Trash Talking Turtles

A How-To Guide

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VIRGINIA
AQUARIUM
STRANDING RESPONSE

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Tips For Using This Guide

- Take lots of photos for uploading to our Trash Talking Turtles Facebook page.
- Words in **bold** can be found in the Glossary at the end of this guide.
- If you have a larger group (over 5), divide them up into groups and assign different steps.
- If you have children under the age of 10, there are several steps which require adult supervision so be sure to have enough adults available.
- Plan ahead for the size of your turtle: Will it hang on a wall? Does it need to be portable? What kind of trash will you be filling it with?
- Review the *entire guide first* for ideas, resources, photos and variations before you begin. You may get some inspiration to make a very unique Trash Talking Turtle.

Acknowledgements

Virginia Aquarium & Marine Science Center Foundation and Stranding Response Program staff and volunteers; Katie O'Hara and the First Colonial High School Earth Club of 2008-2009; Seatack Elementary especially Marie Culver, Robert Reynolds and the Junior Green Team; Eastern Shore of Virginia NWR, Back Bay NWR, Chincoteague NWR, First Landing State Park; Wendy Walton, LVT; Jessica and Becky Flory; seaturtle.org; Dr. Wallace J. Nichols; Virginia Aquarium education and outreach staff and volunteers and marketing department.

It started with a story

about a green sea turtle found washed ashore sick and extremely thin. "Kermit" was rescued by the Virginia Aquarium Stranding Response Program. X-rays revealed a mass of trash lodged in the turtle's throat. A team of veterinarians and sea turtle experts removed the trash which included plastic, paper, and several pieces of balloons. Balloons may look like jellyfish, squid or other prey to a sea turtle.

Kermit's story inspired students

at First Colonial High School in Virginia Beach, Virginia to create educational materials on the hazards of balloons and other trash to wildlife. They made sea turtle sculptures from balloons collected during beach cleanups. Their materials are now on display at State Parks and National Wildlife Refuges throughout Virginia.

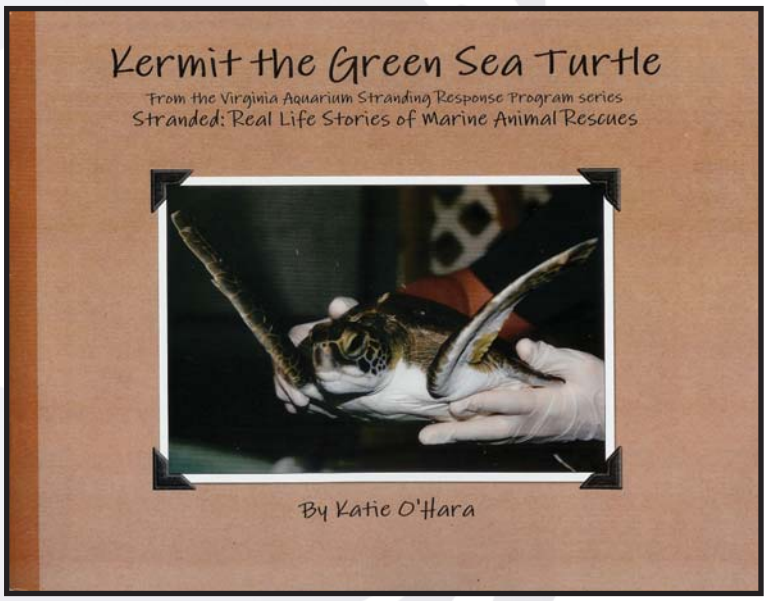
The student's inspired a worldwide educational campaign.

Become part of this international effort to help spread the word about the threats balloons and other trash pose to marine life. This manual provides step by step instructions to create a Trash Talking Turtle of your own. Be sure to send a picture of you and your sea turtle creation to www.trashtalkingturtles.org. Have fun!

