

# Marsh Metaphors

## Follow-Up Exercise



Name \_\_\_\_\_

Date \_\_\_\_\_

Make up a *Marsh Metaphors*-type clue that would make sense for each of the objects pictured below. Write each clue in the box below each picture.

For each of the wetland benefits below, come up with an object that you think would make a good metaphor for it (but one that is different from any of the objects above or that you used in class). Write or draw the object in the box above each clue, and explain why you think that object fits it.

<p>Wetlands help reduce storm damage in coastal areas by acting as a "buffer zone" between ocean and dry land.</p>	<p>Wetlands provide critical resting and feeding habitat for many of our migratory waterfowl and shorebirds in the United States.</p>	<p>Wetlands provide places for people to observe and learn more about plants, wildlife and the natural world.</p>

Use the back of this paper to write a letter to a politician, planner, or some other person aimed at trying to convince them of the importance of valuing and protecting our wetland resources.

# Marsh Model

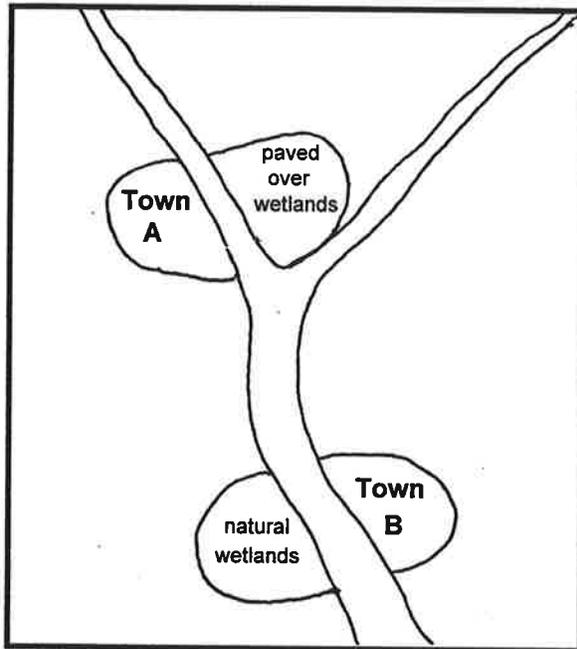
## Follow-Up Exercise\*



Name \_\_\_\_\_

Date \_\_\_\_\_

The map below shows two riverside towns. Most of the wetlands around Town A have been filled in or paved over for development. Town B has managed to maintain most of its surrounding wetlands in their natural state. Town B is located downstream from Town A. During a period of bad flooding, which town do you think will experience the most damage? Give reasons for your answer.



Circle the answer that is not correct:

- A) Wetlands can help reduce the damage done from floods and storms
- B) Wetlands make the water coming out of them cleaner and clearer looking.
- C) Wetlands can help keep well water supplies replenished in times of drought.
- D) Wetlands pollute underground water supplies by releasing pollutants into them.

Describe how the marshes located along the Delaware River and Estuary could help protect people living just inland from the Bay from the devastating effects of a severe hurricane.

\* These questions were adapted from the *Freshwater Marsh Habitat Pac*, © 1980, U.S. Fish and Wildlife Service

# Name that Wetland!

## Follow-Up Exercise



Name \_\_\_\_\_

Date \_\_\_\_\_

Write the letter code for the name of the wetland type in the blank next to the clue that best fits it.

**CD** = Cedar Swamps

**B** = Bogs

**CP** = Coastal Plain Ponds

**CY** = Cypress Swamps

**FM** = Freshwater Marshes

**IW** = Interdunal Wetlands

**HS** = Hardwood Swamps

**SM** = Salt Marshes

**SS** = Scrub-Shrub Wetlands

- \_\_\_\_\_ 1. These grass-dominated wetlands are the most abundant habitat type bordering the Delaware Estuary and Atlantic Coast.
- \_\_\_\_\_ 2. Blackened masses of fallen deciduous leaves on the forest floor help identify this type, which is the most common and abundant wetland type in the state.
- \_\_\_\_\_ 3. A mixture of tall evergreens and smaller deciduous trees and shrubs occur in this relatively rare, but ecologically important wetland type.
- \_\_\_\_\_ 4. Small in size, but many in number, these pools of water in the woodlands dry up in summer and fall, but provide important habitat to amphibians in spring.
- \_\_\_\_\_ 5. You might find these small depressional wetlands behind the dunes along selected Atlantic coastal beaches.

Your teacher is going to show you five pictures, each picturing one of the wetland types you learned about from the list above. Next to the number that goes with each picture, write the name of the wetland type you think it is, and your reasons for thinking so.

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_
3. \_\_\_\_\_  
\_\_\_\_\_
4. \_\_\_\_\_  
\_\_\_\_\_
5. \_\_\_\_\_  
\_\_\_\_\_

# Wetland IQ

## Follow-Up



Name \_\_\_\_\_

Date \_\_\_\_\_

Test your Wetland Wisdom by circling your choices for the best answer to each of the 10 questions.

1. About what portion of Delaware's land area today consists of wetlands?  
A) one-tenth                      B) one-fifth                      C) one-third                      D) one-half
2. *True or False?* Wetlands are defined as areas of land with water visible at the surface throughout the year.
3. Which of the following is not a characteristic that defines a wetland?  
A) soils that tend to hold water and drain slowly  
B) always located along a stream, river, bay or other water body  
C) soils that tend to be waterlogged in the root zone for much of the time  
D) the prevalence of plants that are adapted to living in waterlogged soil conditions.
4. The most abundant type of wetlands (by total acres covered) in Delaware today are:  
A) coastal tidal marshes                      B) coastal plain ponds  
C) forested wetlands                      D) Bald Cypress swamps
5. *True or False?* Conversion to farmland is the biggest cause of wetland loss today..
6. Which of the following statements comes closest to describing wetland loss in our nation?  
A) We have lost a lot of wetlands, but thanks to tough new laws, are no longer losing them.  
B) We have lost over half our wetlands, and are still losing thousands of acres every year.  
C) We have lost nearly all of our wetlands, but what remains is fairly well-protected.  
D) We never really had many wetlands, so losses today are hardly worth worrying about.
7. Swamps are distinguished from marshes mainly by:  
A) the amount of water found there                      B) the presence or absence of tidal flow  
C) their capacity for absorbing flood waters                      D) the kinds of plants growing there
8. *True or False?* Because of the water they hold, wetland soils tend to have lots of oxygen.
9. Which of the following statements about wetlands is untrue?  
A) They include some of the most productive ecosystems on the planet  
B) They help replenish groundwater supplies by holding on to water in times of drought.  
C) They can pollute nearby waters by releasing foul-smelling substances into the water.  
D) They provide homes to many rare, threatened and endangered plants and animals.
10. Which of these wetland types are we losing most rapidly in Delaware today?  
A) hardwood swamps                      B) bogs                      C) coastal marshes                      D) interdunal wetlands

