and Theater

Name: _____

Date: _____

Period: _____

Ecosystem - A group of organisms living and interacting with each other in a physical environment.

Producer - An organism that makes its own food.

Consumer - An organism that eats other organisms. It cannot produce its own food.

Decomposer - An organism that eats dead and decaying organisms.

Predator - An animal that feeds on other living organisms.

Prey - The animals that predators eat.

Scavenger - An animal that eats the remains of animals that have died.

Symbiosis - A relationship between two organisms of different species that benefits one or both of the organisms.

Parasitism - A symbiotic relationship in which one organism benefits and the other organism is harmed.

Mutualism - A symbiotic relationship that benefits both organisms involved.

Commensalism - A symbiotic relationship that benefits one organism and does not harm or help the other organism.

Understanding Ecosystem Note Page

Interdependent Relationships in Ecosystems and Theater

Name: _____

Date: _____

Period: _____

Something I would like to ask...

Something new I learned...

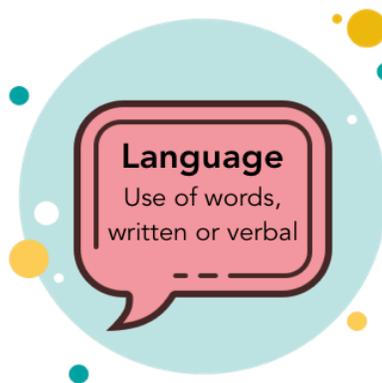
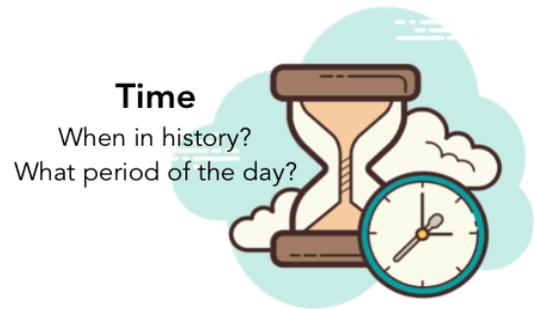
Ecosystems

