



RISING TIDE

WHITE SEABASS
IN THE CLASSROOM



THE MAGAZINE for YOUNG ANGLERS
and CONSERVATIONISTS.

What
to Wear
While you
Wade!

FISHIN'
KIDS



PLUS MORE!
Photos, Articles & Activities!

RIISING TIDE

THE MAGAZINE for YOUNG ANGLERS and CONSERVATIONISTS.

Coastal Conservation Association (CCA) is a non-profit marine resource conservation organization. It has been active in almost every national fisheries debate for decades and has been a driving force in state and federal fisheries management issues. With your continued support, CCA will continue to battle for the health and longevity of our coastal fisheries and for recreational anglers' interests in them.

Editor and Designer Heather Peterek

Consulting Editors Patrick Murray
Ted Venker

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ON THE COVER

Six-year-old Madeline Stunz loves to wade fish with her family every chance she gets. On a recent outing in Aransas Bay, Texas, she caught several large trout and redfish on her favorite chartreuse scented lures including this nice redfish. She likes to release all her fish to catch another day and gives each one a kiss before letting them go. Her favorite phrase when it is time to leave is, "Just one more Dad."

What's Inside:

Seabass in the Classroom **4**

High School students in California are raising white seabass in the classroom to be released into the wild.

Wade Fishing Gear: 101 **6**

Tips on what to wear while you wade.

Activity Time **8**

Test your drawing skills, learn to tie a fishing knot and make some crab cupcakes!

Kids Fishin' Photos **10**

Kids from all over the nation show off their trophies.



Volunteers forming a human chain to unload bagged shells from the boat to the shore for planting.

planting oysters?

It's how you begin restoring an oyster reef! And that's exactly what lots of kids in South Carolina are doing with their local CCA chapters.

HOW DOES IT WORK?

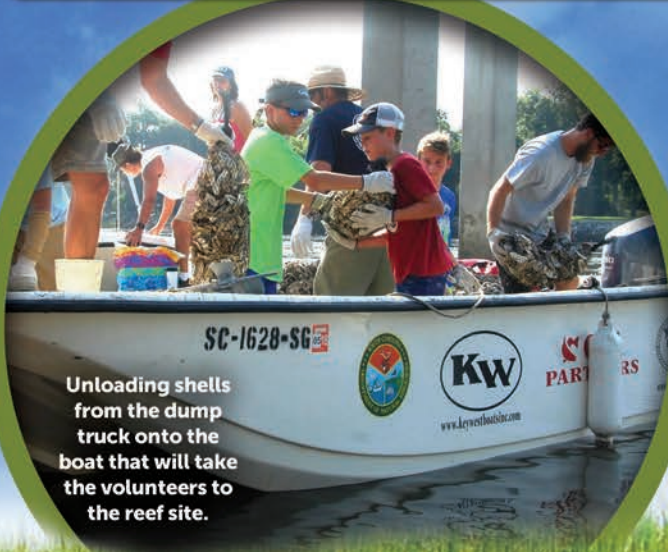
Immature oysters at the free-swimming larvae stage attach to a solid surface or substrate to grow. This is called a "setting." Oysters have evolved a preference for setting on other oyster shell. This is exactly the reason recycled oyster shell is used for oyster restoration projects.

Recycled shells are bagged and prepared for planting in intertidal areas whose oyster populations have been diminished. This planting is called oyster reef construction, or oyster habitat restoration. The process consists of moving pre-filled shell bags from a stockpile or staging area to the shoreline site where the reefs will be located. Since all reefs are built on **intertidal** sites, construction is scheduled at low tide.



A young CCA member and volunteer placing the bagged recycled oyster shell in the mud where a new reef will form.

intertidal
in-ter-ti-dal; adjective
The area of a seashore that is covered at high tide and uncovered at low tide.



Unloading shells from the dump truck onto the boat that will take the volunteers to the reef site.

substrate
sub-strate; noun
The base on which an organism lives.

WHY ARE OYSTER REEFS IMPORTANT?

Oysters are an important component of the living ecosystem of the bays and estuaries in which we fish.

The most widely known ecological function of the oyster is that they filter the water. Oysters are considered the vacuum cleaners of the waterways. They filter the water, removing organic and inorganic particles from the water column resulting in cleaner water which positively impacts other species. Oysters can selectively choose and feed on microscopic phytoplankton, or algae, removing the algal biomass from the water. Oysters also remove other suspended solids from the water column and package them into bundles which they release as pseudofeces. This bundle is then utilized by other organisms on the oyster reef for food.