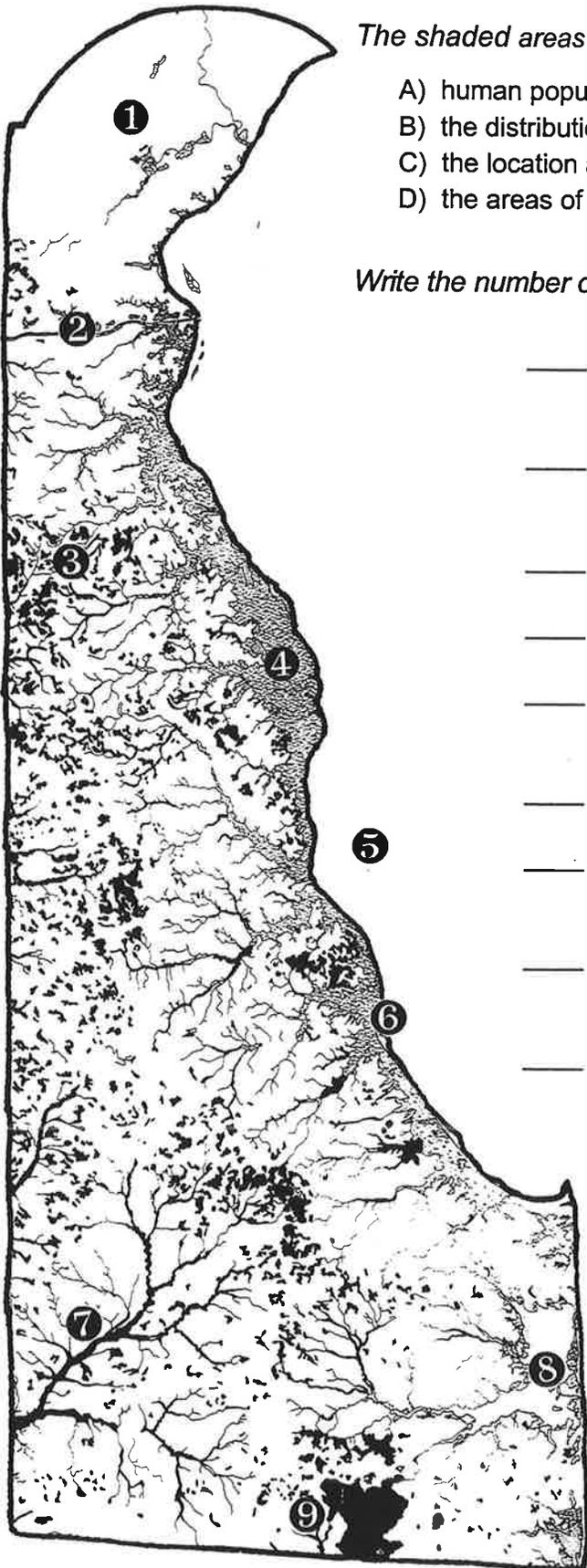
# WetQuest DE

## Follow-Up



Name \_\_\_\_\_

Date \_\_\_\_\_



The shaded areas on this map describe (circle the letter of the best choice):

- A) human population levels of communities in the state of Delaware.
- B) the distribution of endangered species on the Delmarva peninsula.
- C) the location and types of wetland habitats found in Delaware.
- D) the areas of land in Delaware that are protected from development.

Write the number of the map site that you think best fits each clue below.

- \_\_\_\_\_ provides spawning habitat for the largest population of horseshoe crabs on the planet
- \_\_\_\_\_ osprey are often sighted fishing the large, salty, pond-like waters of the Inland Bays area of the state
- \_\_\_\_\_ location of Delaware's largest area of Cypress swamp
- \_\_\_\_\_ "whale wallow" wetlands are concentrated in this area
- \_\_\_\_\_ represents a part of Delaware that is characterized by a more hilly topography
- \_\_\_\_\_ this area of is part of the Chesapeake Bay watershed
- \_\_\_\_\_ weakfish, flounder and other estuarine fishes provide for popular recreational fishing in this area of Delaware Bay
- \_\_\_\_\_ provides a "shortcut" for ships travelling between the Delaware and Chesapeake Bays
- \_\_\_\_\_ the salt marshes in this area are managed to provide prime viewing areas for migratory water birds

Locate another area/site on the map and label it **10**  
 Use the space below to write a paragraph that describes the habitat, animals and other neat stuff about that site.