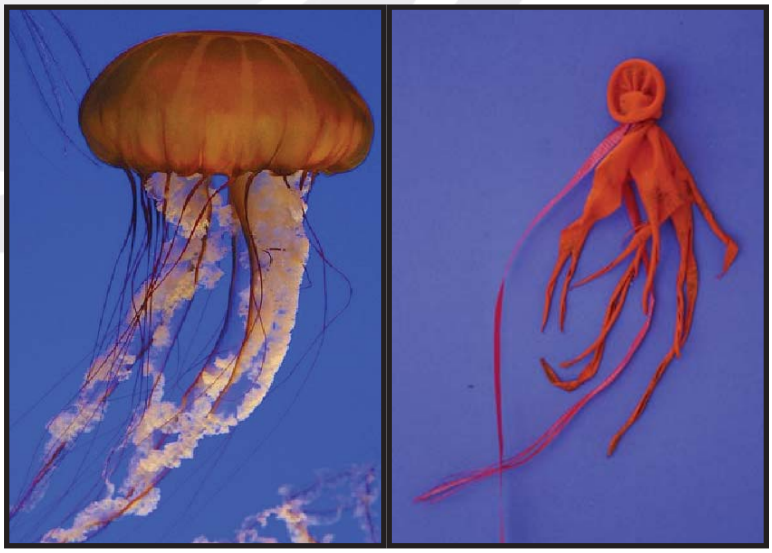
Before You Begin

Start with a cleanup to collect balloons or ask others to start saving balloons from their cleanups. It does not matter how many balloons you have to start. Once the sculpture is created balloons can be added every time one is found. Other types of beach trash can also be used to make this sculpture.

Tell the story about a sea turtle that ingested a balloon. You can use the story about Kermit or if you know a local case of a sea turtle that was impacted by balloons or other trash in your area, use that story instead.



Explain how a sea turtle could mistake balloons and other types of trash for jellyfish, squid or other prey. Use these pictures as a visual. If you have an actual balloon that looks like a jellyfish hold it and move your hand up and down as if it is floating like a jellyfish.



Show this picture of the Trash Talking Turtle sculpture to your group so they can see what they will be creating. Tell them that they are part of an international education campaign to increase awareness of the harm posed to sea turtles and other marine life by balloons and trash.

