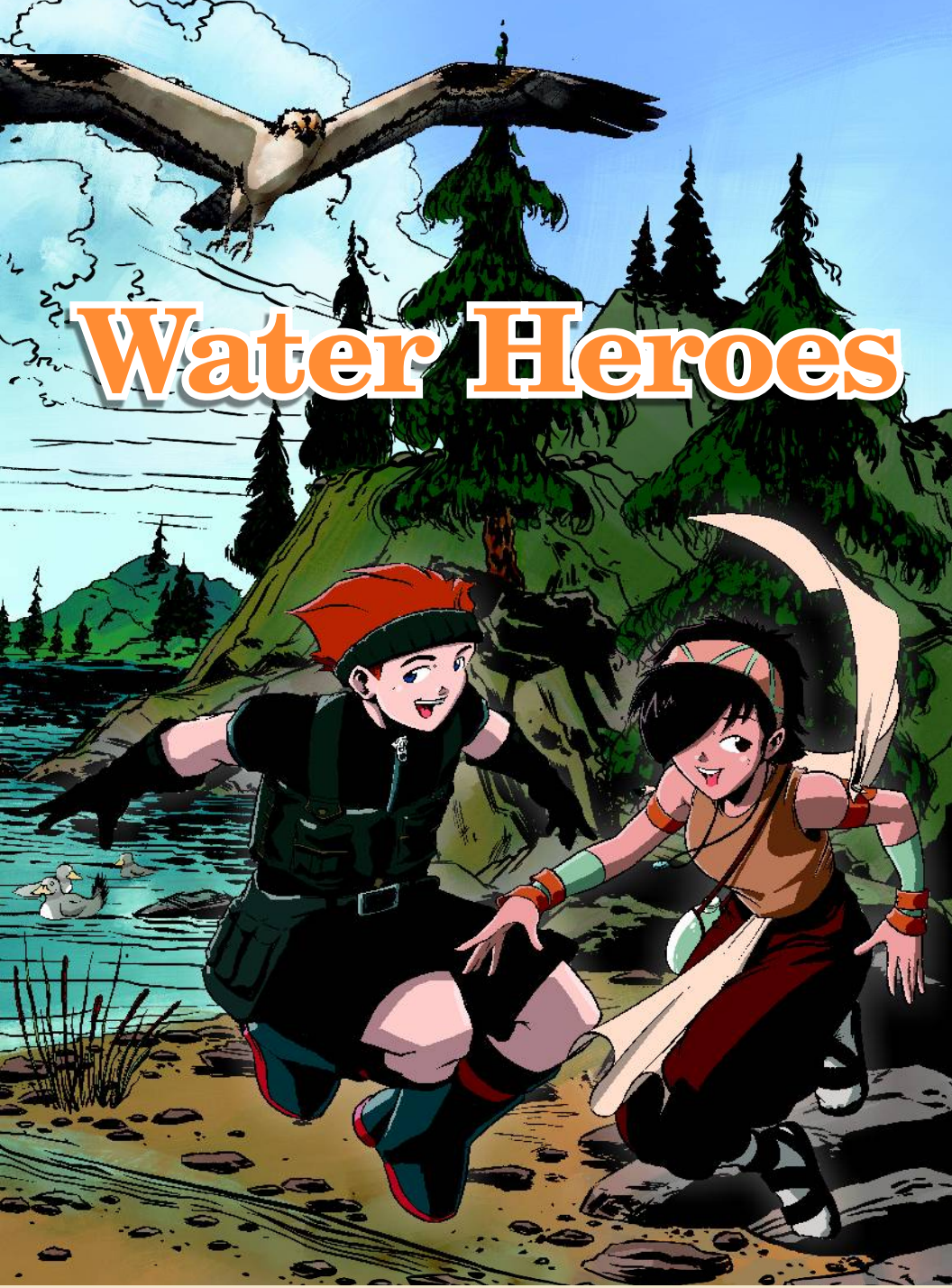
Water Heroes