Organisms I saw

Interesting facts

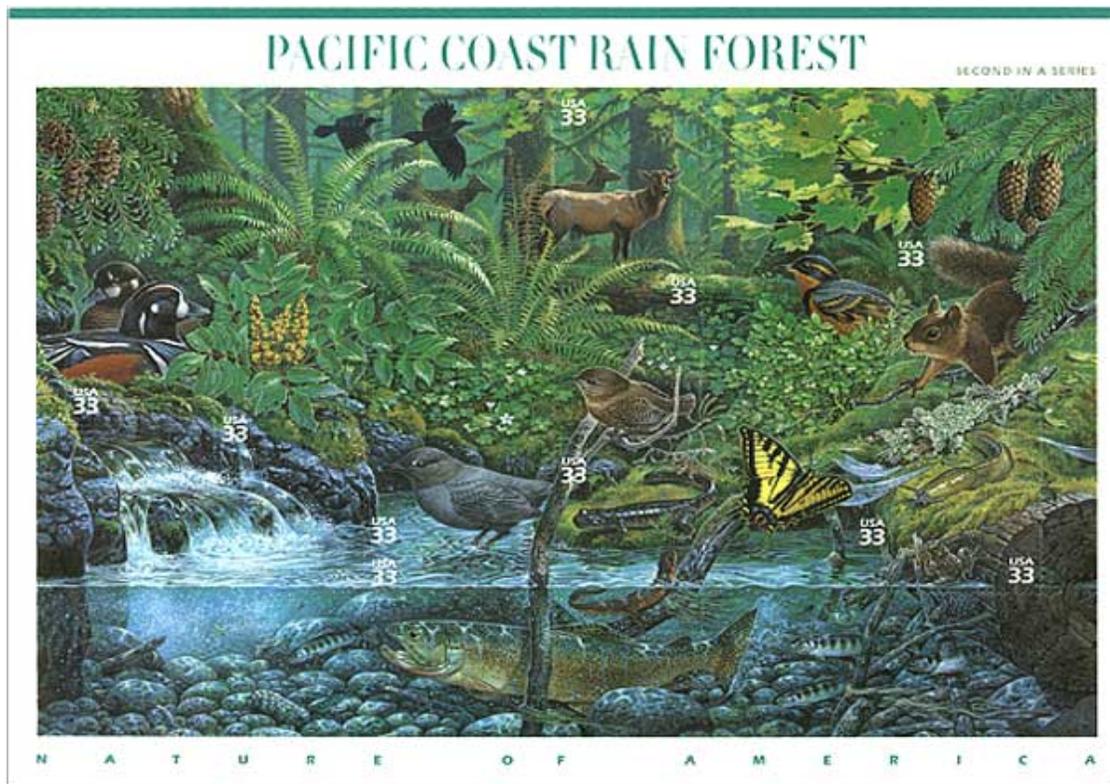
Elements of Theater

Interdependent Relationships in Ecosystems and Theater

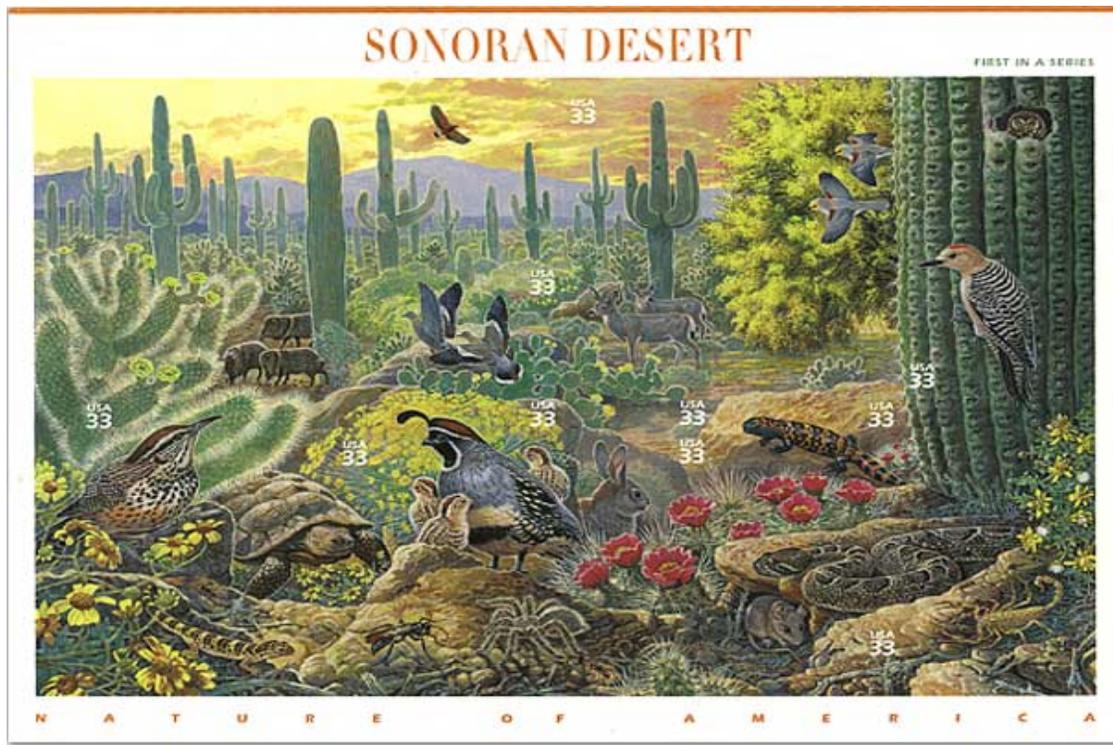


Visual Art Resources