What You Will Need

Preparation time:
Approximately 2 hours

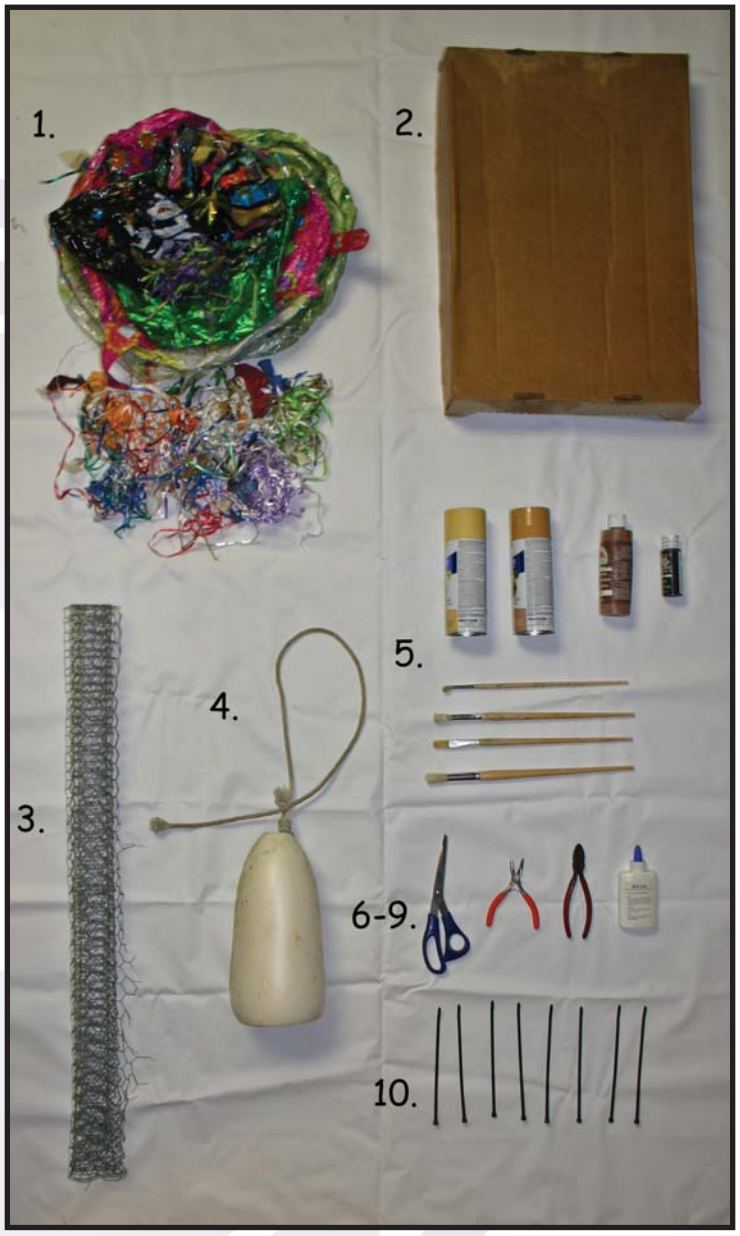
You Will Need:
1. Balloons from a beach cleanup
2. Large piece cardboard
3. Chicken wire (36' x 5 ft.)
4. Fishing buoy or plastic bottle
5. Paint and brushes (see notes)
6. Heavy duty scissors (for cutting cardboard)
7. Wire cutters
8. Pliers
9. Glue
10. Zip-ties, rope or sturdy wire

Notes: Paint color depends on the type of sea turtle you plan to make. Pictures of loggerhead, leatherback, green and Kemp's ridley sea turtles are provided at the end of this manual illustrating their colors and patterns.