# Wetland Cafeteria

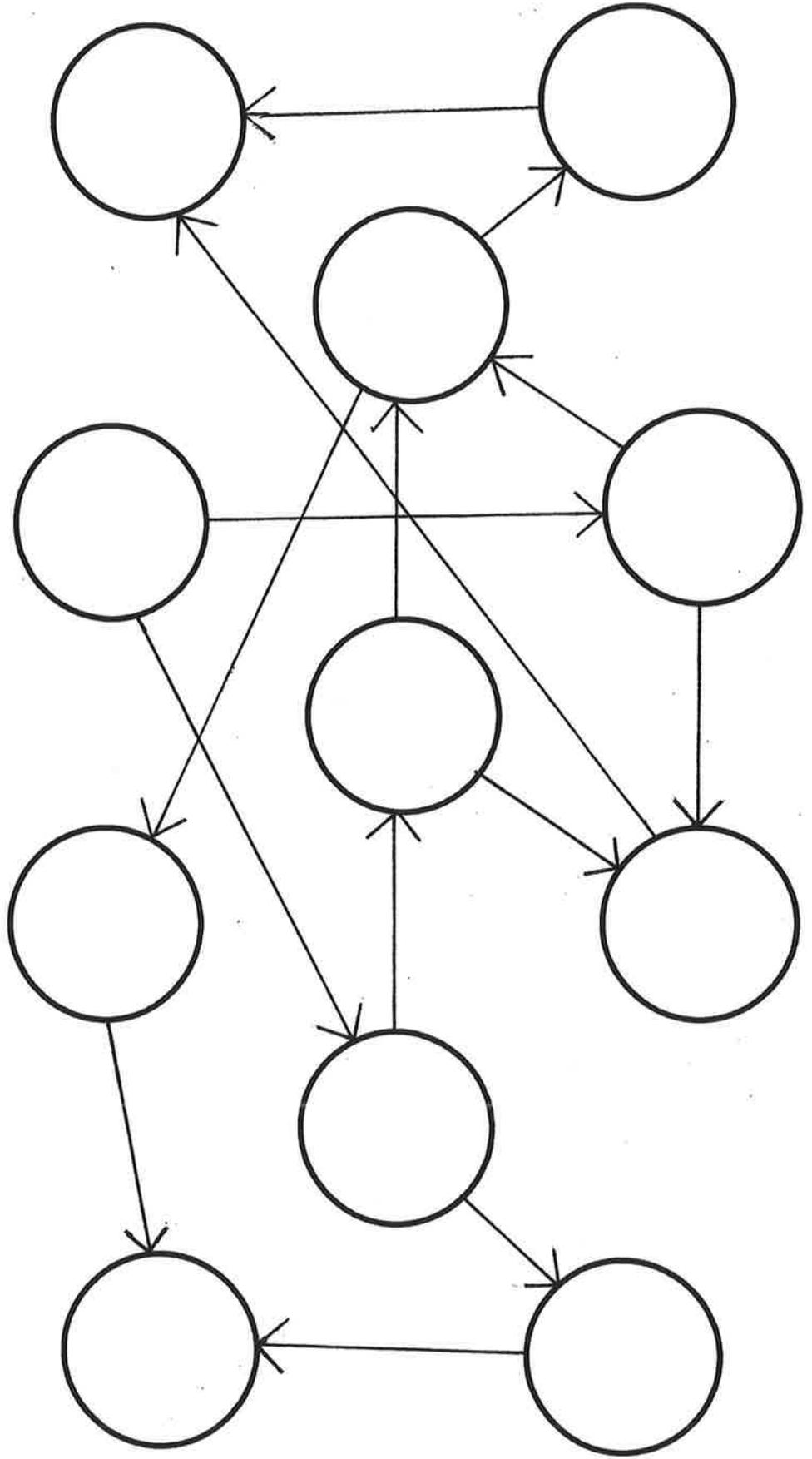
## Follow-Up Exercise



Name \_\_\_\_\_

Date \_\_\_\_\_

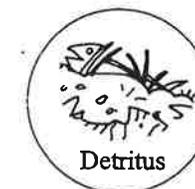
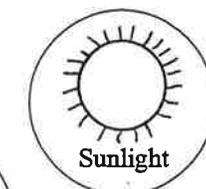
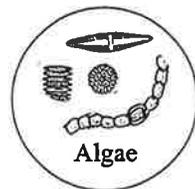
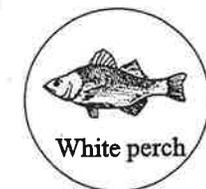
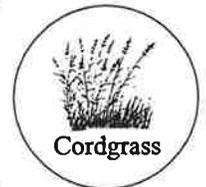
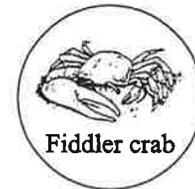
**Salt Marsh Detectives:** The circles in the drawing below represent pieces of a salt marsh food web. This is a two-fold challenge. First, using the page attached, write the number of each of the clues inside the drawing of the object or critter you think it matches. Then cut out each of the circled pieces and paste each into the place on the food web drawing below that you think it belongs. Please note that the direction of the arrow on the food web drawing shows the direction in which energy moves in the marsh system. For example if an arrow is drawn from object 1 and points to object 4, this means that object 4 gets its energy from using object 1.



## Wetland Cafeteria Follow-up Exercise - Clue Page

Write the number for each of the clues below inside the drawing of the object you think it best fits. When you have finished, turn back to the first page for instructions on what to do next.

1. This little fish is one of the most abundant fishes in our tidal streams and marshes, and a key food item for many larger marsh critters. It uses its small, upturned mouth to feed on mosquito larvae, grass shrimp and other small organisms in the water.
2. This long-legged creature can often be found wading knee-deep in marsh waters, where it waits patiently for a small fish or crab to catch for its dinner.
3. This decaying stuff, made up mostly of dead animals and plants (especially cordgrass) constitutes a major part of the food energy that passes through a salt marsh. *Hint:* because of its importance, this object should be placed at the center of your food web drawing.
4. This marsh-dwelling member of the rodent family gets most of its energy from plants such as cordgrass. It is in turn eaten by large birds of prey, or by humans, who trap it for its fur and meat.
5. These small swimming crustaceans feed on small particles of *detritus* and algae in the marsh system. They, in turn, provide a very important food source to small fishes feeding in the salt marsh.
6. The energy that makes green plants grow comes from this source. In that respect, all things that live in the marsh depend on this.
7. This small critter with the big front claw plays a key role in the salt marsh food scene. It dines mainly on algae and detritus in marsh mud, and is food for herons, egrets, rails and other wading birds.
8. This group of colorful plants, many of which are microscopic, is very good at taking energy from sunlight and converting it into growth that can be consumed by small animals living in the water.
9. This incredible critter occupies the top rung of the marsh food web, feeding on larger fishes and small mammals, such as the muskrat.
10. This fish is caught on rod & reel by many Delaware Bay fishermen, often using grass shrimp for bait. Fish-eating birds will eat it also.
11. This is the plant that has a strong influence on salt marsh ecology. It's rich green growth is consumed by some animals, while others get their energy from it when it dies back and becomes detritus.



