



LIONFISHDIVERS.COM

WHAT IS A LIONFISH?

BY VASILI KARALEWICH & ROGER J. MULLER JR.

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First Edition



**In the ocean deep and wide,
Creatures of all shapes reside.**



**Fish with colors, bright and bold,
In this underwater world, stories are told.**



**But here comes a fish, striped and keen,
With spines and fins, rarely seen.**



**It's a lionfish, from far away,
In these waters, it should not stay.**



**With no predators here to be found,
It swims and eats, all year round.**



I am hungry again!!

Fish and shrimp, it gobbles with glee
Changing the balance of the sea.



**A hero steps up, with a plan so grand,
Roger Muller, with a spear in hand.**



**From lionfishdivers.com, he comes with a mission,
To save marine life, that's his ambition.**



**With other divers, he dives into the blue,
Hunting lionfish, to protect the crew.**



**But he's not alone in this fight so vast,
People around the world are joining fast.**



**Coral reefs, once lively and fine,
Now at risk, with every dine.**



**But who can help, who's the one?
To stop the lionfish, something must be done!**



**Lionfish, lionfish, you can't hide,
We're all working together, side by side.**



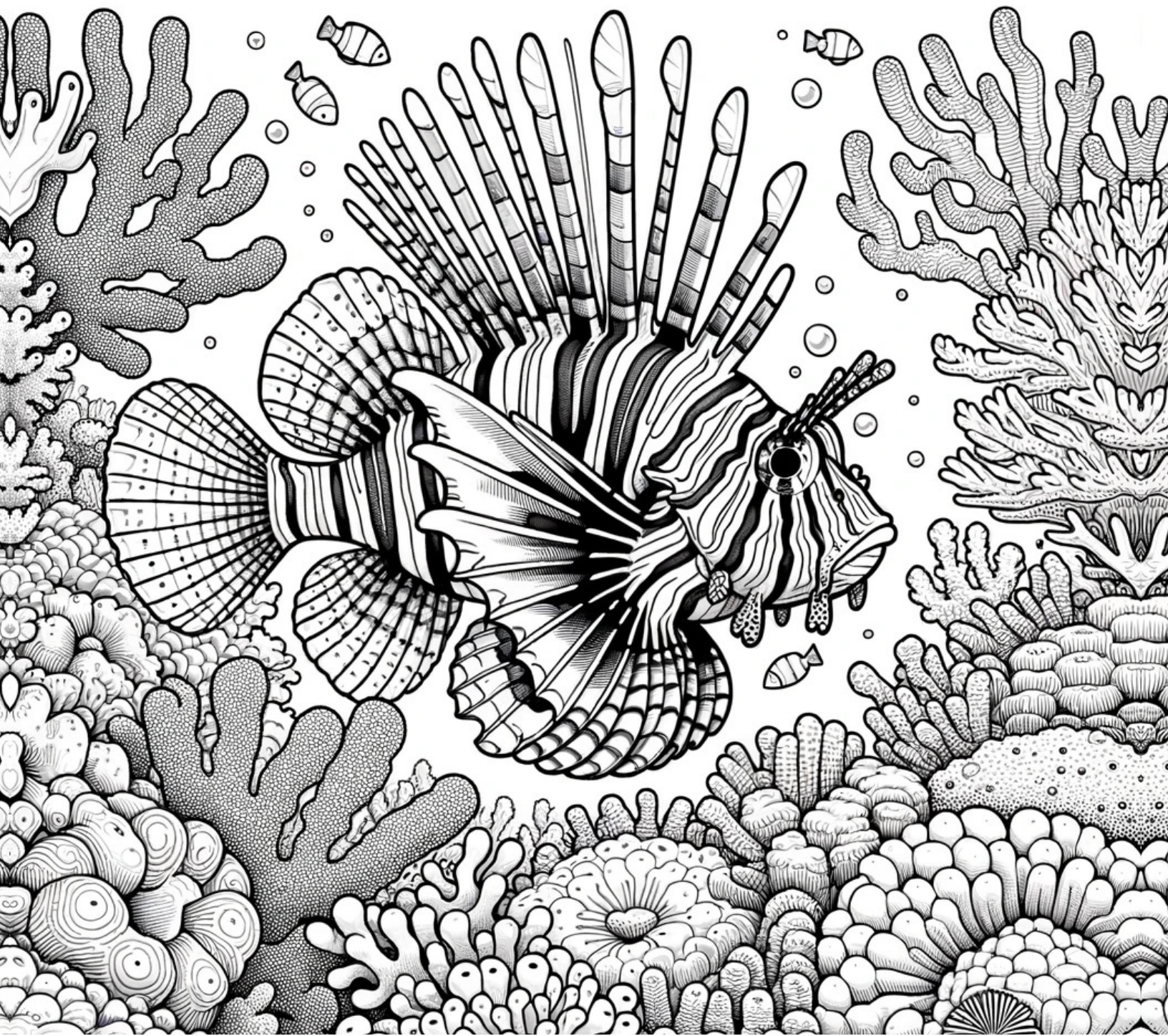
**Some lionfish caught, now what to do?
Let's cook them up, in a seafood stew!**



