

#### Time Line of Events

1947 - Kemp's Ridley Sea Turtles accidentally caught in shrimp nets

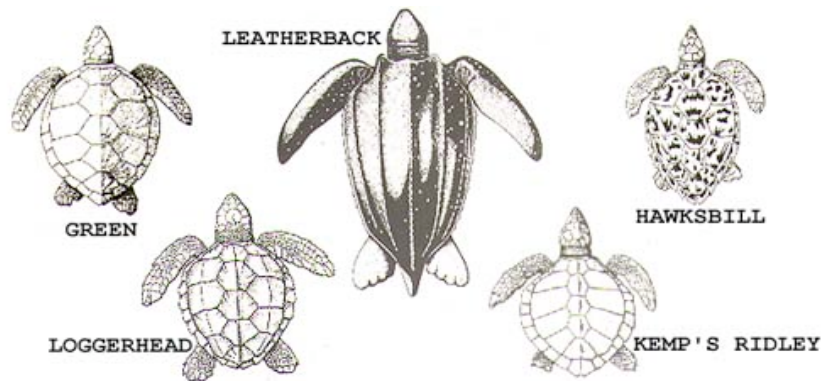
1957 - Kemp's Ridley Sea Turtles sold for food and jewelry

1973 - All Sea Turtles listed as Endangered species. This made them illegal to sell as food and jewelry.

1987 - Turtle protected from being caught in shrimp nets

2001 - Kemp's Ridley's Sea Turtles still endangered

# Endangered Sea Turtles



Sea Turtles like the Loggerhead and the Leatherback once came to sandy beaches near salty water south of Maryland mostly in North and South Carolina to lay their eggs. Sea Turtles look for beaches that people do not visit and are surrounded by marshes. Today there aren't as many of these turtles coming to the beaches. These animals have become **endangered**, meaning that they are in danger of becoming **extinct**. What has happened to these sea turtles to make them endangered? Where have they gone?



## CHANGING BEACHES

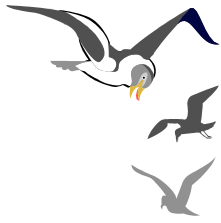
Throughout history, people have lived near the water. As the population increased so did the amount of land that we used for our homes. Today, motels, homes, roads, parking lots and erosion control methods have changed the beaches these turtles live on. Beaches like this will no longer be able to have turtle nests on them because they do not have the correct habitat for nests.



## POLLUTION

With more people living along the beaches, there has also been more pollution. The people leave plastic bags on the beach. These bags enter the water and float. The floating bags look like jellyfish and the turtles eat them.

As a result of eating the bag, the turtles die. Other pollutants like an oil spill or a poisonous chemical can also harm the turtles.



### **PREDATORS**

After the turtle eggs are laid, there are many other dangers that they may experience. Dogs and raccoons love to eat the freshly laid eggs. Once hatched, dogs and gulls will eat the tiny turtles. If they make it to the water, larger fish may also eat them. Many of the turtles don't survive to be one year old due to these predators



### **FISHING NETS**

Fishing is a major industry in North and South Carolina. The turtles go into the nets of the fisherman and are unable to get out. Because these nets stay underwater all the time, the turtles cannot get the air they need to breathe causing them to die. Today, these nets are required to have a special hole in them to let the turtles out but keep the fish in.

## Characteristics of Terrapins and Sea Turtles

<b>Turtle Characteristics</b>	<b>Diamond-backed Terrapins</b>	<b>Sea Turtles</b>
<b>Habitat</b>	Salt Marshes	Open sea
<b>Food</b>	Clams, shrimp, small fish	Jellyfish, crabs, fish
<b>Nesting</b>	Sandy beaches	Sandy beaches
<b>Predators of Young/eggs</b>	Raccoons, dogs, gulls, large fish	Raccoons, dogs, gulls, large fish
<b>Predators of Adults</b>	Raccoons, dogs, humans	Sharks, humans
<b>Body Features</b>	Flattened shell, webbed feet for swimming	Flattened shell, flippers for swimming
<b>Pollution Problems</b>	Oil spills, plastic trash	Oil spills, plastic trash

## Big Help for Little Turtles

Something special happens every summer all along the coast from Massachusetts to Florida and over to Texas. It happens at the edges of salt marshes, the rivers, the bays, and the wet grassy areas found in sheltered places along the shore.

