Kohl’s Wild Theater
Teacher Packet

A World of Water

Photos by ZSM/Richard Brodzeller (top) and Richard Taylor (right)
What is Kohl’s Wild Theater?

Kohl’s Wild Theater (KWT) is made possible by a partnership among Kohl's Cares, the Milwaukee County Zoo, and the Zoological Society of Milwaukee. This program provides conservation-themed theater performances using drama, songs, and puppetry to children and their families both at the Milwaukee County Zoo and within our community. Since 2011, all performances have been offered free of charge thanks to a $2.5 million donation to the Zoological Society from Kohl’s Cares.

The KWT outreach program, a division of the Zoological Society’s Conservation Education Department, offers 4 different shows about a variety of topics. Our plays and musicals are approximately 30-45 minutes long, performed by professional actors, and include stories about animals and environmental conservation. KWT performances are very similar to attending a play at a traditional theater, but there will be many times when the audience can be a part of the show through group participation. There will not be time during the performance for the actors to go over curriculum or to review information. After the performance, if time permits, the actors will take a few minutes to answer questions from the audience. Please note, there are no live animals in KWT shows.

All of our performances are developed for an elementary school audience. Elements of our shows are entertaining for adults and younger children, but the educational information presented is targeted for grades 1-5.
A World of Water

Summary

This 40-minute performance includes two 15-minute plays about different water ecosystems. The first play, *The iRiver Cleanify App*, follows a child named Jackie’s journey into the Milwaukee River. At the beginning of the play, Jackie is reluctant to finish his/her household chores such as putting out the trash, shoveling snow off the driveway, and walking the dog. But when Jackie accidentally drops his phone into a storm drain, he dives in after it and finds himself in the Milwaukee River. While there, Jackie meets adolescent river animals that are growing up in the river. Each animal shows Jackie how the household chores have a direct impact on their lives in the river.

The second play, *Dr. McGhee Learns about the Sea*, is a musical about kelp forest habitats in the ocean and how they can be impacted by acidification of the water. Dr. McGhee, a “genius” doctor, is attempting to cure a variety of animals in his/her waiting room. After a variety of animals explain their illnesses, Dr. McGhee and his/her nurse travel underwater to the kelp forest where they learn how energy usage on land can impact the water quality where animals live.

In addition to these two 15-minute plays, *A World of Water* also includes a short song-and-dance skit about the stages of the water cycle.

Target Age Range

Most appropriate for grades 1-5 and families with children of all ages.

Theater Etiquette

Before the performance, please take a moment to review good theater etiquette with your students. It is important that students are respectful to the actors during the show. It is a good idea to remind students not to talk during the performance, but encourage them to participate when directed to do so by the actors.

Educational Concepts

Rivers:
- River size and water quality are impacted by rain levels. When rain is heavy, it sends water into the river, often times taking pollutants from the land with it.
- Many household chores have a direct impact on water quality. Examples in the show include:
  - Taking out the trash. If trash is left on the ground and not placed in a trash can, the trash can end up in the river.
- Shoveling the snow off the sidewalk and driveway. If road salt is used instead of shoveling, the chemicals in the salt may end up in the river. Road salt should be used sparingly.
- Cleaning up pet waste from the back yard or while on a walk. When a pet dog leaves poop on the ground, the organic matter can be washed into the river where it then depletes the water of oxygen.

- Many important animals are born and raised in a river. Examples in the show include:
  - Dragonflies
  - Mussels
  - Drone Flies
  - Sturgeons

- River water quality is important for humans because river water flows to sources of our drinking water and swimming areas. The dirtier the water, the harder it is to clean and treat before we drink it or are exposed to it while swimming.

The Water Cycle:
- The four basic steps of the water cycle are condensation, precipitation, collection and evaporation.
- The amount of water on the earth hasn’t changed for millions of years, however, due to the abundance of humans, water is being transported, treated, and used more intensively.
- Because the same amount of water is being cycled over and over again, it is important that people make an effort to conserve water and avoid waste. That way the same water can be shared among all the people, plants and animals that need it to survive.

NOTE: This show does not go into concepts of “transpiration” or “run off” as parts of the water cycle.

Oceans/Kelp Forests:
- Giant Sea Kelp is a type of algae. It is underwater seaweed that can grow 100 feet high.
- Kelp forests provide homes and breeding grounds for many animals including crabs, sharks, otters, fish, octopi, sea horses, and much more.
- All ocean habitats, from kelp forests to coral reefs, are negatively impacted by ocean acidification.
- Ocean acidification occurs when chemicals such as carbon and sulfur are released into the atmosphere by humans, mostly from power plants. Those chemicals fall into the ocean as rain and can make the water more acidic. Normal rain water is generally close to neutral (neither acidic or basic).
- People can reduce the ocean’s acidity by reducing the amount of energy used at home. Simple steps such as turning off lights, electrical equipment, and reducing water usage can help reduce ocean acidification.
Featured Animals

Dragonfly (*Odonata*):
- Dragonflies are carnivorous insects that live in and around water.
- Dragonflies are one of the fastest insects in the world. Some species have been recorded to fly at 36 mph.
- Dragonflies live most of their lives underwater. Once they hatch from the egg, a dragonfly can live up to four years underwater as a “nymph.” Once the nymph is ready, it will crawl out of the water and go through a metamorphosis to become an adult dragonfly. Once it is an adult, it only lives for about two months.
- About 110 species of dragonfly are found in Wisconsin.