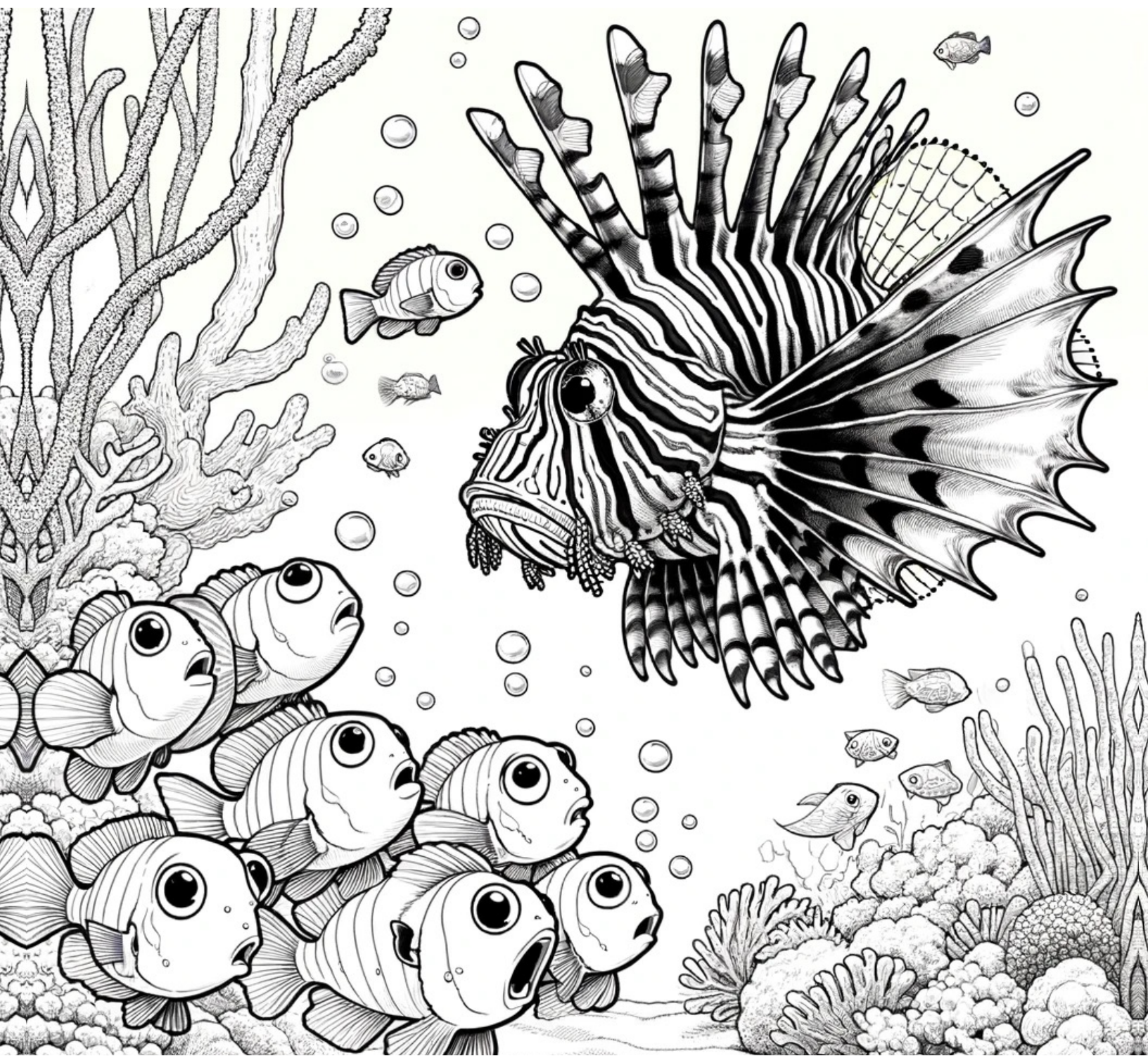
**Tasty and healthy, a meal so great,
Eating lionfish, helps balance the state.**



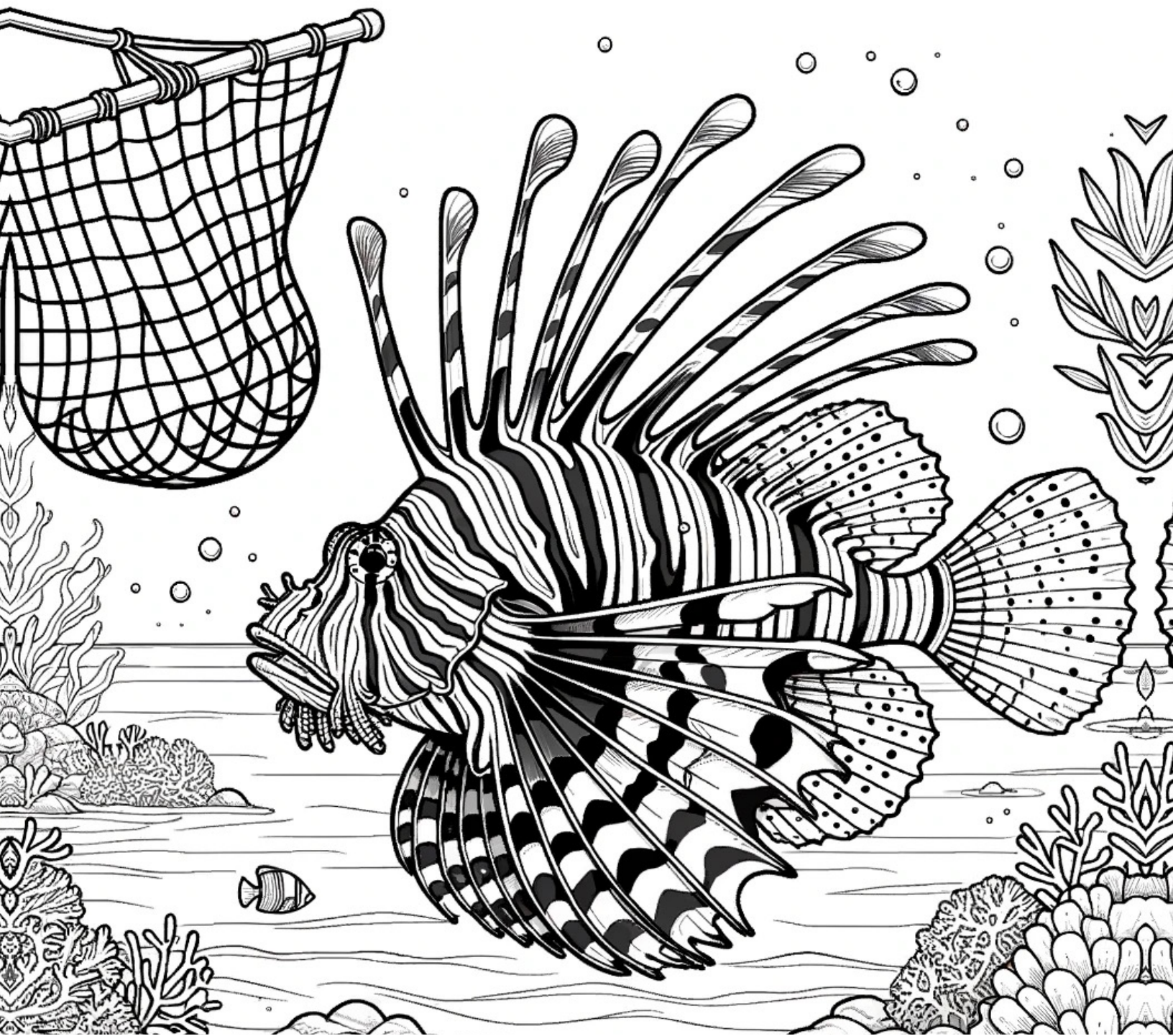
Each one of us can play a part,
In saving the ocean, let's all start.