# Build-a-Bird

## Follow-Up Exercise

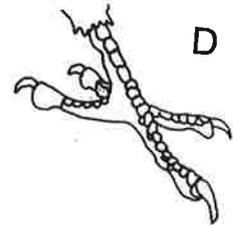
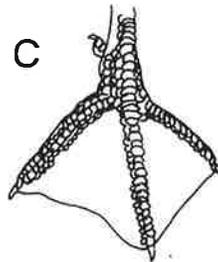
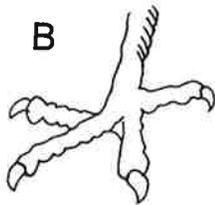
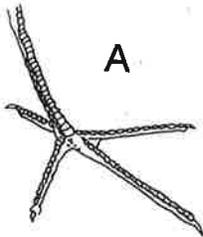


Name \_\_\_\_\_

Date \_\_\_\_\_

**Quite the feet!** Each of the clues below describes a legs/feet adaptation belonging to certain wetland birds. Match each clue provided with the letter of the "feet" drawing that you think fits it. For bonus points, write the name or names of the kinds of birds that have those kind of legs/feet.

- \_\_\_\_\_ 1. My wide, webbed feet are well-suited for swimming.
- \_\_\_\_\_ 2. My toes are long and well-spread for wading and walking on the mudflats.
- \_\_\_\_\_ 3. My toes are short, close and well-clawed for perching on branches and stalks.



**You do the clue!** Look at the bird bills pictured and think about what each can tell you about how and what the bird eats. In the box with the bill drawing, write the name of a bird or birds that you think has that type of bill. Then, in the "clue" box, make up a clue that describes the shape and other special features of that bill, including how you think the bill helps the bird in feeding.

Bird	Clue
	
	
	

**Design a Bird Challenge** Use the back of this page to design and draw your own imaginary bird. Be sure that the bill you give the bird is made to suit the special kind of food it eats. Be prepared to show your drawing to the class and describe how your imaginary bird is adapted to its environment.



# Marsh Metaphors

## Follow-Up Exercise



Name Answer Key

Date \_\_\_\_\_

Make up a *Marsh Metaphors*-type clue that would make sense for each of the objects pictured below. Write each clue in the box below each picture.

<p><i>Wetlands provide nursery habitat for the young of many animals; wetlands serve as great places for rest and relaxation; wetlands offer shelter/protection from rain, wind and storms.</i></p> <p><i>Answers will vary!</i></p>	<p><i>Wetland resources (timber, fish, etc.) can be harvested for money; wetlands save \$ by reducing flood damage &amp; improving water quality; wetlands are often developed for human use and profit.</i></p> <p><i>Answers will vary!</i></p>	<p><i>Wetlands can lock-up pollutants that would otherwise get into adjoining rivers, lakes &amp; bays; wetlands play a key role in natural systems and processes; wetlands should be protected!</i></p> <p><i>Answers will vary!</i></p>

For each of the wetland benefits below, come up with an object that you think would make a good metaphor for it (but one that is different from any of the objects above or that you used in class). Write or draw the object in the box above each clue, and explain why you think that object fits it.

<p><i>Rain gear/Boots</i> <i>Umbrella</i> <i>Wet suit of SCUBA diver</i></p> <p><i>Answers will vary!</i></p>	<p><i>RV/Camper</i> <i>Spa/Resort Hotel</i> <i>Fast Food restaurant</i></p> <p><i>Answers will vary!</i></p>	<p><i>Binoculars</i> <i>Books</i> <i>School</i></p> <p><i>Answers will vary!</i></p>
<p><i>Wetlands help reduce storm damage in coastal areas by acting as a "buffer zone" between ocean and dry land.</i></p>	<p><i>Wetlands provide critical resting and feeding habitat for many of our migratory waterfowl and shorebirds in the United States.</i></p>	<p><i>Wetlands provide places for people to observe and learn more about plants, wildlife and the natural world.</i></p>

Use the back of this paper to write a letter to a politician, planner, or some other person aimed at trying to convince them of the importance of valuing and protecting our wetland resources.

# Marsh Model

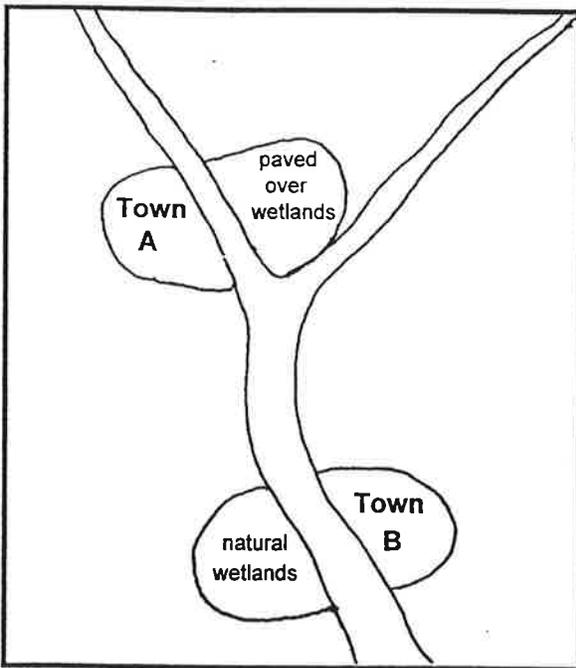
## Follow-Up Exercise\*



Name Answer Key

Date \_\_\_\_\_

The map below shows two riverside towns. Most of the wetlands around Town A have been filled in or paved over for development. Town B has managed to maintain most of its surrounding wetlands in their natural state. Town B is located downstream from Town A. During a period of bad flooding, which town do you think will experience the most damage? Give reasons for your answer.