Day and night for about six weeks, thousands of female terrapins scramble ashore. A female crawls up onto dry land to do one thing: lay her eggs. Then she scoots back into the waters of the marsh.

Sounds simple? It used to be. But about 40 years ago, towns along the coast began growing quickly. More and more people built houses all around the salt marshes. More people meant more cars, so roads got busier too.

All this was OK for the people. But it meant trouble for the mother terrapins. They had to lay their eggs on dry ground. And to get there, they often had to cross a road. So lots of them got clobbered by cars.

### GOOD NEWS INSIDE BAD

In the New Jersey towns of Avalon and Stone Harbor, people decided to do something to help the terrapins.

Now, every year in late May, the highway department puts up signs along the roads by the marshes. The signs warn drivers to watch out for turtles. But terrapins aren't very big - adult females are only around seven inches (18 cm) long, about the size of a videotape. So drivers often don't see the terrapins and run them over.

Four years ago, a scientist named Roger Wood started to study the problem. He began by counting the squished turtles on the roads. When he examined the bodies, he found a big surprise. Many had unsmashed live eggs inside!

Roger decided to try an experiment. Maybe he could get the eggs to hatch. He took some squished terrapins to the Wetlands Institute, a research and education center where he works. There he removed some eggs from the dead turtles. Then he put the eggs in heated boxes called incubators. And about 60 days later, lots of baby terrapins did hatch!

Every nesting season since then, Roger and his helpers have looked for unsmashed eggs in dead turtles. They quickly get the eggs out and into incubators.

#### NEXT STEP: "HEAD-STARTING"

By late summer, the baby terrapins start pecking out of their eggs. That first year, Roger and his helpers took the newly hatched babies down to the watery edges of the marsh. There they let the tiny turtles go. But enemies nabbed lots of the babies, gulping them down like tasty snacks. (Raccoons, foxes, skunk, crabs, and gulls all like to eat baby terrapins.)

As the weather got colder, the baby turtles that escaped enemies buried themselves in the mud. Then they went into a long sleep called hibernation. While hibernating all winter, the terrapins stopped growing. So the next spring when they woke up and climbed out of the mud, they were still tiny - and easily nabbed.

Later that year, the second batch of eggs hatched in the lab. By then, Roger and his helpers had figured out another way to help the babies. It's called "Head-starting", and they've been doing it ever since. Here's how it works:

All winter long, they keep the baby terrapins in warm water and give them lots of food. Instead of hibernating, the babies eat and swim and grow big and strong.

By the time spring comes, they are three to four times bigger than wild babies that hibernated. And that gives the head-starters a better chance of surviving.

### **ADOPT A BABY TERRAPIN**

Roger figured out that it costs about \$10.00 to head-start each baby terrapin. That pays for all its food and care until it is let go.

So, the Wetlands Institute invited people to give \$10.00 to "adopt" a hatchling. Everyone who contributes that much gets a special adoption certificate. Last winter, about 350 baby diamondback terrapins were head started.

More and more people are helping every year. Teachers in the local schools tell the kids about the terrapin project. The kids tell their parents. And the parents tell their friends. Help just keeps coming and coming!

Now, every May, lots of local school children help Roger put the one-year-old terrapins back into the waters of the salt marsh.

Head-starting the babies has been a neat way for the kids to get close to wildlife. But it's not always easy to say goodbye to the terrapins when the time comes.

"It's fun to get to hold the babies," says Jennifer Narrigan. "But we know that then we have to let them go. The terrapins have their natural instincts - they can tell that the salt marsh is their real home."

