

# AT THE TURNING OF THE TIDE

A performance spectacle celebrating the Hudson River Estuary  
Audiences: Grades K-12, Families



Combining themes from regional history and natural science, this painterly production reveals the life and times of one of America's great rivers. Archetypal puppet and mask characters portray the tidal rhythm of the estuary, the eat-and-be eaten dance of the food chain, the invention of the steamboat, settlement of river towns, fishermen, mill workers, captains of industry, landscape artists & the modern battles to clean up the river. Buoyed by live music and punctuated with pithy narrative, **At the Turning of the Tide** is a unique introduction to an extraordinary place. 55 minutes in length and performed by a four -member company.

Recent performance credits include: Puppet Showplace Theatre, Brookline, MA ~ New York State Museum, Albany, NY ~ Montclair Art Museum, Montclair, NJ ~ Papermill Playhouse, Millburn, NJ ~ Williams College, Williamstown, MA ~ The Imagine Festival of Art & Ideas, New York, NY ~ Clearwater Revival, Croton, NY~ West Chester University, West Chester, PA ~ Skidmore College, Saratoga Springs, NY ~US Arts, Beacon, NY ~ Battery Park City, New York, NY ~ Old Songs Festival, Altamont, NY ~ Vassar College, Poughkeepsie, NY ~

Production of this show has been made possible by grants from the New York City Environmental Fund and the New York State Environmental Protection Fund through the Hudson River Estuary Program. Performances in New York are made possible, in part, by public funds from the NY State Council on the Arts, a State Agency.

## TECHNICAL INFORMATION

This production can be presented outdoors or on a stage. It involves three performers animating approximately 40 puppet and mask characters, which range in size from 12" to 8' high. The show is performed in and around five set pieces. Two musicians with an array of instruments are positioned downstage right. The show is designed for a proscenium stage. It will not work in the round or on a thrust stage if audience is seated on the sides.

**Company Size:** 3 performers, 1 or 2 musicians

**Running Time:** 55 minutes.

**Space Requirements:** 36'W X 25'D X 15'H

**Tech Support:** 1 sound technician, 1 lighting technician (for small community festivals we can provide our own sound system)

**Load-in:** We will arrive two hours prior to house opening. Two stagehands are needed to assist in the load-in. A parking place is required for our bus (22' L X 8'W X 9' H, NY license plate # A98 8LN).

**Set:** The main set piece, which includes a puppet theatre proscenium, measures 11' W X 10' H X 5'D. It stands at stage center, approximately 10' upstage of the apron. This center set is flanked on each side by a pair of free-standing structures that measure approximately 2'W x 11'H.

**Lighting:** Balanced stage wash is needed plus specials on the puppet proscenium and each of the four side units. The musicians downstage left also need to be accented. There are approximately eight lighting changes during the show.

**Sound:** Arm-of-the-Sea comes equipped with all instruments, microphones and effects. Direct box for patching into the House sound system is needed downstage left. The musicians will mix their sound on a small mixing board on stage, then send that pre-mix to the House board. Sound board operator will control overall EQ and volume. One stage monitor is required downstage right for the musicians. If necessary, in small theaters we can use our own sound system. Please clarify this arrangement with us beforehand.



# **ARM-OF-THE-SEA THEATER** A Study Guide for ***At the Turning of the Tide***

## ARM-OF-THE-SEA THEATER

Arm-of-the-Sea is a theater troupe that explores current issues through the ancient traditions of mask & puppet theatre. We are interested in this style of theater because it can hold the attention of many different people. Since 1982 we have been combining the arts with themes from history and science to portray how humans are part of the larger community of living things. We present our shows at performing arts centers, outdoor festivals, public schools and colleges throughout the region and beyond. Each August in Saugerties, NY we host our Esopus Creek Festival of Mask & Puppet Theater. You can find out more about us on our website: [www.armofthesea.org](http://www.armofthesea.org).

## ART & ECOLOGY

Art invites us see the world in new ways, connecting things that may seem very separate and unconnected. We learn from both art and ecology that the world is entirely interconnected.

There are many images and ideas presented in our plays. Some things may be clearly understood, others are more mysterious. Our primary goal in presenting our work in schools is to give students an experience in the tremendous power of the arts. It's OK if they don't "get" everything immediately. That, after all, is a life-long process.

## INTRODUCTION TO THIS PLAY

**At the Turning of the Tide** is a theater performance that celebrates ESTUARIES. Estuaries are special *ecosystems* where salty seawater mixes with fresh water from the land. Arm-of-the-Sea Theater takes its name from the Hudson River Estuary and this show explores some of the nature and history of the Hudson. At the beginning of the show, the High Puppet Court is in session with a judge and two funny "point of view" lawyer characters. The audience is asked to be the jury---a group of people selected by the court who weigh the information and make a wise decision concerning the case. In this particular case, the court is examining the question: What is the Hudson River Estuary good for?