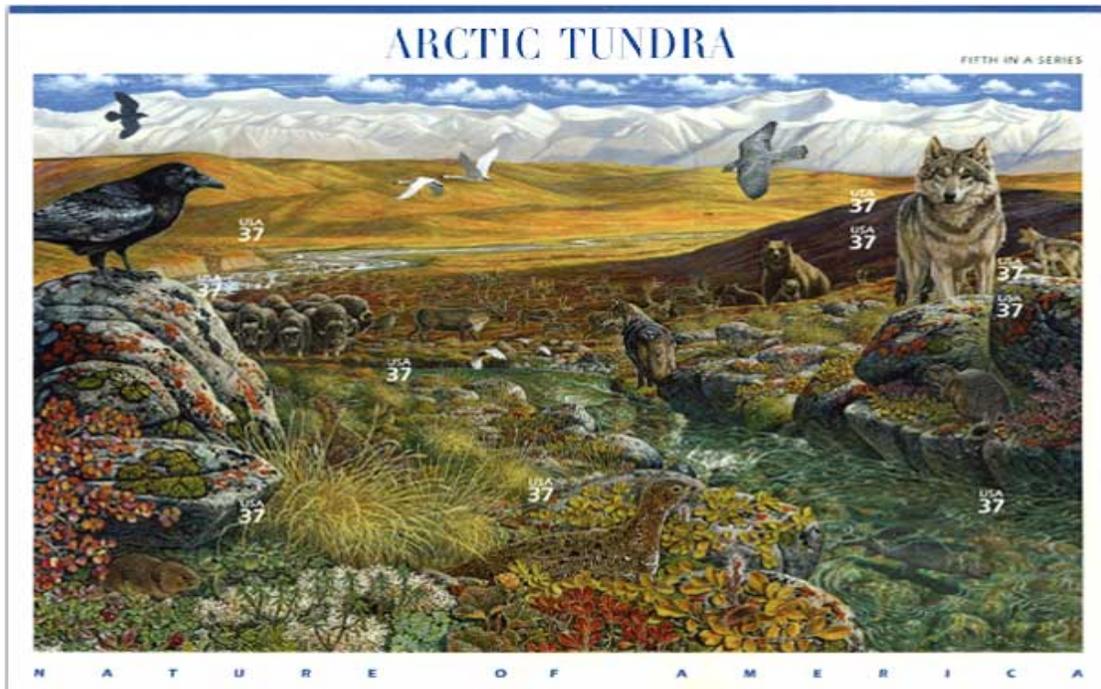
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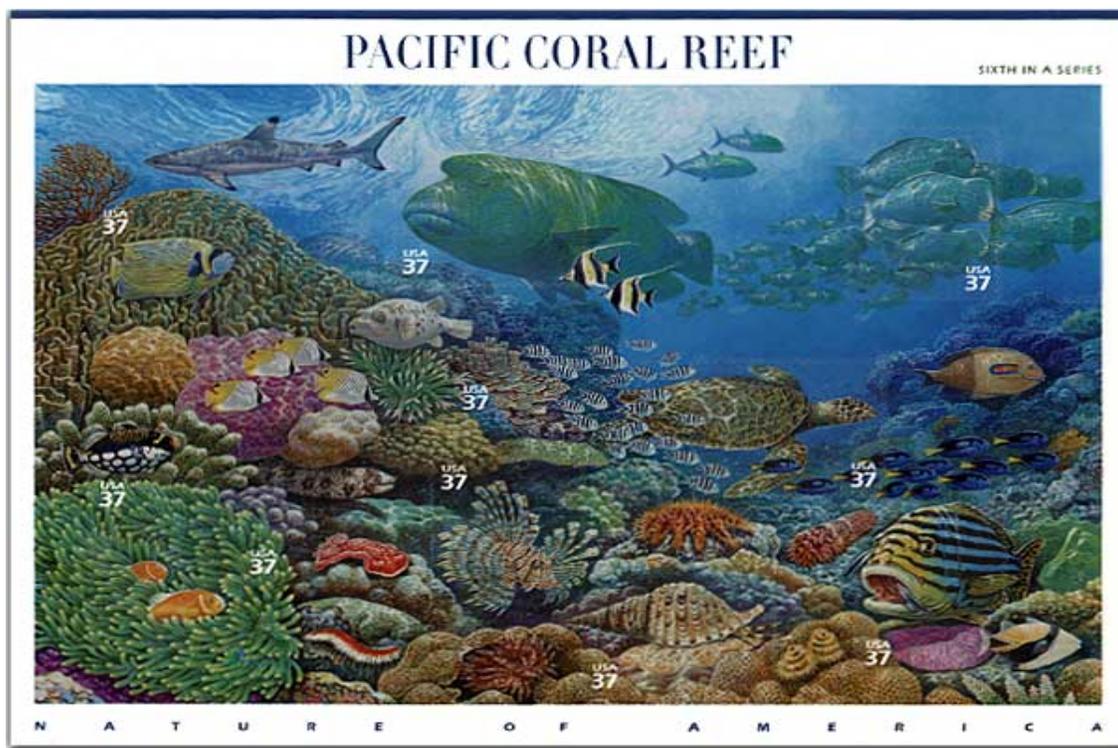
Pacific Coast Rain Forest, John D. Dawson, 2000, gouache on paper