Additionally, the presence of oyster shells creates a hard bottom, or **substrate**, that provides habitat for other marine organisms. Much marine life depends on the existence of the shell to grow. Barnacles, mussels, and anemones all require a hard bottom on which to attach and to grow. Oyster reefs also provide shelter and spawning areas for other waterway residents. A gaping oyster shell can provide a substrate for fish eggs to be attached to, while offering protection from predators at the same time. The nooks and crannies of the reef formation offer habitat to different species of worms, mollusks, fish, and crabs. The presence of these organisms attracts larger predators which in turn attracts even larger predators. The existence of an oyster reef truly creates a dynamic environment.

Without the presence of the oyster reef other marine life would not be able to move in and colonize the reef. Oysters filter the water, provide habitat, and reproduce to increase natural numbers in the bay.

If you ever have the opportunity to get out and plant some oysters, make sure you take it!



Raising WHITE SEABASS in science class!

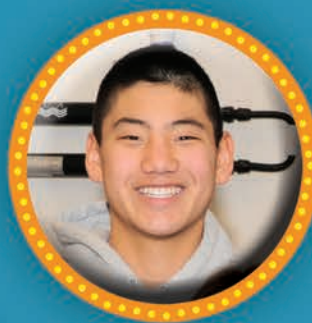
High school students raise juvenile white seabass in the classroom as part of their science curriculum. Toward the end of their school year they release the juvenile fish into their local waters to replenish the wild fish stocks.

Three years ago, science teachers Greg Gardiner and Dave Grace transformed an old auto shop at Edison High School (Huntington Beach, California) into a marine science lab. This transformation made it possible for Hubbs-Sea World Research Institute to deliver 50 juvenile white seabass to the school for a unique saltwater program called **Seabass in the Classroom**.

Edison High School is one of 11 in Southern California equipped with this program. **Seabass in the Classroom** raises three-inch juvenile white seabass for a few months then releases them into the ocean. CCA California (CCA CAL) is proud to be a partner in this successful program which

is a part of the Ocean Resources Hatchery Enhancement Project (ORHEP) in California.

At Edison High School's white seabass program, it's up to students like CCA CAL Youth Member Donnie Skolnick to take care of the growing fish.



"The fun and rewarding part of all those months of raising our fish is the feeling you experience while watching those young white seabass swim into the Pacific Ocean." - Donnie Skolnick, CCA CAL Youth Member

Every day, students fed the fish, checked the water quality, graphed the growth rates of the fish and measured their food consumption.

The students also participated in hands-on laboratory activities. After dissecting a fish not slated for ocean release, the students learned how to monitor nitrogen levels in the tank. The dissection also taught them about lifecycle, reproductive rates, and anatomy.

A month before release, the students tagged the white seabass. This process involved anesthetizing them (putting them to sleep), then inserting a small needle in the cheek muscle to deposit a small tag.

By the time the sea bass were released into Huntington Harbour, the fish weighed about 7 ounces each.

White seabass raised in the classroom through **Seabass in the Classroom** contribute to a much larger effort by Hubbs-SeaWorld, which has replenished over two million of the fish into the ocean since the start of their efforts in the late 1980s.



Students kept careful track of health, graphing growth rates and measuring food consumption.

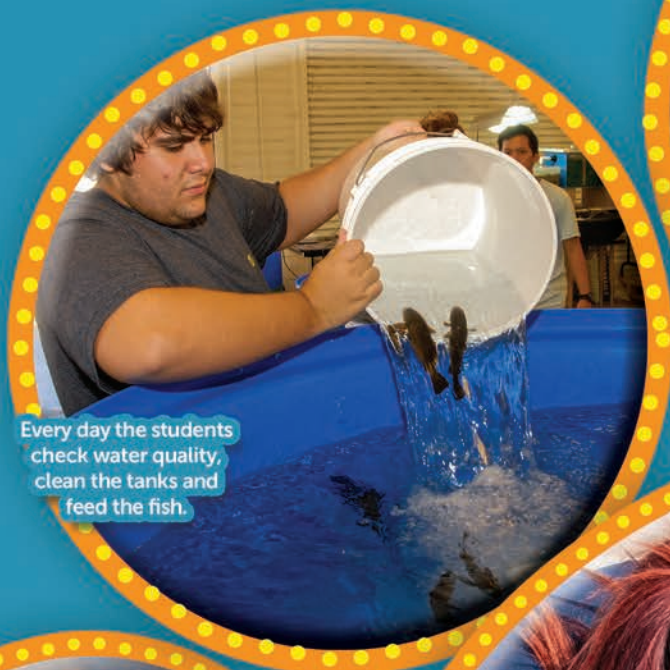




Real-life scientists are being formed, not by being handed a textbook to read about fish, but by hands-on laboratory activities, field research, data collection and analysis necessary for raising white seabass for release into the wild.