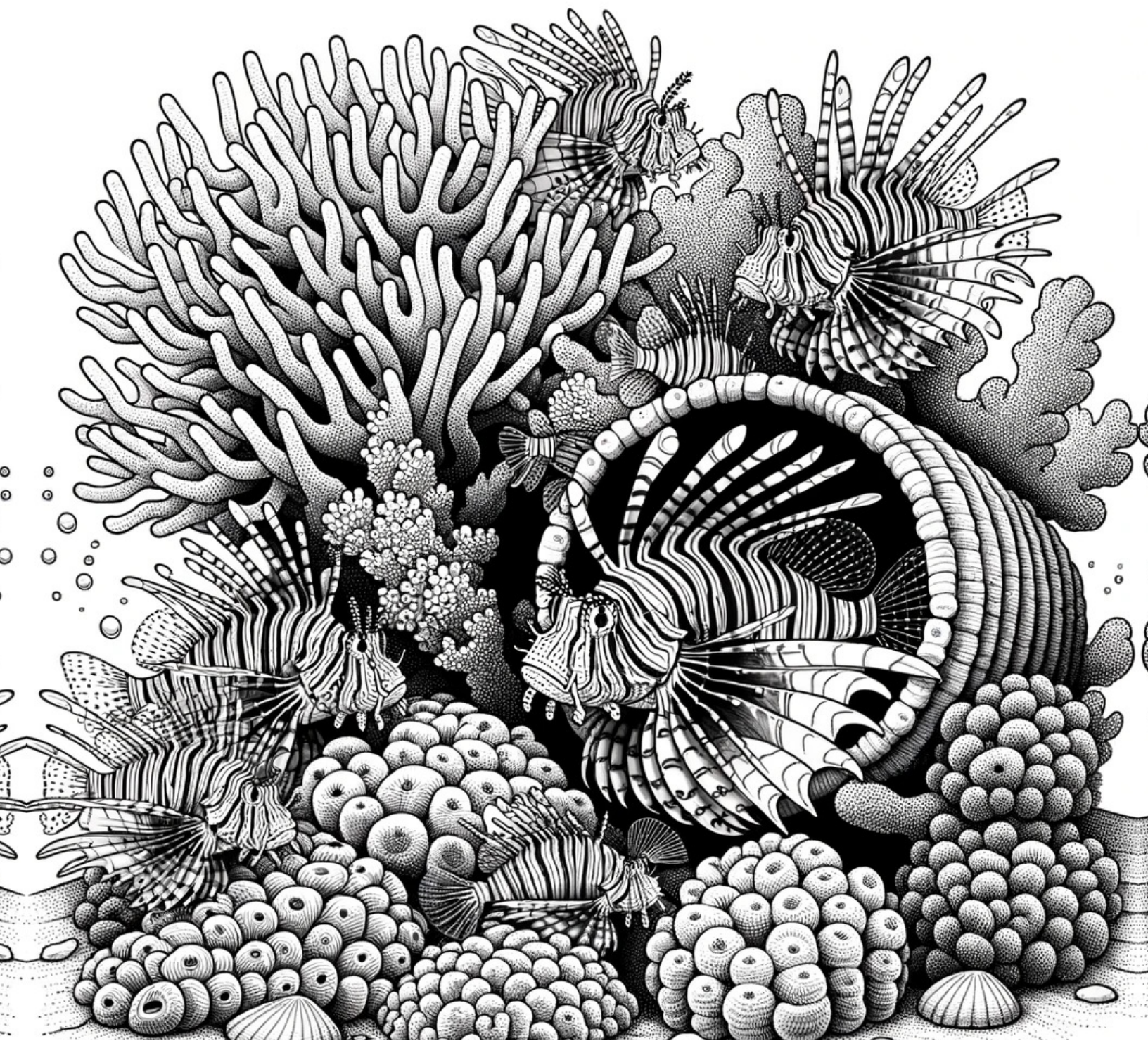
**Learn and share, spread the word,
About lionfish, let it be heard.**



**Join the mission, be brave and bold,
Protect our oceans, for young and old.**



**Together we'll make a difference, big and wide,
In the beautiful world of the ocean tide.**



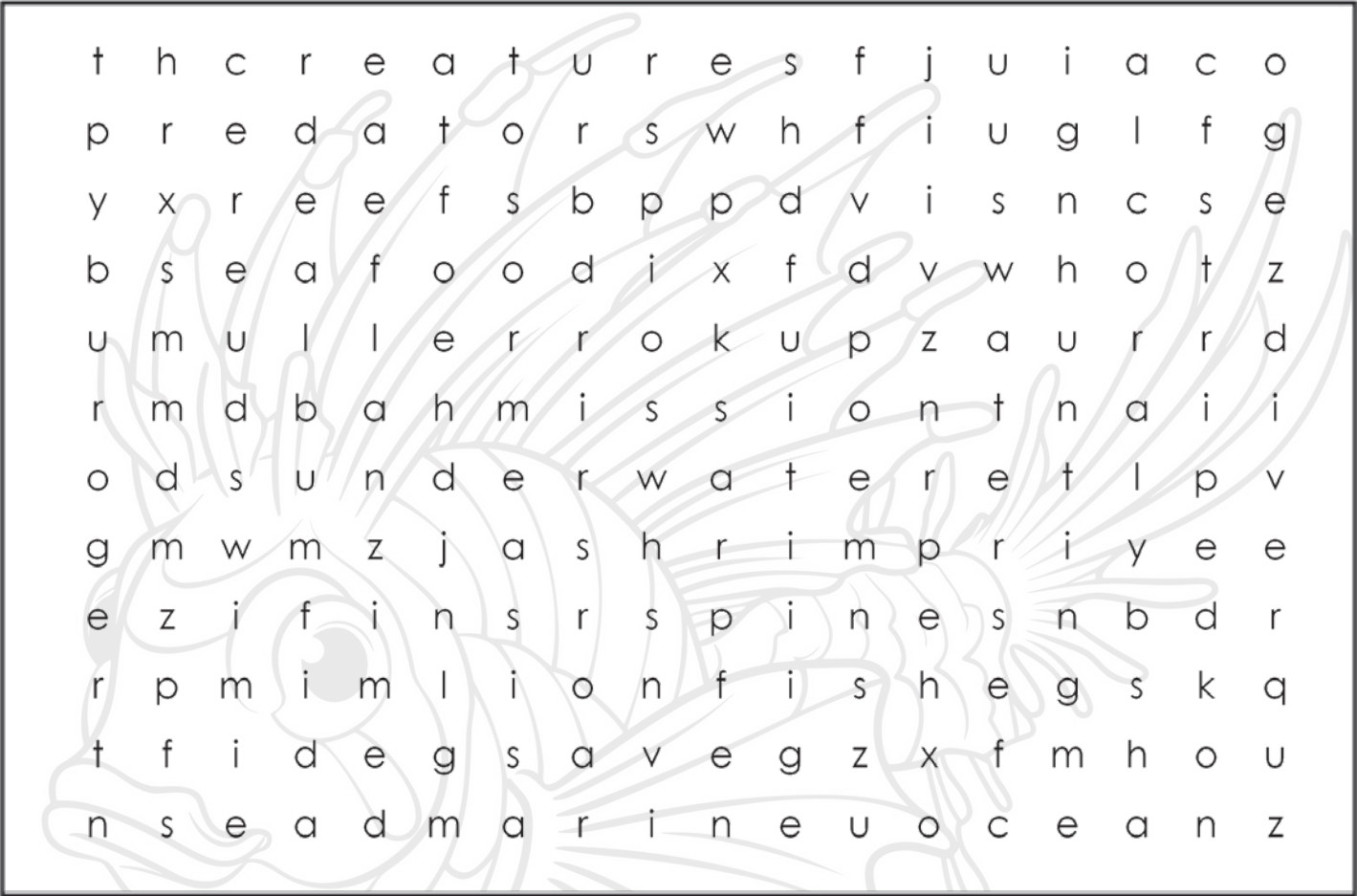
**So remember this tale of the fish from afar,
Together, for the ocean, we raise the bar!**