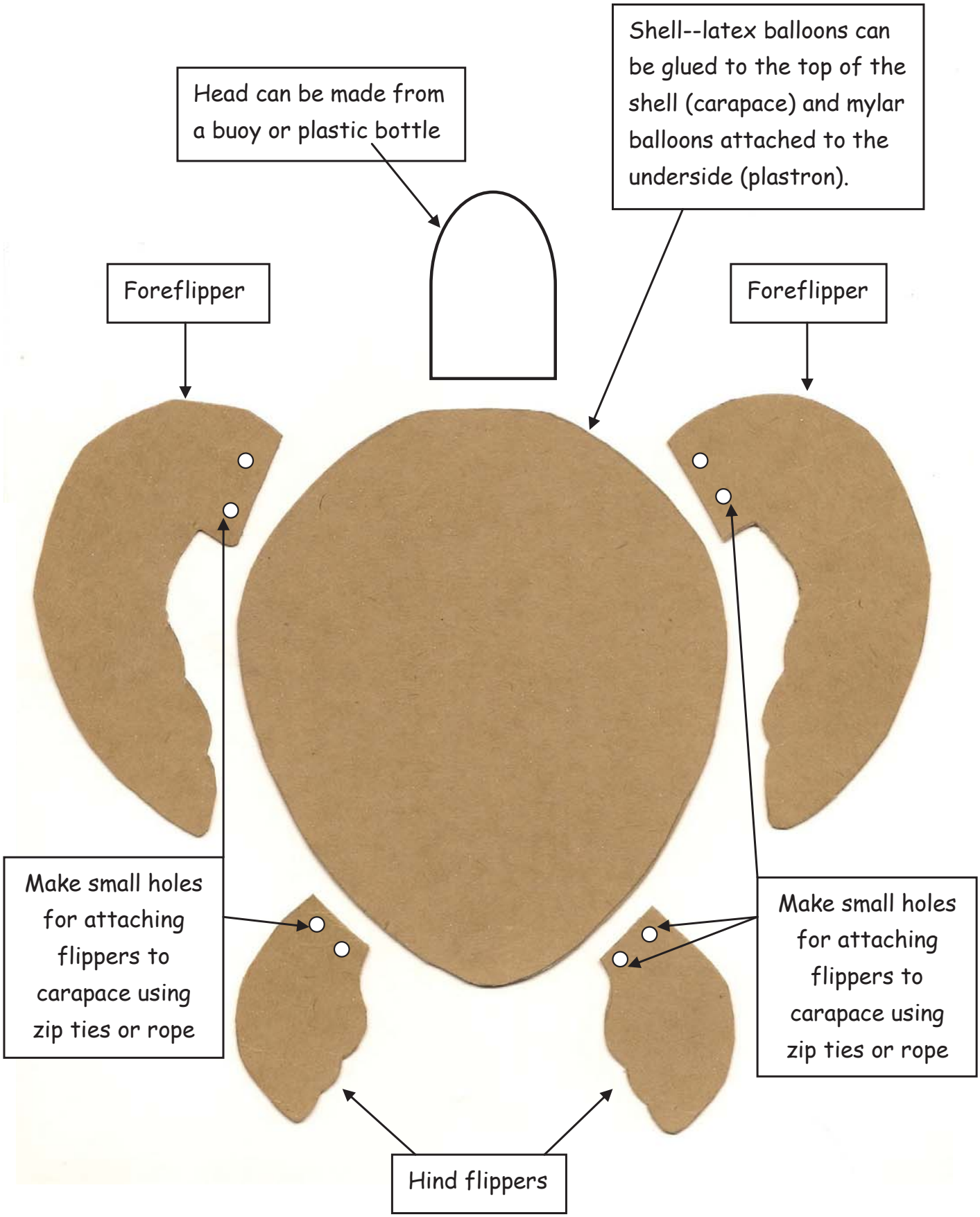
Suggested paint colors for green and loggerhead sea turtles are black, brown, and beige.

Suggested paint colors for leatherback and Kemp's ridley sea turtles are black, grey and white.

Be sure to wear clothing that may end up with turtle paint spots! You may also want to use gloves when cutting and shaping the wire.



Sea Turtle Template



Steps to Creating Your Trash Talking Turtle

1. Draw the sea turtle shell and flippers on the cardboard. A diagram is included in this manual showing shapes of a sea turtle shell (called a **carapace**) and four flippers.

2. Cut the shapes out using scissors. *This may be the hardest step of this project—cutting cardboard is hard work. Hang in there it will be worth it!*

3. Paint both sides of flippers with base color(s). It may take 60 minutes or more for the paint to dry.

Steps to Creating Your Trash Talking Turtle

4. Paint buoy (or plastic bottle). Let paint dry.

5. **Look** for **foil balloons** in your collection. Foil balloons look like painted plastic bags usually imprinted with messages such as "Happy Birthday", Graduation", "Mother's Day," etc.).

6. Glue foil balloons to what will become the **plastron**.

Steps to Creating Your Trash Talking Turtle

7. Look closely at the **latex balloons** you collected. Do any show the names of the businesses or places where they were released?

8. Glue these **latex balloons** (Step 7) to the top side of the cardboard carapace making sure the imprinted names and places are clearly visible. This is also a good place to use balloons without string or ribbons.

9. **Wrap** chicken wire around top and bottom of the **carapace** to measure the amount you will need before you cut it.