They compared the fish's water with that of nearby ocean sites, checking salinity, oxygen, temperature and other factors.



Every day the students check water quality, clean the tanks and feed the fish.



By the time the seabass were released into the wild, they weighed about 7 ounces.



A month before release, the students anesthetized the fish (put them to sleep), then inserted a small needle in the cheek muscle to deposit a small tag.

HSWRI's SITC program is a partnership with the California Department of Fish & Wildlife and Get Inspired, Inc. and is funded in part by Chevron Corporation, Edison International, and an SDG&E Environmental Champions grant.



A young person with blonde hair, wearing a black visor with 'MAJER' on it, sunglasses, and a white button-down shirt, is wading in shallow water. They are holding a large, dark-colored fish with spots. The background shows a body of water with ripples. The title 'What to Wear While you Wade!' is overlaid on the right side in a large, blue, bubbly font with a white outline and an orange drop shadow.

What to Wear While you Wade!

Stepping into the water and wade fishing is one of the most exciting ways to fish. You leave familiar ground, literally, and are now chasing fish in their territory, and they have all the advantages. You have to be prepared to enter this watery environment and deal with all kinds of obstacles, most of which you can't even see. From mud to sharp shells to cold water, successful wade fishing depends a lot on how you dress.

For starters, keep in mind that while you might not see the fish, they can probably see you, particularly if you are wearing bright colors. This isn't the place to be flashy - wearing clothes that can be seen underwater from more than a few feet can spook the fish, which are especially skittish when they search for food in shallow water. Avoid flashy colors and patterns. When you are wade-fishing, drab is good, so stick with browns, tans, and dark greens. And it's always a good idea to wear long pants as a defense against scrapes and sticks by shells, hooks, fins and jellyfish.

You absolutely must have some kind of footwear when wade fishing - this is no place for bare feet. Tennis shoes or water socks will work in a pinch, but wading shoes and wading boots are built to protect your feet in this environment. Every now and then you will stroll into a really muddy patch so make sure your wading boots are snug enough to pull out of gooey mud. Always shuffle your feet to feel the ground ahead so you can avoid slipping into a deep spot or stepping on a stingray.

If you're wading in the winter, you simply must have gear that will seal out moisture as well as the cold. Wearing several layers of clothing is better than a single heavy coat to keep warm, and over it all you will need chest-high waterproof waders to keep dry. Waders and layers will keep you comfortable unless you go too deep and water rushes over the top of your waders. Not only will you be cold and wet, you will look like a water balloon when you try to climb out! It's important to always stay in your depth because full waders make it difficult to move in the water, and especially hard to get yourself out of the water.

A very good idea while wade fishing is to wear some sort of flotation device like a life jacket. There are also several on the market that instantly inflate when an access cartridge is submerged. You should never plan to venture into water too deep to stand in, but holes and currents happen. And always stay close to a grown-up who can help get you back to land if you run into trouble.

When wade fishing, you're as close to nature as you can possibly get, so suit up appropriately. Having the right gear gives you the best chance to be comfortable and catch some big fish, too. Just remember to dress for success.

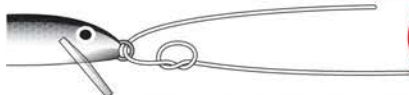


ACTIVITY TIME!

Can you tie this?

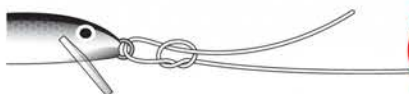
TERMINAL LOOP KNOT

This knot is used for tying on a lure that needs freer movement with a loop at the eye.



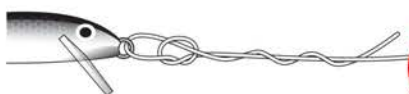
1

Tie an overhand knot 6 inches above the tag end of your line. Thread the tag end through the lure eyelet, and then through the overhand knot.



2

Make three wraps around the standing line.



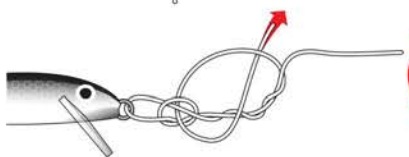
3

Pass the tag end through the back of the overhand knot.



4

Run the tag end through the new loop you formed in step 3.



5

Lubricate and tighten by pulling on the tag end, main line, and lure.

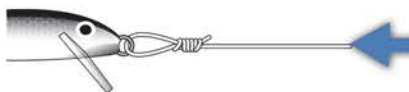
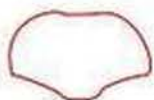


Photo by Pete Sucheski



FINISHED KNOT!

Try this! DRAW A CRAB IN 10 STEPS!



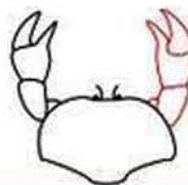
Draw the body.