Lionfish Maze

Make your way
to the lionfish



Lionfish Word Search



t	h	c	r	e	a	t	u	r	e	s	f	j	u	i	a	c	o
p	r	e	d	a	t	o	r	s	w	h	f	i	u	g	l	f	g
y	x	r	e	e	f	s	b	p	p	d	v	i	s	n	c	s	e
b	s	e	a	f	o	o	d	i	x	f	d	v	w	h	o	t	z
u	m	u	l	l	e	r	r	o	k	u	p	z	a	u	r	r	d
r	m	d	b	a	h	m	i	s	s	i	o	n	t	n	a	i	i
o	d	s	u	n	d	e	r	w	a	t	e	r	e	t	l	p	v
g	m	w	m	z	j	a	s	h	r	i	m	p	r	i	y	e	e
e	z	i	f	i	n	s	r	s	p	i	n	e	s	n	b	d	r
r	p	m	i	m	l	i	o	n	f	i	s	h	e	g	s	k	q
t	f	i	d	e	g	s	a	v	e	g	z	x	f	m	h	o	u
n	s	e	a	d	m	a	r	i	n	e	u	o	c	e	a	n	z

Find the following words in the puzzle.

Words are hidden → ↓ and ↘ .

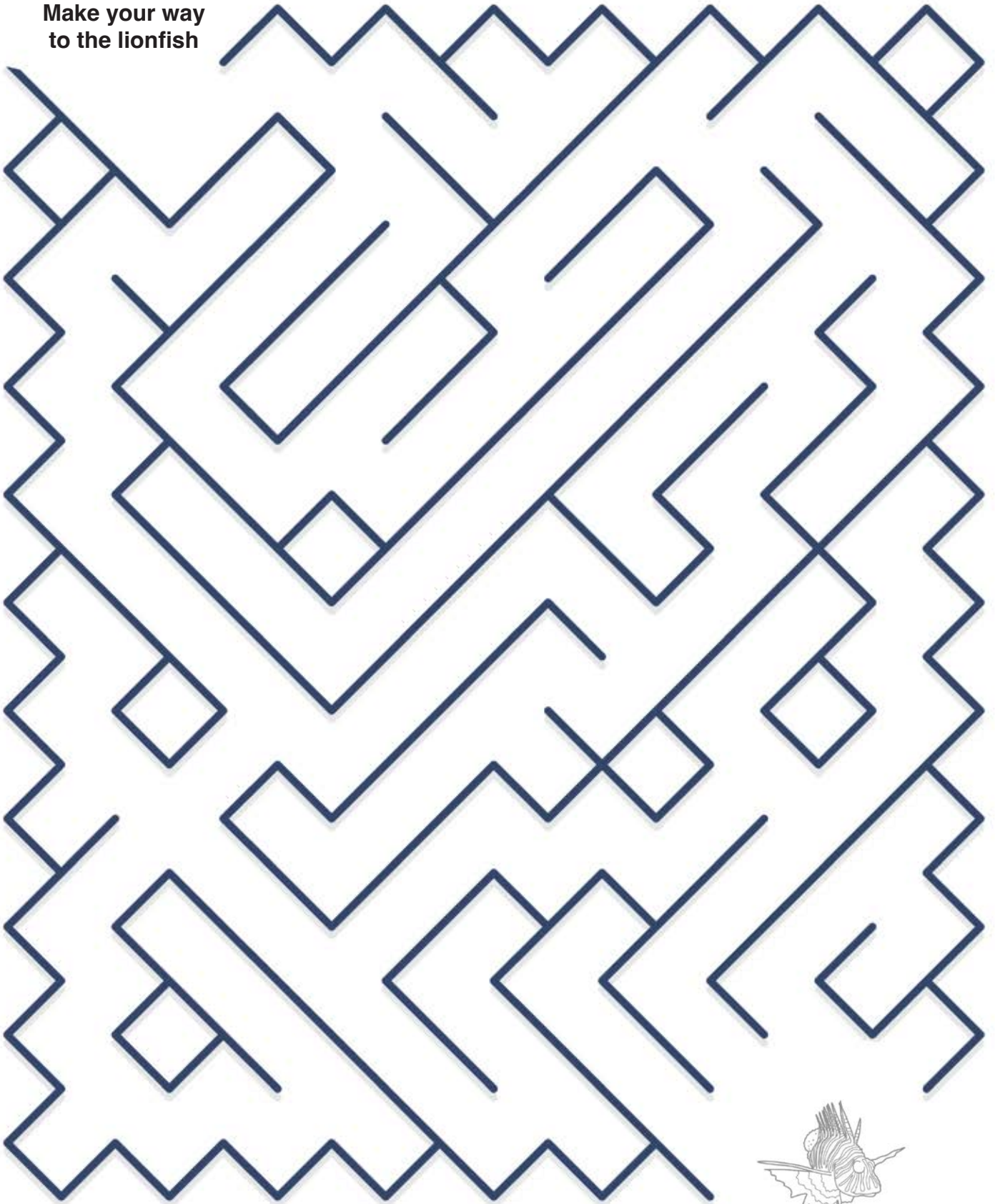
underwater
creatures
predators
lionfish
striped
hunting
seafood
mission