*Even though Town B is doing the right thing by preserving its riverside wetland areas, it is likely to receive more damaging flood impacts. This is because the paved-over wetlands near Town A are no longer available to absorb flood water, resulting in greater volumes of water being released downstream where Town B sits.*

*Some students might argue that if there are more paved-over or filled wetlands upstream from Town A, they could experience as bad or worse flooding as Town B, but since that information is not provided, we can't be sure.*

*Town B's conservation practices will likely prove beneficial in reducing flooding for towns further downstream. This is a good place to introduce the aphorism: "We all live downstream".*

Circle the answer that is not correct:

- A) Wetlands can help reduce the damage done from floods and storms
- B) Wetlands make the water coming out of them cleaner and clearer looking.
- C) Wetlands can help keep well water supplies replenished in times of drought.
- D) Wetlands pollute underground water supplies by releasing pollutants into them.

*Unless overwhelmed with pollution loads to the point that they can't function, wetlands can help remove nutrients and other pollutants from the water passing through them.*

Describe how the marshes located along the Delaware River and Estuary could help protect people living just inland from the Bay from the devastating effects of a severe hurricane.

*Severe hurricanes bring high waters, heavy rains and strong winds. In areas where wetlands separate homes and businesses from the coastline, some of these high waters can be absorbed, and strong winds diminished, as they pass over and through the adjoining wetlands. When wetlands are filled in or paved over, these capacities are lost, and inland areas are hit with the full force of the storm impacts, resulting in much greater damage to people and property.*

\* These questions were adapted from the *Freshwater Marsh Habitat Pac*, © 1980, U.S. Fish and Wildlife Service

# Name that Wetland!

## Follow-Up Exercise



Name Answer Key

Date \_\_\_\_\_

Write the letter code for the name of the wetland type in the blank next to the clue that best fits it.

**CD** = Cedar Swamps

**B** = Bogs

**CP** = Coastal Plain Ponds

**CY** = Cypress Swamps

**FM** = Freshwater Marshes

**IW** = Interdunal Wetlands

**HS** = Hardwood Swamps

**SM** = Salt Marshes

**SS** = Scrub-Shrub Wetlands

- SM 1. These grass-dominated wetlands are the most abundant habitat type bordering the Delaware Estuary and Atlantic Coast.
- HS 2. Blackened masses of fallen deciduous leaves on the forest floor help identify this type, which is the most common and abundant wetland type in the state.
- CD 3. A mixture of tall evergreens and smaller deciduous trees and shrubs occur in this relatively rare, but ecologically important wetland type.
- CP 4. Small in size, but many in number, these pools of water in the woodlands dry up in summer and fall, but provide important habitat to amphibians in spring.
- IW 5. You might find these small depressional wetlands behind the dunes along selected Atlantic coastal beaches.

Your teacher is going to show you five pictures, each picturing one of the wetland types you learned about from the list above. Next to the number that goes with each picture, write the name of the wetland type you think it is, and your reasons for thinking so.

1. **Freshwater Marsh:** *the absence of trees and shrubs means that this is not a swamp. The variety of vegetation, especially broad-leaved type, identifies it as freshwater marsh.*
2. **Coastal Plain Pond:** *the small, pond-like depression that holds water temporarily, and the fact that it is surrounded by woodlands, are key elements in this identification.*
3. **Scrub-Shrub Wetland:** *the predominance of shrubby vegetation, along with the river/stream-side location, identifies this wetland habitat as a scrub-shrub type.*
4. **Hardwood Swamp:** *the predominance of trees identifies it as a swamp-type wetland. The deciduous (broad-leaved) nature of the trees identifies this as a hardwood swamp.*
5. **Salt Marsh:** *the absence of trees and shrubs means that this is not a swamp. The prevalence of grasses (giving it that "sea of grasses" look) identifies it as salt marsh.*

# Wetland IQ

## Follow-Up



Name Answer Key DE

Date \_\_\_\_\_

Test your Wetland Wisdom by circling your choices for the best answer to each of the 10 questions.