Steps to Creating Your Trash Talking Turtle

10. **Cut** chicken wire from the roll when there is enough wire to make a complete sea turtle shell. *(Requires adult supervision and should involve only children age 10 and older because wire ends are sharp) .*

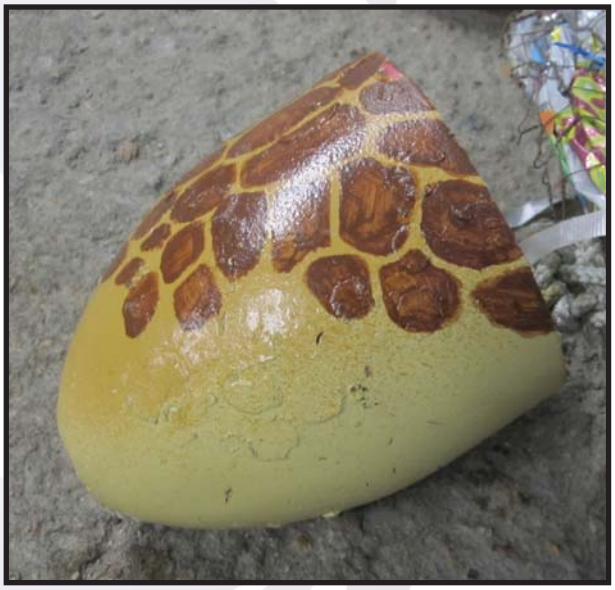
11. **Cut and shape** chicken wire using pliers and wire cutters so that it looks like a sea turtle shell. Use the pictures of sea turtles included in this manual to see the shape of a sea turtle shell. Be very careful--wire ends are extremely sharp. *(Requires adult supervision and should involve only children age 10 and older because wire ends are sharp.)*

12. **Twist and connect** ends to make enclosed shell. *(Requires adult supervision and should involve only children age 10 and older because wire ends are sharp.)*

Steps to Creating Your Trash Talking Turtle

13. **Paint** brown **scutes** (for green and loggerhead sea turtles) or grey spots (for leatherback sea turtle) on top side of each flipper. *Be sure you designate right and left flippers before you start painting.* Use the pictures of sea turtles included in this manual to show actual markings of different types of sea turtles. Let paint dry.

14. **Paint** brown **scutes** (for green and loggerhead sea turtle) or grey spots (for leatherback and Kemp's ridley sea turtle) on head. Use pictures of sea turtles included in this manual to show actual markings of different types of sea turtles. Let paint dry.



15. **Paint** black eyes on head using either paint or permanent marker. Let paint dry.

Steps to Creating Your Trash Talking Turtle

16. **Attach** remaining balloons, one at a time, to chicken wire shell. Push each balloon inside chicken wire and attach by tying ribbon to wire.

17. **Cut** two small holes at the end of each flipper using end of pliers or a screwdriver. Refer to sea turtle diagram to see placement of holes.

18. **Attach** head to shell using zip-ties or rope.

Steps to Creating Your Trash Talking Turtle

19. **Thread** zip ties or rope through holes in flippers.

20. **Attach** flippers to wire shell using zip ties. Trim zip ties to remove any sharp edges.

21. **Take a picture** of your group with your Trash Talking Turtle and upload it on **Facebook.com/ TrashTalkingTurtles**.

Sea Turtle Facts And Photos For Your Trash Talking Turtle

Loggerhead

Leatherback

Green

Kemp's ridley

Loggerhead Sea Turtle

- The loggerhead sea turtle was named for its large head.
- Loggerhead sea turtles can grow up to 3 1/2 feet in **carapace** length and 400 pounds.
- They are listed as **threatened**.
- They are known to eat crustaceans, mollusks and jellyfish.
- The loggerhead can be found in both tropical and temperate waters.

Threats to loggerheads include

- marine debris ingestion
- habitat destruction
- commercial fishing
- climate change
- egg poaching
- artificial lighting on nesting beaches
- beach renourishment
- vessel interactions
- natural predation

Leatherback Sea Turtle

Threats to the leatherback include

- marine debris ingestion
- vessel interaction
- commercial fishing
- nesting beach development
- egg **poaching**
- artificial lighting on nesting beaches
- beach renourishment
- natural predation

Notice the pink spot on top of the turtle's head. Leatherbacks can be identified with this marking. The animal above was disentangled from whelk pot gear and released.