shrimp
muller
marine
spines
ocean
coral
reefs
roger

diver
water
fish
fins
swim
save
sea

Lionfish Maze

Make your way
to the lionfish



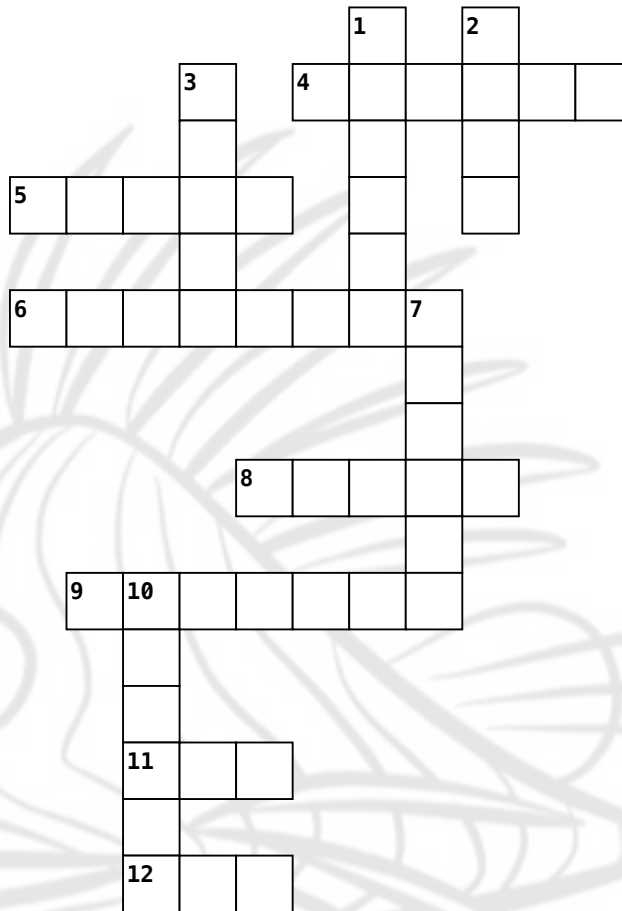
Mad Libs

1. Lionfish are also known as _____ (*noun*), turkey fish, red lionfish, butterfly cod, ornate butterfly-cod, peacock, red firefish, scorpion volitans, and devil firefish.
2. An adult lionfish can grow about _____ (*noun*) inches long. It is easy to identify by its white, brown, red, or maroon stripes.
3. Lionfish also have numerous _____ (*noun*) which are venomous. These spikes give them a striking appearance and are the primary reason they are aquarium species.
4. Lionfish usually have thick bodies and _____ (*adjective*) tails.
5. Lionfish have fan-like pectoral fins and fleshy _____ (*noun*) above their eyes and below their mouth.
6. Lionfish are considered an _____ (*adjective*) species because they pose potential harm to the marine ecosystem.
7. Lionfish are a top _____ (*noun*) in the ocean. They eat fish and threaten beneficial species like the algae-eating parrotfish.
8. Because lionfish have been found with full stomachs during the day, it was concluded that they hunt at _____ (*noun*).
9. In their range in the Atlantic, they can be spotted during the _____, (*noun*) so they are also perceived as diurnal (mainly active during the day).
10. They spend their time in _____ (*noun*) that they defend from intruders.

6. invasive
7. predator
8. night
9. day
10. territories

1. zebrafish
2. eighteen
3. spikes
4. short
5. tentacles

Lionfish Crossword Puzzle

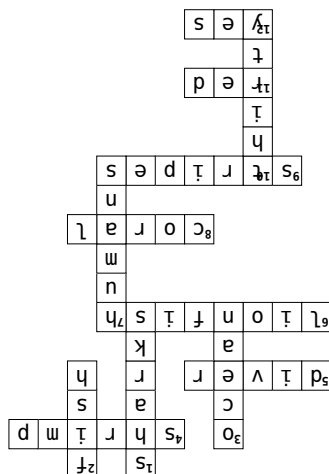


Across

4. What is a great food for lionfish
5. Someone who hunts underwater
6. Name an invasive fish
8. What kind of reefs do lionfish damage
9. How is the lionfish camouflaged
11. What color is a lionfish
12. Are lionfish dangerous to the ocean