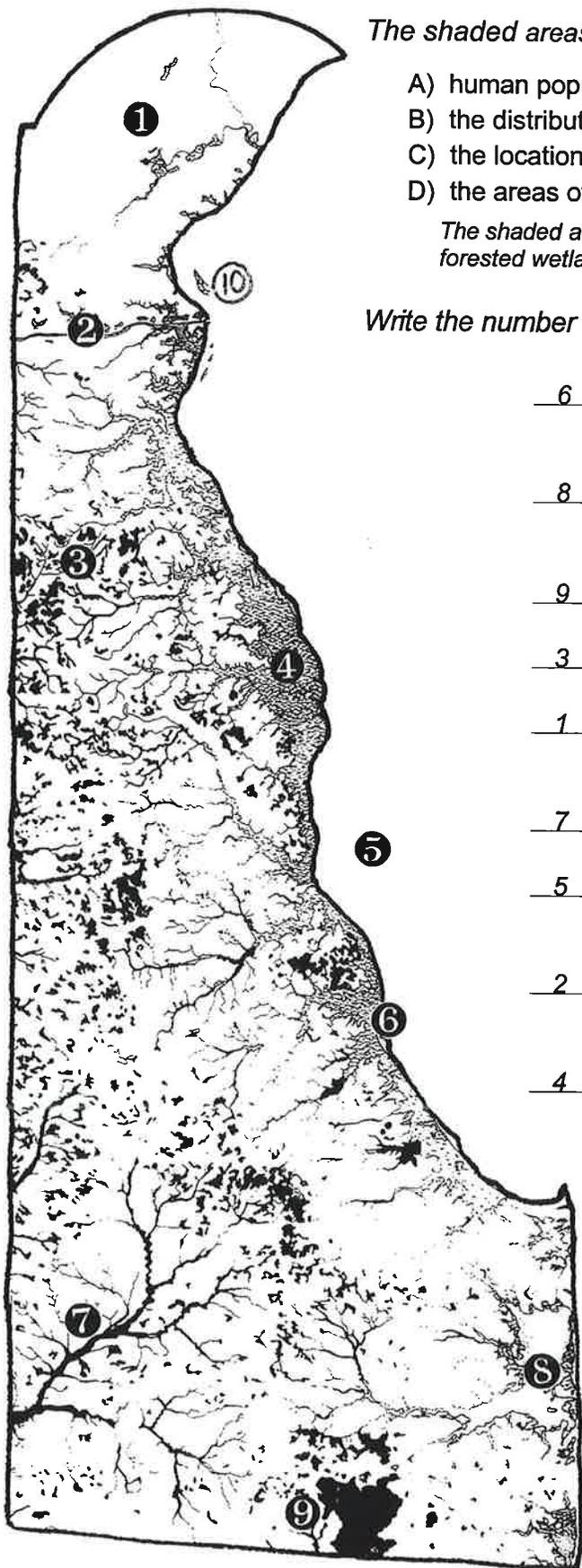
1. About what portion of Delaware's land area today consists of wetlands?  
*18% of Delaware's land area today is wetlands.*  
A) one-tenth                      B) one-fifth                      C) one-third                      D) one-half
2. *True or False?* Wetlands are defined as areas of land with water visible at the surface throughout the year. *The "throughout the year" part makes it false. Some wetlands may appear dry at the surface for spans of several years.*
3. Which of the following is not a characteristic that defines a wetland?  
*Though many wetlands are located near water bodies; there are kinds (e.g. Delmarva Bays) that are not.*  
A) soils that tend to hold water and drain slowly  
B) always located along a stream, river, bay or other water body  
C) soils that tend to be waterlogged in the root zone for much of the time  
D) the prevalence of plants that are adapted to living in waterlogged soil conditions.
4. The most abundant type of wetlands (by total acres covered) in Delaware today are:  
A) coastal tidal marshes (*2nd most abundant*)                      B) coastal plain ponds (*many in #, small in area*)  
C) forested wetlands (*58% of DE's wetlands*)                      D) Bald Cypress swamps (*only in Sussex*)
5. *True or False?* Conversion to farmland is the biggest cause of wetland loss today.  
*The "today" makes it false. In the past, this was so, but today residential development causes the most loss.*
6. Which of the following statements comes closest to describing wetland loss in our nation?  
*Over 500,00 acres of wetlands are still lost in the U.S. every year.*  
A) We have lost a lot of wetlands, but thanks to tough new laws, are no longer losing them.  
B) We have lost over half our wetlands, and are still losing thousands of acres every year.  
C) We have lost nearly all of our wetlands, but what remains is fairly well-protected.  
D) We never really had many wetlands, so losses today are hardly worth worrying about.
7. Swamps are distinguished from marshes mainly by:  
*Swamps are wetlands in which trees predominate; in marshes non-woody plants are dominant.*  
A) the amount of water found there                      B) the presence or absence of tidal flow  
C) their capacity for absorbing flood waters                      D) the kinds of plants growing there
8. *True or False?* Because of the water they hold, wetland soils tend to have lots of oxygen.  
*No again! Soils that are waterlogged have little or no space available for air.*
9. Which of the following statements about wetlands is untrue?  
*Actually, wetland plants help clean up some forms of pollution by absorbing nutrients and trapping sediments.*  
A) They include some of the most productive ecosystems on the planet  
B) They help replenish groundwater supplies by holding on to water in times of drought.  
C) They can pollute nearby waters by releasing foul-smelling substances into the water.  
D) They provide homes to many rare, threatened and endangered plants and animals.
10. Which of these wetland types are we losing most rapidly in Delaware today? *B & D rare in DE. Because they tend to be less wet, and are less protected, hardwood swamps are prone to development pressures.*  
A) hardwood swamps                      B) bogs                      C) coastal marshes                      D) interdunal wetlands

# WetQuest DE

## Follow-Up



Name Answer Key  
Date \_\_\_\_\_



The shaded areas on this map describe (circle the letter of the best choice):

- A) human population levels of communities in the state of Delaware.
- B) the distribution of endangered species on the Delmarva peninsula.
- C) the location and types of wetland habitats found in Delaware.
- D) the areas of land in Delaware that are protected from development.

The shaded areas represent wetland areas in Delaware. The black areas show forested wetlands (swamps). The other shaded areas are mostly marshes.

Write the number of the map site that you think best fits each clue below.

- 6 provides spawning habitat for the largest population of horseshoe crabs on the planet
- 8 osprey are often sighted fishing the large, salty, pond-like waters of the Inland Bays area of the state
- 9 location of Delaware's largest area of Cypress swamp
- 3 "whale wallow" wetlands are concentrated in this area
- 1 represents a part of Delaware that is characterized by a more hilly topography
- 7 this area of is part of the Chesapeake Bay watershed
- 5 weakfish, flounder and other estuarine fishes provide for popular recreational fishing in this area of Delaware Bay
- 2 provides a "shortcut" for ships travelling between the Delaware and Chesapeake Bays
- 4 the salt marshes in this area are managed to provide prime viewing areas for migratory water birds

Locate another area/site on the map and label it **10**  
Use the space below to write a paragraph that describes the habitat, animals and other neat stuff about that site.

*Pea Patch Island is one of Delaware's special spots! In addition to being the site of a Civil War Fort/prison, this small island on the Delaware River is the place where thousands of pairs of nesting herons, egrets and ibises come each spring to mate, nest and brood their young.*