- Leatherback sea turtles are the largest and fastest of all the sea turtles.
- Leatherbacks may grow up to 2000 pounds and 6 feet long.
- They can swim over 10 knots and dive over 4,000 ft deep.
- They're primary diet is jellyfish and they may eat twice their weight in jellyfish everyday!
- Because leatherbacks feed on jellyfish, they often mistake balloons and plastic bags for food.
- They are listed as **endangered** and are critically endangered in the Pacific.

Green Sea Turtle

- The green sea turtle is the largest of the hard shelled turtles.
- The green sea turtle can grow up to 500 pounds and 3 1/2 feet in **carapace** length.
- **Pelagic** post-hatchlings and juveniles feed on **molluscs**, **jellyfish** and **crustaceans**.
- **Benthic** adults feed on seagrass and algae.
- These animals are susceptible to marine debris ingestion because they feed on jellyfish and seagrass.
- Adult breeding greens are considered **endangered**; all other greens in the USA are **threatened**.

Threats to the green sea turtle:

- marine debris ingestion
- beach renourishment
- egg and meat consumption
- egg **poaching**
- **fibropapilloma** tumors
- **cold stunning**
- climate change
- vessel interaction
- natural predation

Kemp's Ridley Sea Turtle

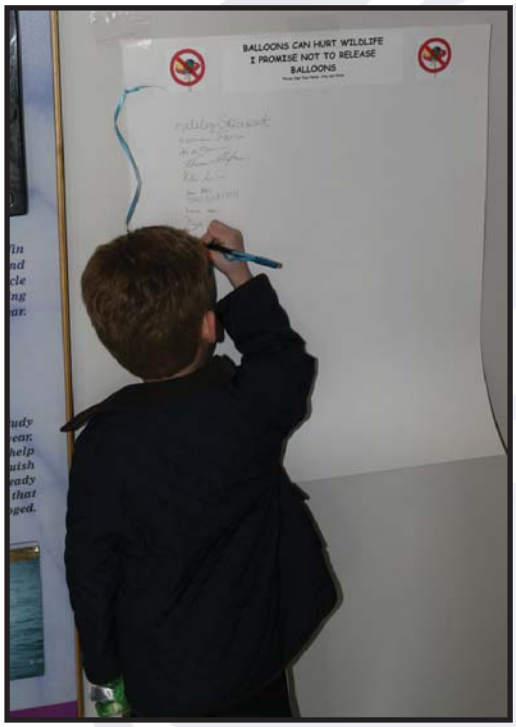
- Kemp's ridleys are the smallest of the hard shelled turtles.
- The adults grow to 100 pounds and 2 feet in **carapace** length.
- They are the most **endangered** of all the sea turtles.
- Their prey item of choice is crab.

Threats to the Kemp's ridley sea turtle:

- commercial fishing
- egg **poaching**
- marine debris consumption
- **cold stunning**
- climate change
- vessel interaction
- natural predation

Display Your Trash Talking Turtle

Use the following two pages to print out for your display or as a template to tell your own story.



A small green sea turtle washed ashore in Virginia, sick and extremely thin. It was rescued by the Virginia Aquarium Stranding Response Program. They named him Kermit.

X-ray reveals mass of trash lodged in the turtle's throat.

A team of veterinarians and sea turtle experts removed the trash. Trash pulled from the turtle's throat included latex balloon pieces, plastic, and pieces of paper, probably from an instruction manual.

Kermit's story inspired these students to create educational materials on the hazards of balloons and other trash to wildlife. They are now on display at State Parks and National Wildlife Refuges throughout Virginia.

Earth Club Members, First Colonial High School, Virginia

Balloons—More Than a Litter Problem

Did you know marine animals eat balloons mistaken for food?

This display was created by high school students in Virginia Beach. The balloons were collected on a small beach in Virginia. Hundreds of balloons were found.