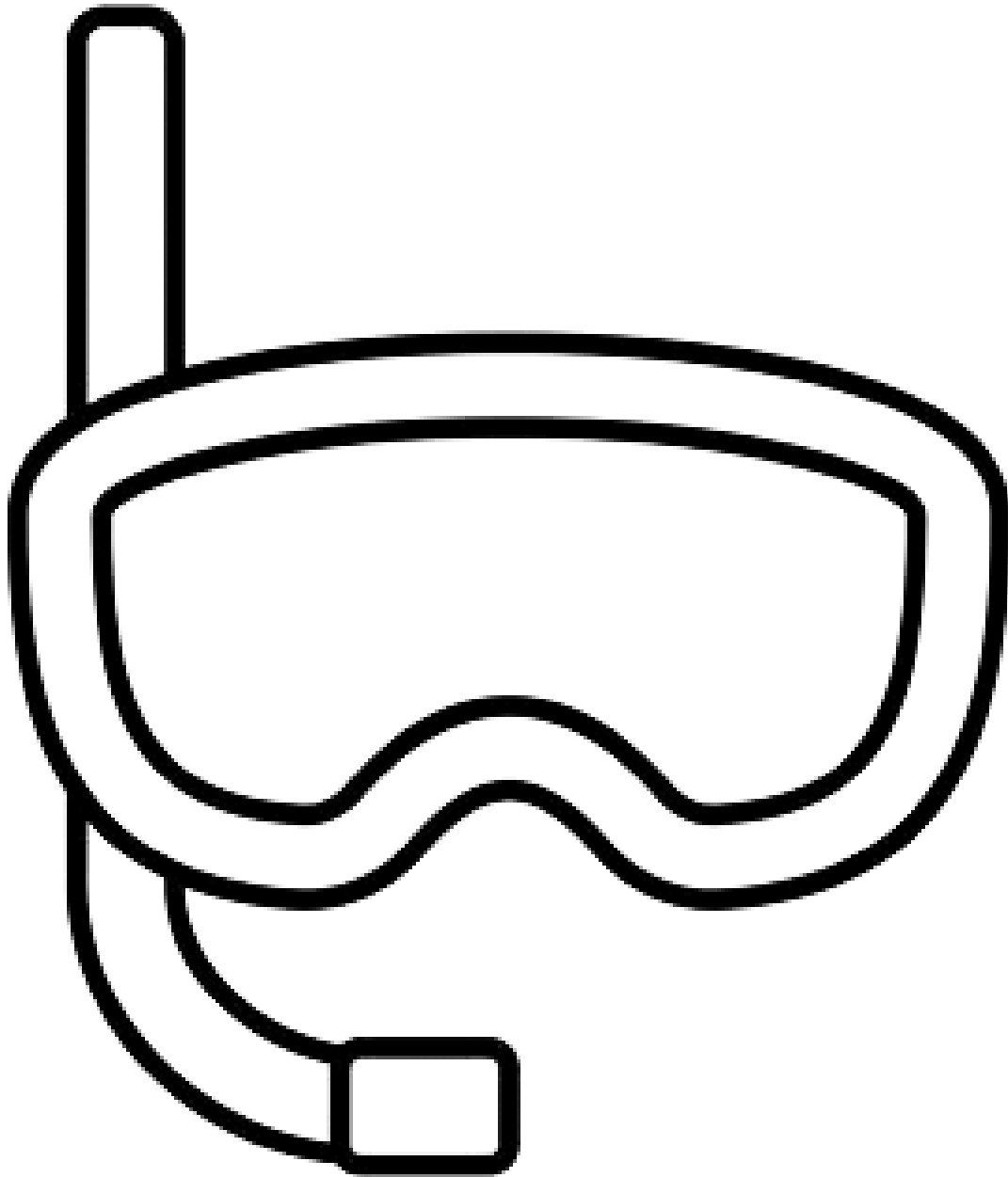
Down

1. What marine life eats lionfish
2. What has fins
3. Where does the lionfish live
7. Who else can eat lionfish
10. How many years could a lionfish live

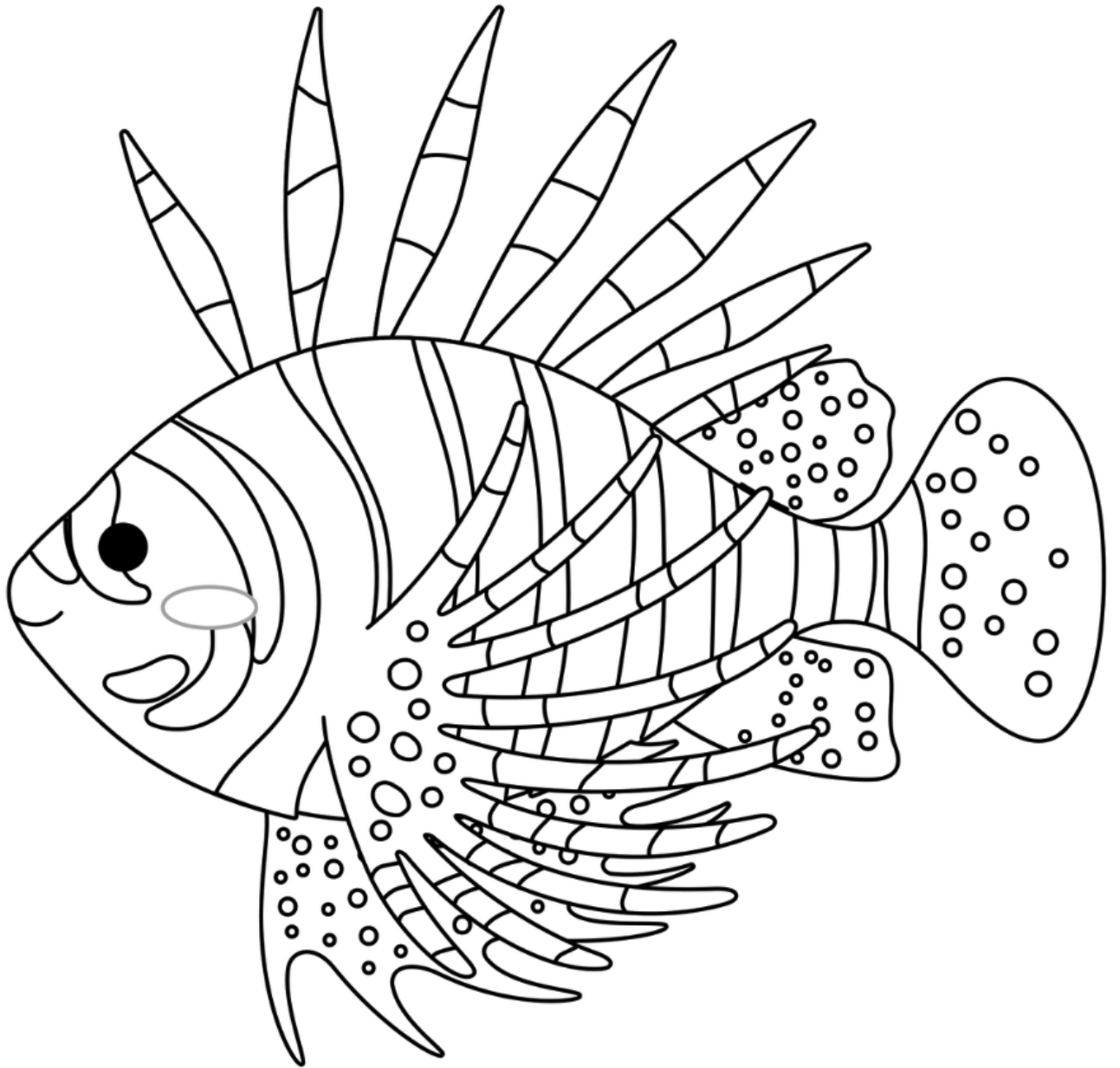


Answers

Draw your face in the scuba mask



Color the Lionfish



How different colors look underwater



How colors appear on the surface



How colors appear just below the surface



How colors appear 15 feet below the surface



How colors appear 99 feet below the surface

Lionfish Word Search

a	m	i	q	m	i	w	g	d	y	e	w
l	i	o	n	f	i	s	h	l	i	y	e
c	c	o	o	k	a	n	d	e	a	t	o
i	e	d	u	c	a	t	e	p	a	l	c
u	e	i	n	v	a	s	i	v	e	d	e
m	s	p	i	n	e	s	b	k	k	w	a
z	a	c	o	r	a	l	r	e	e	f	n
c	z	p	r	e	d	a	t	o	r	e	u

Find the following words in the puzzle.