Mussel (*Bivalvia*):
- Mussels are aquatic creatures with shells. In Wisconsin, they live underwater in riverbeds. They have two shells (similar to a clam) with soft tissues in the middle. Mussels have a piece of muscle called the “foot” which can be used to move slowly and anchor on to hard surfaces.
- Mussels survive by filtering nutrients from the water. A single adult mussel can filter several gallons of water each day. In doing so, mussels clean the water of pollutants and toxins that are otherwise harmful.
- Young mussels are called glochidia. Once a glochidia is released into the water, it attaches to a fish. The glochidia grows inside a fish’s gills. Once it is big enough, the glochidia releases itself from the fish and latches on to a hard surface underwater.
- About 70-80 species of mussels and clam are found in Wisconsin.

Drone Fly (*Eristalis tenax*):
- Adult drone flies are called “bio mimics” because they have evolved to look like bees.
- A drone fly starts its life as a larva called the “rat-tailed maggot.” The larva lives underwater, feeding on animal waste, and breathing through a tube that looks like a tail.
- Once grown, drone flies make excellent pollinators.
Lake Sturgeon (*Acipenser fulvescens*):

- Sturgeons are fish that have been around for about 150 million years. That means that there were sturgeons living with the dinosaurs!
- Sturgeons have been recorded to live for up to 152 years and weigh over 200 pounds.
- Sturgeons live in lakes until it is time to spawn. Groups of sturgeons swim up rivers to spawn, then return back to the lake. Sturgeons won’t start spawning until they are about 25 years old.

Decorator Crab (*Oregonia gracilis*):

- Different species of decorator crabs can be found in oceans across the globe.
- All decorator crabs habitually attach other organisms to their own shells to add camouflage or ward off predators.
- Ocean acidification can harm a decorator crab’s shell by dissolving the shell. Other shelled animals such as lobsters, clams, mussels, and corals are also at risk from ocean acidification.

Leopard Shark (*Triakis semifasciata*):

- Leopard sharks are harmless to humans and reside in shallow waters of the Pacific Ocean.
- Leopard sharks feed on small marine animals such as crabs, worms, octopi, squids or small fish.
- Like all fish, leopard sharks breathe underwater with their gills. Rising levels of carbon in the water from ocean acidification has a negative impact on gill function.

Sea Otter (*Enhydra lutris*):

- Sea otters are mammals in the Mustelidae family. This group also includes badgers, weasels, and wolverines.
- Sea otters primarily feed on shellfish such as crabs, sea urchins, clams and mussels.
- Sea otters can dive up to 300 ft. and hold their breath for 5-7 minutes.
- Sea otters are considered “keystone species” for kelp forests. If sea otters left the kelp forest, there would be no major predator of sea urchins, which would destroy all the kelp.
**Post-Performance Discussion Questions:**

1) How many different ways do you use water? Have the class make a list of all the different ways we use water in our daily lives. After making the list, have each student make their own list at home recording all the different ways they use water. Were there unexpected additions to the list?

2) How do we use energy at home? How many devices use electricity? What are some easy ways that we can conserve or use less energy at home?

3) What products do we use that contain water or are there non-liquid products students can think of that require water to manufacture?

**Activities:**

1) Organize a river clean-up day. If a local river isn’t accessible to the class, you can also clean up a park or playground or stream or creek. If trash washes into a storm drain or creek then it may end up in the river, so any type of clean-up can be helpful.

2) Stencil the “Dump No Waste / Drains To River” logo on your local storm drains as part of the Water Action Volunteers program through UW-Extension. More information on this program can be found at [http://watermonitoring.uwex.edu/wav/stenciling/index.html](http://watermonitoring.uwex.edu/wav/stenciling/index.html).

3) Simulate a stream/river (and demonstrate water flow under force of gravity) using an inclined board (as pitched land) and a catch basin at the end of the board (as a pond/lake/ocean). Flow water down the surface of the board. You can attach pieces to the board (perhaps using the backside of same board) to simulate a stream/river that contains some obstacles to slow water flow. You can also place small loose items simulating trash and show how these can be moved by the force of the water to travel to the end of the stream/river where they begin accumulating in the basin below the board.

4) Research a conservation organization that works to protect rivers and oceans. See list below for some suggestions.