Look closely. Can you find balloons imprinted with the names of places where they may have been launched?

What goes up will eventually come down as harmful litter. Since our Earth is mostly covered by water, airborne balloons are likely to end up in the ocean and beaches.

But balloons are more than a litter problem. To marine animals they may look like food. Maybe they mistake them for jellyfish, squid or other prey.

How many of the balloons in the sculpture do you think look like jellyfish?

Once eaten, the materials may lodge in the animal's stomach or intestinal tract, which may cause them to starve. Sea turtles, dolphins, whales, fish, and birds have been found dead with balloons in their stomachs.

Ribbons and strings tied to balloons can also hurt animals. They can wrap around flippers, beaks, and wings. Some birds even use ribbons to make their nests which may entangle and kill their young.

Please don't release balloons!

This information was developed in 2009 by Earth Club members at First Colonial High School in Virginia Beach:
Susan Anderson, Miranda Brown, Maddie Buis, Chris Canonica, Lauren Gleason, Kaitlin McQueeney, Dillon Miller, Katie O'Hara, Samantha Peters, Thomas Rogers, Kate Shannon, Will Sizemore, Katelyn Stewart, Matt Taylor, and Victoria Thomas
Special thanks to Christina Trapani, Wendy Walton and the Virginia Aquarium Stranding Response Program
Printed on 100% Post Consumer Recycled Paper

Resources and References:

Balloons as a Litter Problem—What Can We Do? Clean Virginia Waterways
http://www.longwood.edu/cleanva/balloons.htm
Detailed information on balloons as a litter problem, alternatives to balloon releases, list of U.S. laws and regulations pertaining to balloons, and references for additional scientific information on balloons and their effects on the environment.

Balloon Release Fact Sheet, Marine Conservation Society
http://www.ukrivers.net/balloon_fact.html
One page fact sheet on environmental concerns and problems caused by balloon releases, list of marine species know to have ingested balloons, what you can do, and an example of a "pledge" to voluntarily ban balloon releases.

Plastics and Their Impacts in the Marine Environment by Anthony L. Andrady
http://www.mindfully.org/Plastic/Ocean/Plastics-Impacts-Marine-Andrady6aug00.htm
Research paper presented by Dr. Andrady, Program Manager and Senior Research Scientist, Chemistry and Life Sciences Division, Research Triangle Institute, North Carolina at the Proceedings of the International Marine Debris Conference on Derelict Fishing Gear and the Ocean Environment, August 6-11, 2000 Hawaii Convention Center Honolulu, Hawaii.

Sea Turtle Foundation Marine Debris Campaign
http://www.seaturtlefoundation.org/stf-current-projects/campaigns/marine-debris/
This sea turtle conservation group in Australia is campaigning to ban balloon releases. General Information on Types, Sources, and Problems Caused by Marine Debris

NOAA Marine Debris Program
http://marinedebris.noaa.gov/
The NOAA Marine Debris Program (MDP) supports national and international efforts to research, prevent, and reduce the impacts of marine debris. Extensive information is available form this site including educational materials for children as well as a photo gallery of sources, impacts and solutions related to marine debris.

Tracking Trash: 25 Years of Action for the Ocean, The Ocean Conservancy
http://act.oceanconservancy.org/pdf/Marine_Debris_2011_Report_OC.pdf
This report provides detailed information on types and amounts of trash collected for the past 25 years during the International Coastal Cleanup. Counts on balloons are available for 152 countries. Additional information on marine debris can be found on this site including posters and other educational materials. http://www.oceanconservancy.org/our-work/marine-debris/international-coastal-cleanup-11.html

US EPA Marine Debris Program
http://water.epa.gov/type/oceb/marinedebris/index.cfm
Extensive resource for information on many aspects of the marine debris problem including sources, impacts, laws, what you can do, marine debris prevention tool kit, prevention reduction and control, and monitoring and research.

SeaTurtle.org - http://www.seaturtle.org
A website to support the research and conservation efforts in the sea turtle community.