Words are hidden → and ↓ .

cook and eat

coral reef

invasive

predator

lionfish

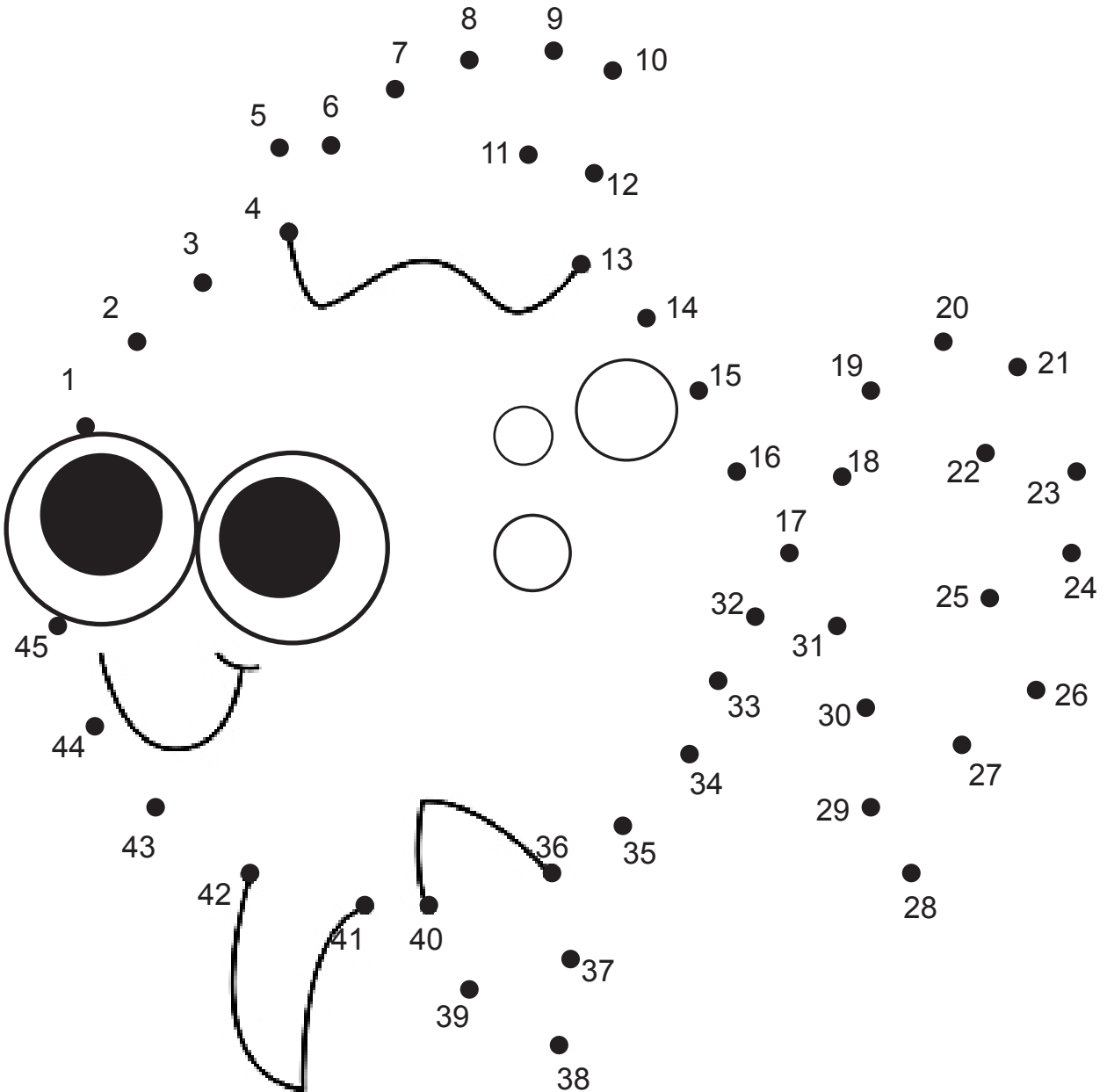
educate

spines

ocean

Dot-to-Dot

Connect the dots from 1-45 to complete the picture. Next, color the picture.



Questions/Answers About Lionfish

What is a Lionfish?

Lionfish, with their distinctive stripes and flamboyant pectoral fins, resemble something out of an aquatic fantasy. Native to the Indo-Pacific region, they are not just a visual spectacle but also a subject of great ecological concern. These fish belong to the genus *Pterois* and are known for their venomous spines. While striking in appearance, lionfish are a textbook example of beauty being more than skin deep, as their presence in non-native waters has proven to be ecologically disruptive.

Why are Lionfish a Threat to Ocean Fish?

Lionfish pose a significant threat to ocean ecosystems, particularly in regions where they are not native, like the Atlantic. Their voracious appetite for small fish and invertebrates can decimate local populations, leading to a domino effect that disrupts the balance of the entire ecosystem. Moreover, lionfish have few natural predators outside their native habitat, allowing their populations to grow unchecked, further exacerbating the impact on native marine life.

Are Lionfish Poisonous to Humans?

Yes, lionfish are poisonous to humans, but there's a distinction to be made here. They are venomous, not poisonous. The difference? Venom is injected via stings or bites, while poison is ingested or absorbed. Lionfish venom is delivered through their needle-like dorsal fins. While their venom is not typically fatal to humans, it can cause severe pain, swelling, and in some cases, more serious reactions.

What Happens if You Get Stung by a Lionfish?

A Lionfish sting is an unpleasant experience. The immediate sensation is intense pain and swelling at the site of the sting. The severity of the symptoms depends on the individual's sensitivity and the depth of the sting. Medical attention is advised as reactions can vary. Treatment typically involves immersing the wound in hot water to break down the proteins in the venom and alleviate pain.

Why are Lionfish a Problem?

Lionfish are a problem mainly due to their invasive nature. When introduced to non-native environments, they breed rapidly and compete with indigenous species for food and habitat. This not only affects the prey species but also the predators that rely on them, leading to a cascading effect on the ecosystem. Their presence upsets the natural balance, potentially leading to the extinction of native species and the alteration of the habitat.

Where are Lionfish Found?

Originally from the Indo-Pacific waters, lionfish have expanded their territory. They are now commonly found in the southeast Atlantic, the Caribbean Sea, and the Gulf of Mexico. This spread is primarily due to human activities, such as the aquarium trade. Their adaptability to various marine environments has facilitated their proliferation in these new areas.

Lionfish Invasive

The term “invasive” aptly describes lionfish in regions like the Atlantic and Caribbean. As invaders, they have no natural predators, allowing their populations to grow at an alarming rate. Their presence disrupts local ecosystems, outcompeting native species for food and habitat. This invasion poses a significant threat to reef ecosystems, which are already vulnerable due to other environmental pressures.

How did Lionfish get to Florida?

The introduction of lionfish to Florida is a tale of unintended consequences. The prevailing theory is that lionfish were accidentally released into the Atlantic from home aquariums in the 1980s or during Hurricane Andrew in 1992 when an aquarium was destroyed. These initial few specimens found the conditions favorable and rapidly multiplied, leading to the infestation we see today.