**Suggested conservation organizations that help protect the rivers and oceans:**

- Milwaukee Riverkeeper: [www.mkeriverkeeper.org](http://www.mkeriverkeeper.org)
- River Revitalization Foundation: [www.milwaukeerrf.org](http://www.milwaukeerrf.org)
- Water Action Volunteers: [http://watermonitoring.uwex.edu/wav/](http://watermonitoring.uwex.edu/wav/)
- Ocean Conservancy: [www.oceanconservancy.org](http://www.oceanconservancy.org)
- Friends of the Sea Otter: [www.seaotters.org](http://www.seaotters.org)
- The Zoological Society of Milwaukee: [www.zoosociety.org/conservation](http://www.zoosociety.org/conservation)

For more information on Kohl’s Wild Theater, you can see our website at [wildtheater.org](http://wildtheater.org) or email us at [kwt@zoosociety.org](mailto:kwt@zoosociety.org).
About the Artists

DAVE MCLELLAN (Director) joined the Zoological Society in 2010 to begin development of Kohl’s Wild Theater. Since that time, Dave has directed 13 original plays and musicals for the Zoo, as well as many short skits and exhibit interactions. Prior to moving to Milwaukee, Dave spent a year working as a conservation educator for the Walt Disney Company in Orlando, FL. Before moving to FL, he was a company member and assistant director with the Wildlife Theater, performing regularly at the Bronx Zoo, Central Park Zoo and Queens Zoo in NYC. Other selected theater credits include the Kennedy Center for the Performing Arts, Ford’s Theater, Round House Theater, Imagination Stage, Surflight Theater, Capital Repertory Theatre, Cape Rep Theatre, and Universal Studios Florida. Dave now resides in Wauwatosa with his wife, Mary, and two children, Angela and Johnny.

MELANIE WEHRMACHER (Playwright- The iRiver Cleanify App) has written a significant body of work for museum theatre as a writer for the Science Museum of Minnesota, the Central Park and Bronx Zoos, and the NY Hall of Science. Other writing credits include Reminiscences (Jackson Rep), The Mail Play (Looking Glass), The New York Times (Baobab Groove), Experiment (Secret Theatre), and her solo shows Trip (Provincetown Playhouse), and Hotdish with a Hot Dish (Creative Center.) Awards include the Jig Cook Playwriting Award, Sam French Festival semi-finalist, a Field Work residency, and Best New Play (KC/ACTF). Ms. Wehrmacher is a member of the Dramatists Guild of America.

JONATHAN ELLERS (Playwright- Hey, Wazza Water Cycle?) has worked in the field of theater for young audiences for twenty years as a director, manager, playwright, and deviser of unique live interpretive experiences for museum and zoo visitors. Jonathan spent nine years running Wildlife Theatre at Zoos in New York City. Since then he has worked as a playwright/director/deviser of interpretation for such organizations as Conservation International, General Electric, the Children's Museum of Indianapolis, the New York Hall of Science and the New York Botanical Garden.

ERNIE NOLAN (Playwright- Dr. McGhee Learns about the Sea) is a writer and director based in Chicago. As a theater-for-young-audiences playwright, his work has been featured both nationally and internationally. Several of his works including A Fairy Tale Life, Snow White as Performed by TJ Barker and his Troupe of Theatricals, and Beasts are published and licensed by Dramatic Publishing. His adaptation of Eileen Christelow's Five Little Monkeys, which originally premiered at Adventure Theatre in Glen Echo, MD, will tour the country next year. His commission for La Jolla Playhouse, A Lonely Boy's Guide to Survival (And Werewolves) was workshopped at the Kennedy Center's New Visions New Voices symposium and opened at La Jolla in the spring of 2013. He is on faculty at The Theatre School at DePaul University and serves as Producing Artistic Director for Emerald City Theatre in Chicago, IL.
About the Artists (continued)

JOHN TANNER (Composer/Sound Designer) is one of the principals of Tanner-Monagle, with years of experience in scoring, arranging and music composition for television, radio, industrial video and theatre. His commercial music has won numerous awards, including Golden Reel Awards; Telly Awards; national, regional and local American Advertising Federation “Addys.” He has written original scores and designed sound for theatrical productions at the Milwaukee Repertory Theatre, Yale Repertory Theatre, American Player’s Theatre, Cincinnati Playhouse in the Park, Oregon Shakespeare Festival, First Stage Milwaukee and many others.

STEVE BARNES (Set/Props Designer) is a Racine-based set designer who has designed for the Milwaukee Rep, First Stage Children’s Theatre, Milwaukee Chamber Theatre, Renaissance Theatreworks, In Tandem Theatre, as well as Lawrence University and the Racine Theatre Guild. Steve holds an MFA in Scenic Design from Purdue University.

ANDREA BOUCK (Costume Designer) is a recent MFA graduate in costume design from the University of Illinois at Urbana-Champaign. She now manages the Costume Shop at First Stage Children's Theatre in addition to designing costumes for other area theaters.

BRANDON KIRKHAM (Puppet Designer) received his MFA in Costume & Scenic Design at Ohio University, and works as a Props/Crafts Artisan at First Stage Children's Theatre in Milwaukee. Brandon's Puppets have been seen in venues across the country.

THE ACTORS - KWT employs numerous professional actors that perform many different roles in our various shows. Casting changes with each performance, but if you want to learn more about each individual actor you can see their bios at http://www.zoosociety.org/Education/WildTheater/Cast.php.