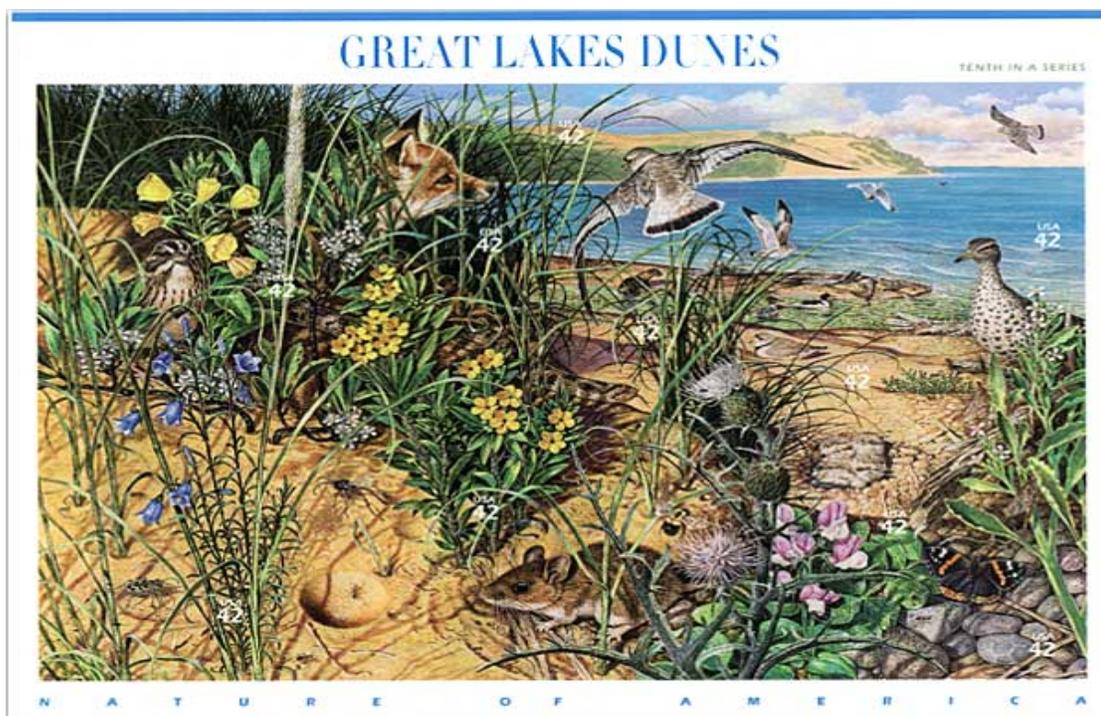
Sonoran Desert, John D. Dawson, 1999, gouache on paper



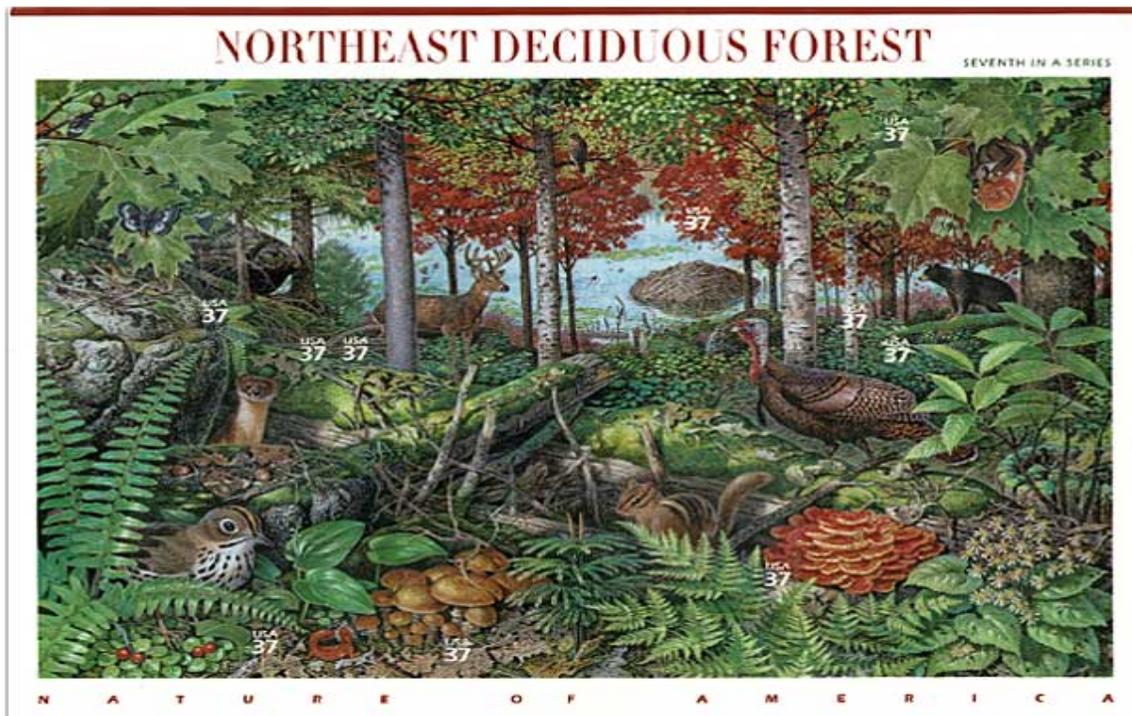
Arctic Tundra, John D. Dawson, 2003, gouache on paper



Pacific Coral Reef, John D. Dawson, 2004, gouache on paper



Great Lakes Dunes, John D. Dawson, 2008, gouache on paper



Northeast Deciduous Forest, John D. Dawson, 2005, gouache on paper

[More images can be found at John D. Dawson's Postage Stamps](#)