### **CAUGHT IN CRAB TRAPS**

Terrapins have another serious "people problem." Thousands of adult turtles swim into crab traps left by people in the salt marsh waters. Then the trapped terrapins can't get out. Since a terrapin needs to breathe air, it can drown if it is stuck under water too long. More diamondback terrapins drown in crab traps each year than get run over on roads.

This bad news made Roger Wood and his gang start thinking about solutions. They began experimenting with "Turtle Excluder Devices," or TEDs. These TEDs are attached to the openings that lead into the crab traps. They change the shape and size of the openings so that turtles can't get in but crabs still can.

Roger and his helpers have designed a TED that seems to work well. But they want to make one that works even better. They hope that a law can then be passed that says TEDs must be put on all crab traps.

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## Crab Pot By-Catch Reduction Device

In 1999, the Maryland State Legislature created a law requiring all people using crab pots from private piers or from the shoreline to have a "By-Catch Reduction Device," or BRD, on each crab pot. A By-Catch Reduction Device is a small metal hoop that is attached to the entrance of a crab pot or placed in the funnel inside the crab pot. This hoop helps keep the larger terrapins, muskrats, river otters, and diving birds out of the traps.

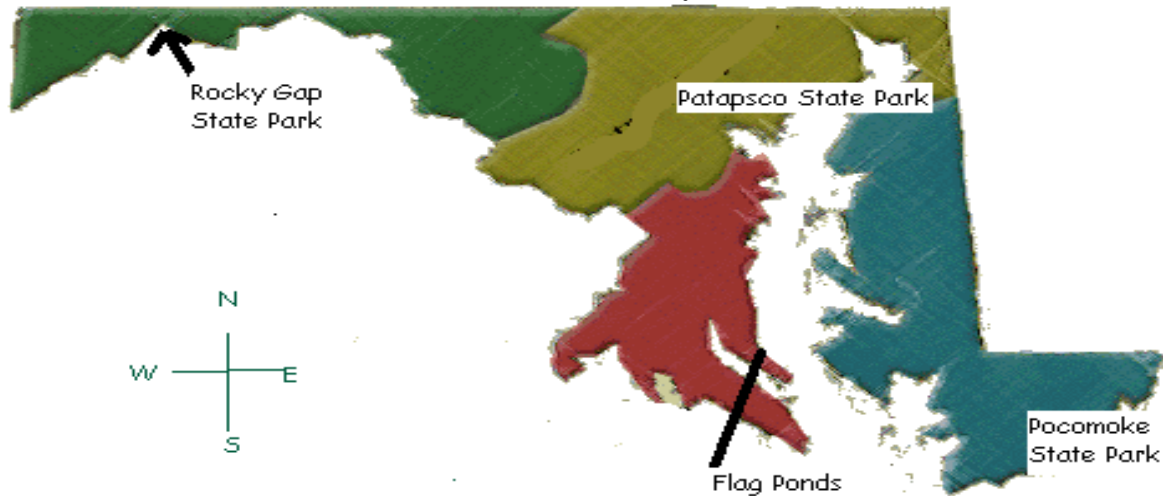
The hoop is easy to put on. Just place it over the end of the hole on a crab pot and attach it with 4 - 6 plastic cable ties.

People can receive a By-Catch Reduction Device free from the Maryland Department of Natural Resources, Fisheries Service by calling 410-260-8269 or toll free at 877-620-8DNR or on the DNR web site at [www.dnr.state.md.us/fisheries](http://www.dnr.state.md.us/fisheries) or by contacting the **CHESPAX office at (410) 535-2960.**



Read the information about each park and review their location on the map.

## Parks in Maryland



## Descriptions of Park Habitat

### Rocky Gap State Park

Rugged mountains  
Clear lake (fresh water)  
Large rocks  
Streams (fresh water)

### Patapsco State Park

River running through  
picnicking areas (fresh water)  
Large open fields  
Forested land

### Pocomoke River State Park

River through park (fresh  
water)  
Forested land  
Swamps (fresh water)

### Flag Ponds

Wooded forests  
Large open beach (salt water)  
Hiking trails  
Marshes around beaches (salt  
water)