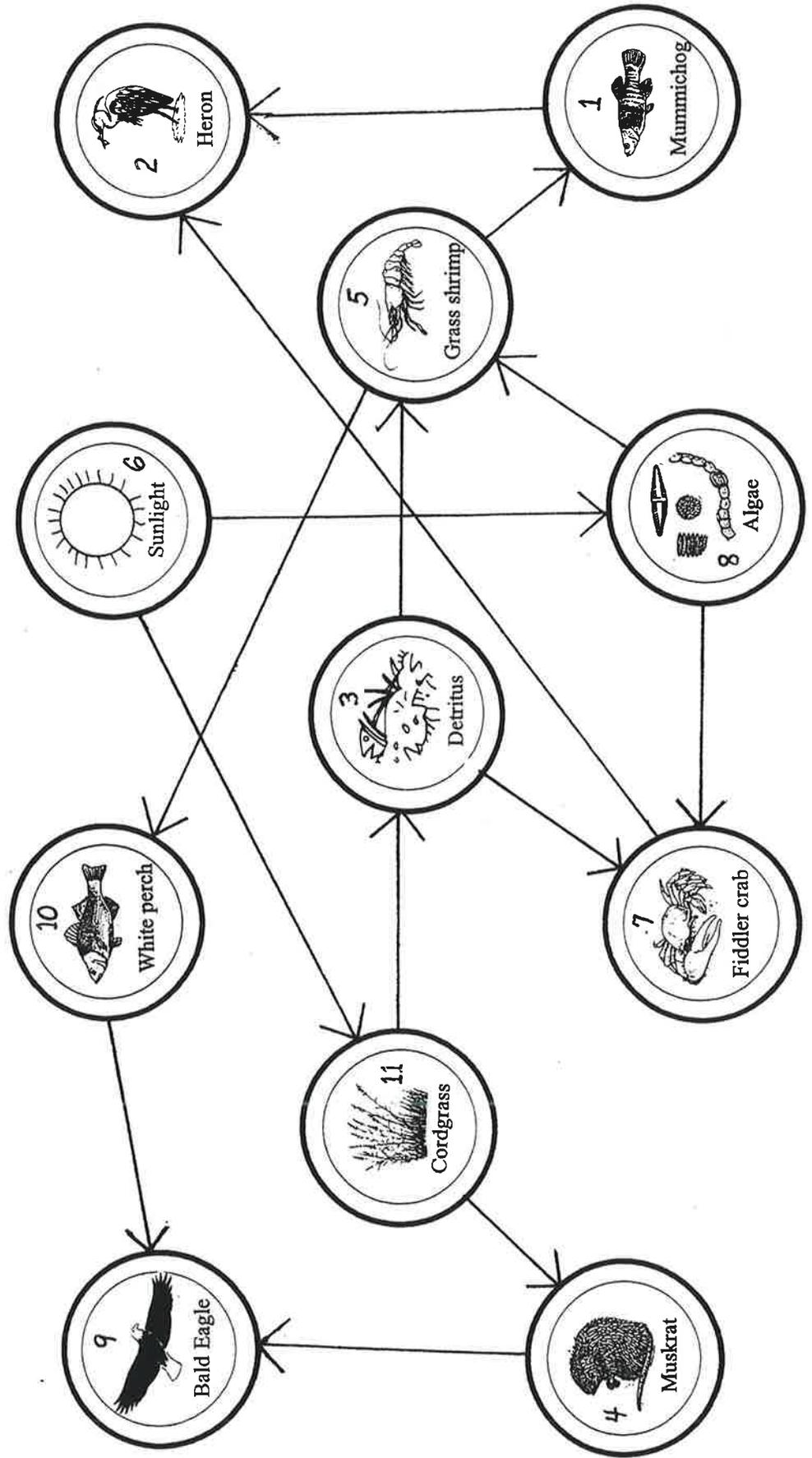
# Wetland Cafeteria

## Follow-Up Exercise



Name Answer Key  
Date \_\_\_\_\_

**Salt Marsh Detectives:** The circles in the drawing below represent pieces of a salt marsh food web. This is a two-fold challenge. First, using the page attached, write the number of each of the clues inside the drawing of the object or critter you think it matches. Then cut out each of the circled pieces and paste each into the place on the food web drawing below that you think it belongs. Please note that the direction of the arrow on the food web drawing shows the direction in which energy moves in the marsh system. For example if an arrow is drawn from object 1 and points to object 4, this means that object 4 gets its energy from using object 1.



# Build-a-Bird

## Follow-Up Exercise

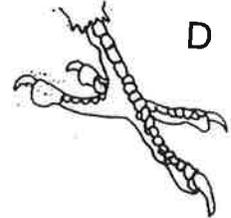
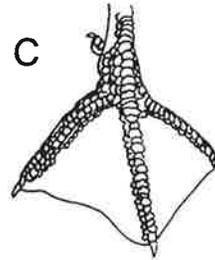
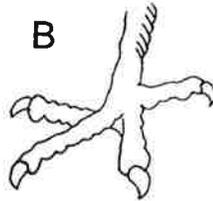
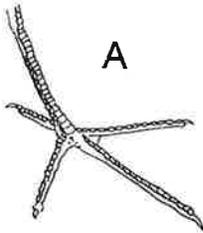


Name \_\_\_\_\_

Date \_\_\_\_\_

**Quite the feet!** Each of the clues below describes a legs/feet adaptation belonging to certain wetland birds. Match each clue provided with the letter of the "feet" drawing that you think fits it. For bonus points, write the name or names of the kinds of birds that have those kind of legs/feet.

- C   1. My wide, webbed feet are well-suited for swimming.
- A   2. My toes are long and well-spread for wading and walking on the mudflats.
- D   3. My toes are short, close and well-clawed for perching on branches and stalks.



**You do the clue!** Look at the bird bills pictured and think about what each can tell you about how and what the bird eats. In the box with the bill drawing, write the name of a bird or birds that you think has that type of bill. Then, in the "clue" box, make up a clue that describes the shape and other special features of that bill, including how you think the bill helps the bird in feeding.

Bird		Clue
Birds of Prey	 Hawks Owls Falcons	My bill is short, strong, and powerful, featuring a sharply hooked, overhanging, upper beak adapted for tearing the flesh of prey species that I catch and kill.
Shore-birds	 Sandpipers Rails	My long, slender, pointed bill is well-adapted for probing and searching in the mudflats for worms, crustaceans and other small critters I consume.
Wading Birds	 Herons Egrets	My long, strong, pointed beak serves me well in spearing fish, crabs and other critters living in the wetlands where I do my feeding.

**Design a Bird Challenge** Use the back of this page to design and draw your own imaginary bird. Be sure that the bill you give the bird is made to suit the special kind of food it eats. Be prepared to show your drawing to the class and describe how your imaginary bird is adapted to its environment.

# Human Impact

## Follow-Up Exercise



Name \_\_\_\_\_

Date \_\_\_\_\_

The people of Perch Point, a small, rural community bordering the Delaware Estuary, have just been informed that Cy Soybeans, a recently deceased landowner from the area, had bequeathed his 350-acre farm to the community "to do with as the majority of the town people see fit". This land includes a small pond, 50+ acres of swamplands, and several areas that were once wetlands, but had been drained long ago for farming. The town must decide whether to hold on to the land or sell it; and if they sell it, who they would sell it to. Profits from sale of the land to developers could be used to build a much needed school or to upgrade the inadequate sewage treatment facilities for the community. A decision not to develop would allow the town to preserve some of its rapidly disappearing open spaces for future wildlife habitat and human recreation. A town meeting is being convened and residents are encouraged to weigh the pros and cons of each of four options under consideration, and speak their mind about what they think the town should do with the land. Put yourself in the role of a resident and write down the pros and cons for each choice presented below, along with a concluding paragraph that tells which choice you would vote for and why. Feel free also to suggest an alternative option, and make a case for why you feel this would be the best choice for the community to make.