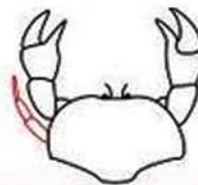
Draw eyes and antenna.



Draw 1st big claw.



Draw 2nd big claw.



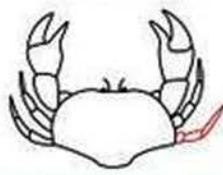
Draw 1st small leg.



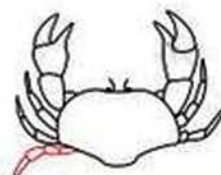
Draw opposite small leg.



Draw third small leg.



Draw opposite of third small leg.



Draw 1st back leg.



Draw 2nd back leg.

Make These!

CRAB CUPCAKES

You will need:



1 bag chocolate chips



1 bag Twizzlers PULL 'n' PEEL licorice



red food coloring



1 can white icing



1 package red cake mix

**Use red velvet cake mix if you can't find red cake mix.*

MAKE CUPCAKES:

1. Make the red cupcakes according to directions on the box and let cool completely.

MAKE ICING:

2. Set aside 2 tablespoons of the white icing to leave white for the eyes.

3. Add several drops of the red food coloring into the tub of icing until you make red icing.

ASSEMBLE:

4. Cut your Twizzlers PULL 'n' PEEL licorice into "leg" sized pieces.

5. Insert them into your cupcake so they are touching the plate.

6. Spread the red icing over the top of the cupcakes, covering the licorice.

7. Put 2 dabs of the white icing on the cupcake where the eyes will be. Then, push two chocolate chips into the white icing to complete the eyes.

8. For added effect, pour brown sugar on a tray or plate to serve as "sand" for the crab cupcakes to sit on.



KIDS FISHIN'

DO YOU HAVE A GREAT
CATCH THAT COULD MAKE
OUR KIDS FISHIN' PAGE?

To submit photos, have your parents:

1. Email to photos@joincca.org OR
2. Share on Facebook at [Facebook.com/CCANational](https://www.facebook.com/CCANational)

*If you submit a photo with a kid fishin' on a boat, they must be wearing a life jacket to be featured in the magazine.

*There are a lot of kids fishin' out there and while we try our best to get everyone's photo published, we cannot guarantee yours will be printed.



Megan



Tyler



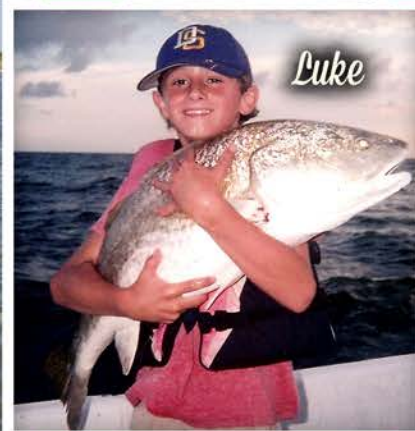
Dylan



Jay



Brooklyn



Luke



Laney

Lance



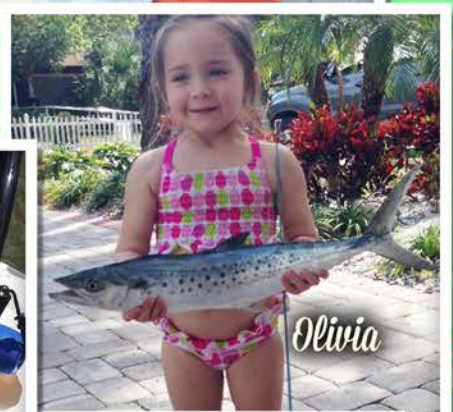
Aden



Landon



Trent



**Thank you
Valero!**

CCA & Valero Continue
Youth Partnership

Because of the generous support of Valero,
the Rising Tide Youth Program will
continue to thrive!


"Since the 2007 launch of the Rising Tide Youth Program, more children than ever are participating in community projects, local and statewide tournaments and in the conservation of coastal resources," said Patrick Murray, president of CCA. "But, there is still work to do, and Valero's generous sponsorship will allow us to continue focusing on the future of marine conservation through our youth programs."



CONSERVATION & PROTECTION OF MARINE LIFE

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At Valero, we're proud to be America's largest refiner, producing everything from gasoline to jet fuel. But we're also one of the nation's most environmentally responsible refiners, too. We think the Coastal area is one of the most important regions in the United States, and we want to help keep it that way. That's why we are proud to sponsor the Rising Tide newsletter. Inside, you'll find lots of interesting information, and you'll discover the fascinating world underwater.

We hope that with what you learn, you will grow up just as determined as we are to help protect one of our most valuable natural resources: the Coastal area of our United States.