How was the Lionfish Introduced?

Lionfish were introduced to non-native waters primarily through the aquarium trade. Enthusiasts who kept them as exotic pets sometimes released them into the wild, either accidentally or intentionally. Natural disasters like hurricanes have also contributed to their accidental release. Once in the open ocean, lionfish found few barriers to expansion, leading to their invasive status.

Why are Lionfish Illegal?

Lionfish are not universally illegal, but their import, sale, and ownership are heavily regulated or banned in some regions, primarily due to their invasive nature. The main reason for these restrictions is the significant ecological impact lionfish have on local marine ecosystems. Originating from the Indo-Pacific, lionfish have become a highly invasive species in areas like the Atlantic, the Gulf of Mexico, and the Caribbean Sea.

Lionfish are voracious predators with few natural enemies in these new environments. They consume a vast amount of native fish and crustaceans, significantly reducing biodiversity and disrupting the ecological balance. This impact can harm local fishing industries and affect the health of coral reefs, which are crucial for marine life.

Lionfish Hunting and Spearing

To control the lionfish population, certain regions encourage lionfish hunting and spearing. This method has become a popular and effective way to reduce their numbers. In areas like Florida and the Caribbean, lionfish hunting is not just seen as a conservation effort but also as a sport. Divers and fishermen are often encouraged to spear lionfish, and there are even tournaments dedicated to hunting them.

Lionfish hunting serves multiple purposes:

1. **Population Control:** It helps in controlling the lionfish population, thus protecting native species.
2. **Ecological Awareness:** It raises awareness, about invasive species and their impact on marine ecosystems.
3. **Economic Benefit:** Captured lionfish are often sold for consumption, promoting a market for lionfish meat, which is safe to eat when properly prepared.

It's important to note that while lionfish hunting is encouraged in some areas, it must be done responsibly and often requires specific permits or adherence to regulations. The goal is to balance the need for ecological protection with safe and sustainable practices.

How Do Lionfish Affect Coral Reefs?

Lionfish pose a significant threat to coral reefs, primarily through their predatory behavior. These fish consume large quantities of native small fish and invertebrates, many of which play crucial roles in maintaining the health and balance of coral ecosystems. For instance, certain fish species that lionfish prey on are responsible for controlling algae levels on reefs. Without these algae-eaters, algae can overgrow and suffocate corals, leading to reef degradation. Moreover, the reduction in biodiversity caused by lionfish predation can destabilize the intricate ecological relationships that sustain coral reefs, further endangering these vital marine habitats.

Can Lionfish be Used in Cooking?

Yes, lionfish can be used in cooking and are considered a delicacy in some regions. Despite their venomous spines, the meat of the lionfish is safe to eat and is known for its delicate and mild flavor, often compared to that of popular fish like snapper or grouper. Lionfish are prepared in various ways, including grilling, frying, and ceviche. Promoting the consumption of lionfish not only provides a unique culinary experience but also aids in controlling their population in non-native waters. Chefs and environmentalists alike endorse the consumption of lionfish as a way to combat their invasive spread.

How Can We Identify a Lionfish?

Lionfish are easily identifiable by their distinctive appearance. Key features include:

- **Coloration:** They have a striking pattern of red, brown, and white stripes.
- **Fins:** Lionfish possess large, fan-like pectoral fins and elongated dorsal fins.
- **Spines:** They have venomous spiny protrusions, primarily along the dorsal fin, which are used for defense.
- **Size:** Adult lionfish can grow up to 18 inches in length, though sizes vary.



International Lionfish Hunter

I am Roger J. Muller, Jr., from Hoboken, New Jersey, and although it doesn't seem like the expected place for a Lionfish hunter to reside, it has been my home base throughout all my adventures. I am an experienced International Lionfish Hunter and professional scuba instructor with both SSI, TDI, and SEI that has tracked and hunted the fish throughout North America, many times in partnership with local organizations.

I kill Lionfish to restore the natural balance in

these areas and prevent the marine animal from causing any more destruction to the coral reef ecosystems I have dove in for over 26 years.

My Background

To give you a little background on myself, my day job (because we all need one of those...) is actually as an insurance agent. I know what you're thinking here – insurance is a pretty boring career choice – and you're right – which is why I had to look for a little more extracurricular fun when I wasn't at work. Although I'm a business person by trade, I've always loved science and conservation and actually graduated with an Environmental Science Degree with honors from Ramapo College in Mahwah, NJ. After school, I went into my family business, Muller Insurance of Hoboken, NJ, in order to continue my father and grandfather's legacy and serve my community as they had for over 119 years.

The Road to Lionfish Hunting

After my first scuba dive in 1998, I immediately fell in love with the underwater environment and the sport of scuba diving. After completing over 151 diving certifications from PADI, SSI and NAUI, I became interested in the Lionfish issue after seeing and hearing about the epidemic 14 years ago in Bonaire. After that initial exposure, I took a handful of Lionfish training courses, including the SDI Hunter / Collector Diver, DAN & NAUI Hazardous Marine Life, PADI Lionfish Awareness and Elimination, Lionfish Hunting Specialty, and Invasive Lionfish Tracker Specialty courses. Hunting Lionfish has been so fun for me and scuba dive with a mission each time I get into the water. Today, I have over 3,000 Lionfish kills! In 2015 I became a field reporter for Lionfish University who is dedicated to preserving our oceans, reefs, native fish populations and raising awareness of the importance of maintaining our fragile ecosystems.

Outstanding Achievement Award

In 2016 Drew Richardson, President and Chief Executive Officer of PADI Worldwide, presented me with the President's Club, Outstanding Achievement Award for my outstanding dedication, commitment and achievement in diving and lifelong diver education with over 90 PADI Certifications.

Besides loving to spear and remove as many Lionfish from the ocean I can, I am a big fisherman and a tagger for the American Littoral Society. During the fishing season, I had one of my best years fishing in New Jersey, catching a 30 pound Wahoo, 6 foot Blue Marlin, 50 pound Bull Shark, Bluefish, Yellowfin Tuna, Mahi Mahi, and a few 35-pound Striped Bass in the Hudson River. I've also caught many Black Sea Bass, Fluke, and Porgies in this area as well. I am also a Lifetime member of the Hudson River Fishing Association (HRFA).



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LEARN ALL ABOUT LIONFISH



ABOUT LIONFISHDIVERS.COM

**LIONFISHDIVERS.COM IS SPREADING THE WORD
ABOUT HOW LIONFISH ARE DESTROYING THE
UNDERWATER MARINE WORLD, VISIT THE SITE
TO LEARN MORE ABOUT HOW YOU CAN HELP!**