- A) sale to a developer, who will subdivide all of the land that is currently in farmland and most of the swamps to create some much needed housing for the rapidly growing population of the area;

*Pros: good for economy, human needs; money could be used for school or sewage treatment needs; more people living in town means more tax dollars for schools and other systems*

*Cons: open space lost and chance to reclaim wetland habitat for wildlife, recreation, etc.; more homes means more pressure on environment and systems in town.*

- B) sale to an entrepreneur, who plans to build a bayside resort to support the growing tourist trade; this would involve digging out the lower, wetter areas of the farmed fields and flooding them to create a large lake, and then surrounding the lake with hotel, restaurants, golf course, tennis courts, and other amenities to attract visitors to the area;

*Pros: great for economy; would bring lots of outside money and jobs to town; money from sale could be used to meet towns school or sewage system needs.*

*Cons: open space lost and chance to reclaim wetland habitat for wildlife, recreation, etc.; more people means more pollution and other pressure on environment.*

- C) sale to the state (for about half of what the developers would pay) to manage the land as a fish and wildlife area, including some restoration of the once farmed areas to wetlands;

*Pros: preserves open space, improved habitat for wildlife, and recreational opportunities for people; flood control, water recharge, water quality improvement, and other wetland values also offered.*

*Cons: less money from sale of property to meet needs of town for improved schools and sewage systems; few, if any, new jobs or other amenities provided; tax base for future revenues will also be lost.*

*I would vote for "C" because it would preserve our most rapidly disappearing resource in the area - open space and wetlands - for the future. There are other areas where housing developments could be located. As for the resort option, although this would bring in lots of jobs, and money we could use to make the needed improvements in our school and sewage systems, the influx of people into the area would put even more pressure on these and other systems (e.g. transportation) in the long run. I look at this as a gift - something we didn't expect to have - we shouldn't be greedy, but should use it to give something back to the land and our children - a place that is kept green for all time, rather something we sell for some quick and easy "green" that will be gone in no time.*

**Overview of Delaware Curriculum Standards & Performance Indicators  
for the *Wetland Activities for Delaware Educators (WADE)* Learning Kit**

<b>Subject Area</b>	<b>Grade 4-5 Standards</b>	<b>Grade 4-5 Performance Indicators</b>	<b>Grade 6-8 Standards</b>	<b>Grade 6-8 Performance Indicators</b>
<b>Science</b>	1A, 1B, 1C, 2E, 5A, 5B, 6A, 6B, 6C, 6E, 6G, 7B, 7C, 8A, 8B, 8D, 8E	4.307, 4.309-4.313, 4.315-4.317, 4.319, 4.321, 4.323, 5.305, 5.310, 5.311-5.318, 5.320	1A, 1B, 1C, 2C, 3A, 3B, 3C, 4B, 5A, 5B, 6C, 6G, 7B, 7C, 8B, 8C, 8D, 8E	6.301-6.308, 6.319, 6.336, 7.310, 7.313, 7.332, 7.333, 7.335, 7.336, 7.339, 7.343, 7.345, 7.347, 7.349-7.356, 8.301, 8.305, 8.314, 8.327, 8.337- 8.341, 8.344, 8.345, 8.347, 8.348, 8.350-8.357,
<b>Math</b>	1.04, 1.05 2.01, 2.02, 2.03, 2.06 3.01, 3.02, 3.03, 3.04 5.40, 5.44, 5.60 6.40, 6.44, 8.62 9.40, 9.41, 9.43, 9.44 9.60, 9.62, 10.60	4.201-4.204, 4.207, 4.217, 4.218, 4.228, 4.232-4.237, 4.239, 5.201-5.204, 5.207, 5.215, 5.225, 5.228, 5.231-5.236, 5.238	1.04, 1.05, 2.01-2.03, 2.06, 3.01-3.04, 4.02, 5.40, 5.46, 5.60, 5.62, 6.40, 6.60, 9.40, 9.41, 9.44, 9.60, 9.62	6.201-6.204, 6.212-6.214, 6.217, 6.230, 6.232, 6.233, 7.201-7.204, 7.211, 7.212, 7.228, 7.230, 7.231, 8.201-8.204, 8.210, 8.211, 8.226, 8.229, 8.230
<b>Language Arts</b>	1A writing 1B oral 2, 3, 4	4.111, 4.118-4.145, 4.148-4.151, 4.153, 4.154, 4.156, 4.159, 4.161-4.171, 4.174-4.176, 4.179, 4.180, 4.187, 4.1100, 4.1105, 5.112, 5.118-5.120, 5.122, 5.123, 5.126, 5.130-5.143, 5.145-5.147, 5.150-5.153, 5.155, 5.157, 5.159, 5.160, 5.162-5.173, 5.175-5.179, 5.184, 5.190, 5.1103, 5.1108	1A written 1B oral 2, 3,	678.109, 678.112, 678.114, 678.120, 678.122-678.127, 678.129, 678.131-678.133, 678.135-678.139, 678.142, 678.143, 678.158-678.165, 678.167, 678.169, 678.172, 678.174-678.181, 678.190, 678.191, 678.196, 678.198, 678.199, 678.1101, 678.1102, 678.1105, 678.1106
<b>Social Studies</b>	E1, G1, G2, G3	4.412, 4.417, 4.421-4.423 5.409, 5.415 5.418-5.420	C3, C4, E1, G1, G2, H4	6.410, 6.417, 6.418, 6.419, 6.423, 7.421, 7.422, 7.423, 7.426, 8.406, 8.408, 8.410, 8.413, 8.421, 8.422, 8.423, 8.424, 8.433, 8.432