Plastic Pollution Coalition - http://plasticpollutioncoalition.org
Plastic Pollution Coalition is a global alliance of individuals, organizations and businesses working together to stop plastic pollution and its toxic impacts on humans, animals and the environment.

Alliance For Balloon Education - www.allianceforballooneducation.org
The Alliance for Balloon Education is an international group of individuals, organizations and businesses working together to prevent the mass releases of balloons, and prevent balloons and their attachments from entering the ocean by providing education, alternatives and resources.

Books

Gulko and Eckert, 2003. Sea turtles, An ecological guide. Mutual Publishing, Honolulu, HI. 128pp.

Spotila, James R., 2004. Sea Turtles, A complete guide to their biology, behavior, and conservation. The Johns Hopkins University Press, MD. 227pp.

Wynne & Schwartz, 1999. Guide to marine mammals & turtles of the U.S. Atlantic & Gulf of Mexico; Rhode Island Sea Grant.

Suggested Variations of Trash Talking Turtle

- Fill turtle carapace with other **anthropogenic** materials such as plastic bags, plastic bottles, Styrofoam or any trash assortment from a beach cleanup. What type of trash is most common on your beach?
- Use a sea turtle datasheet from a real turtle to measure your carapace. Take the straight carapace length and width of your favorite turtle to measure your "carapace." Make sure to adjust the size of your flippers to match! If it's an animal that was affected by marine debris, you can create your own story board to go with your turtle.
- Use poster board (or some recycled sheet of paper) and markers for making pledge sheets to go with your Trash Talking Turtle. Suggested pledges are:
- *I promise never to release balloons*
- *I promise never to litter*
- *I promise to help keep my beaches and waterways clean*
- For a leatherback Trash Talking Turtle, elongate the carapace.
- For a Kemp's ridley Trash Talking Turtle, make the carapace rounder.

If you have other suggestions for Trash Talking Turtle, please post them to our Facebook page at www.facebook.com/TrashTalkingTurtles.

Photo Contributions:

Kathy O'Hara
Christina Trapani
Virginia Aquarium & Marine Science Center
Barbara Bergwerf (www.BergwerfGraphics.com)
Jackie Bort
Colleen Larkin
Marine Conservation Society
The Ocean Conservancy
Gayle Uyehara
PDPhoto.com
Dr. Mike Lawson

Glossary of Terms

Anthropogenic: Effects or processes that are derived from human activities, as opposed to natural effects or processes that occur in the environment without human influences (www.seaturtle.org).
Benthic: Referring to an animal that lives on or near the bottom of a body of water (www.seaturtle.org).
Cold stunning: The state that turtles enter when they are suddenly exposed to very cold water (< 10 °C). They become lethargic and begin to float on the surface of the water (www.seaturtle.org).
Crustacean: The subphylum that includes crab, shrimp, lobster, krill, barnacle etc.
Endangered: Facing a very high risk of extinction in the wild (www.seaturtle.org, IUCN).
Fibropapilloma: A tumor, suspected to be viral, that affects all turtle species but most predominantly green turtles. The tumors can be external or internal growths and can be lethal especially when they affect eye sight and organ function.
Foil balloon: Balloon made of nylon sheet, coated on one side with polyethylene and metallized on the other (www.balloonhq.com).
Jellyfish: Marine invertebrate with a soft jellylike body. Main diet for leatherback sea turtle; also been observed as prey item for green and loggerhead.
Mollusks: The phylum that includes snails, clams, squid, scallops, muscles, whelk, oysters and other shellfish.
Pelagic: Living or growing at or near the surface of the ocean.
Poaching: The illegal hunting or taking of sea turtles and/or their eggs.
Scutes: Boney scales that grow like animal beaks, horns and nails.
Threatened: A taxon that may become endangered (www.conserveturtles.org).

Kermit was released on June 22, 2009 after doubling in weight.