## MORE ABOUT ESTUARIES

One thing that estuaries are definitely "good for" is nurturing and sustaining many living things. Because of this, estuaries are often described as cradles of life. They are compared with rainforests and coral reefs in what biologists would call their "biological productivity." Their shallow, protected waters are rich in nutrients and move with the twice-a-day motion of the ocean's tides. This alternating tidal current affects the lower half of the Hudson, from the dam at Troy south 150 miles to the river's mouth. The saltiness or *salinity* of the Hudson Estuary increases as one moves closer to the sea. The leading edge of seawater entering the Estuary is called the *salt front*. The *salt front* changes as a result of the changing amounts of fresh water entering the estuary. For example, during the spring when there is extra rain and snowmelt, the increased amount of fresh water pushes the salt front closer towards the sea. It is important to note that, in most cases, one can't taste the Hudson Estuary's saltiness; it has to be measured by scientific instruments.

## ENERGY, FOOD CHAINS AND PUPPET THEATER

All living things need energy. Food (also known as *nutrients*) is the source of energy that keeps life functioning. All the energy contained in food is repackaged solar energy. In our play as in real life, the food chain begins with green plant cells changing the sun's energy into sugar. This process is called *photosynthesis* and green plants are known as *primary producers* because only they can capture solar energy and convert it into the chemical energy of sugar. This chemical energy changes form as plants are eaten by animals and those animals are, in turn, eaten by other animals. This is called a food chain.

In this play, a rainbow ribbon represents the sun's energy.

Colored spirals are the elemental *nutrients*, the building blocks of life.

The food chain is enacted by large colorful mask characters interacting with tall painted sculptures:

- green plant cells take nutrients from the water and change them via *photosynthesis* into sugar,
- strange-looking microscopic animals called *zooplankton* which feed on the tiny floating plants
- hungry fish, *the predators*, gobble up the zooplankton
- larger predators in the form of a fish hawk and harbor seal feed upon the fish
  - a blue crab, representing the *detritivores*, eats the dead hawk.
- Finally, the blue crab dies and its body decays, releasing nutrients back into the water.

## A RIVER OF HISTORY

Because of its location and abundant resources, the Hudson Estuary has been long been a desirable place for humans. Native Americans came to the shores of this “river that flows both ways” back when the glacial ice sheets were melting, some ten thousand years ago. Several different Native cultures developed and flourished here. We know about them from finding their chipped-stone tools and large mounds of oyster shells where they had feasted on the estuary’s bounty. About five hundred years ago sailing explorers from Europe showed up. They were looking for a shortcut to India. Shortly after that, Dutch settlers arrived. They bought, tricked or stole land from the Native people and set up more permanent towns in the colony they called “New Netherlands”.

When the English took over from the Dutch in 1664, New Netherlands became New York. A century later, during the War for Independence, several crucial battles were fought along the Hudson. With the rise of industry and the opening of the Erie Canal in 1825, the Hudson became a major commercial highway, streaming with ships and cargo from around the world. The port of New York was, and still is, a doorway to the New World for millions of immigrants who have shaped our nation.

## BIRTHPLACE OF THE ENVIRONMENTAL MOVEMENT

Obviously, our civilization has brought many changes to the Hudson Estuary and the surrounding lands. Some of these changes have diminished the beauty and the natural productivity of the river. But the Hudson has long inspired people to act in its defense. In fact, this region is one of the birthplaces of the modern environmental movement. In the show we portray three struggles to protect and restore the river:

1.) For many years towns dumped their waste products into the river. This loaded the river with excess nutrients and it became like an open sewer. This situation began to be fixed in 1972 with the passage of the law known as the Clean Water Act. The law required sewage treatment plants to be built and this has dramatically improved the water quality.

2.) A number of electrical generating stations are sited along the Hudson. These power plants withdraw large amounts of water to cool their machinery. However, many fish and other aquatic organisms are killed because of these cooling water withdrawals. Some steps have been taken to lessen the damage but this issue has never been completely resolved.

3) Many industries flourished along the banks of the Hudson. Unfortunately, they also used the Hudson as a handy place to dump their wastes. Some of these wastes were man-made chemicals that don’t break down or *bio-degrade* into harmless material. Instead, they are taken up into the bodies of plants, animals and people. In the show we call these man-made chemicals the “New Chemistry”. PCBs are one of those new chemistries that were dumped into the Hudson in great quantities. They can cause cancer and other health problems. There has been 25 years of debate and studies about dredging them out and yet the PCBs remain in the river.

## IT’S YOUR ESTUARY

The health of the Hudson Estuary is affected by the millions of people who live near its shores. How we manage our energy needs, our wastes, our transportation systems and our lawns and gardens has impacts on the river. At the end of the show the Judge concludes: “Members of the jury, you have seen the evidence. Now, it’s up to you to decide what the Estuary is good for. Clearly, its future is in your hands”.

## TWO GOOD BOOKS

You can learn more about the Hudson River Estuary from *The Hudson: An Illustrated Guide to the Living River* by Steve Stanne, Roger Panetta and Brian Forist. Also recommended for older students is Robert Boyle’s *The Hudson: A Natural and Unnatural History*.

Write to us. Send us your drawings. Tell us what you liked or didn't like about the show.

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