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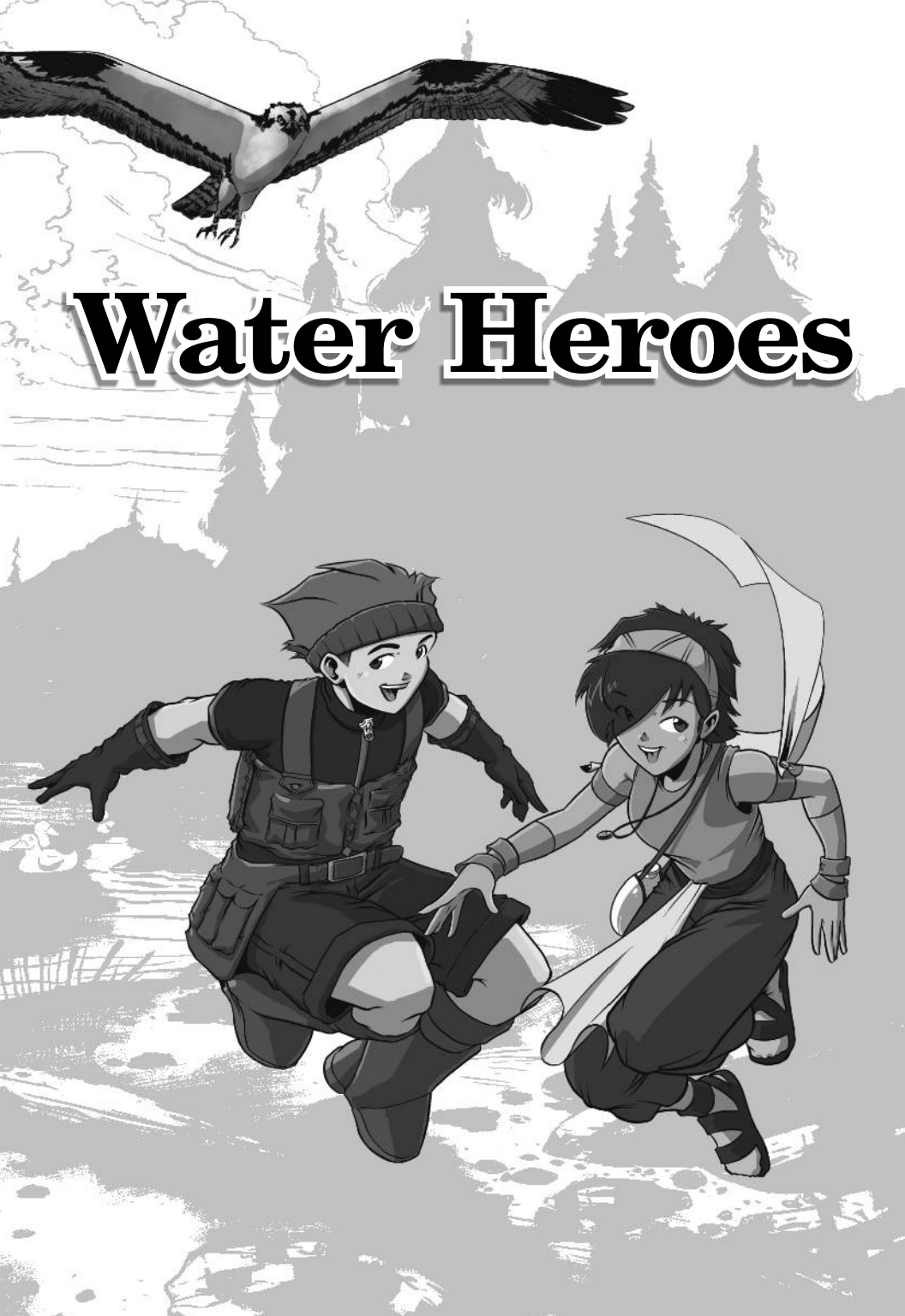
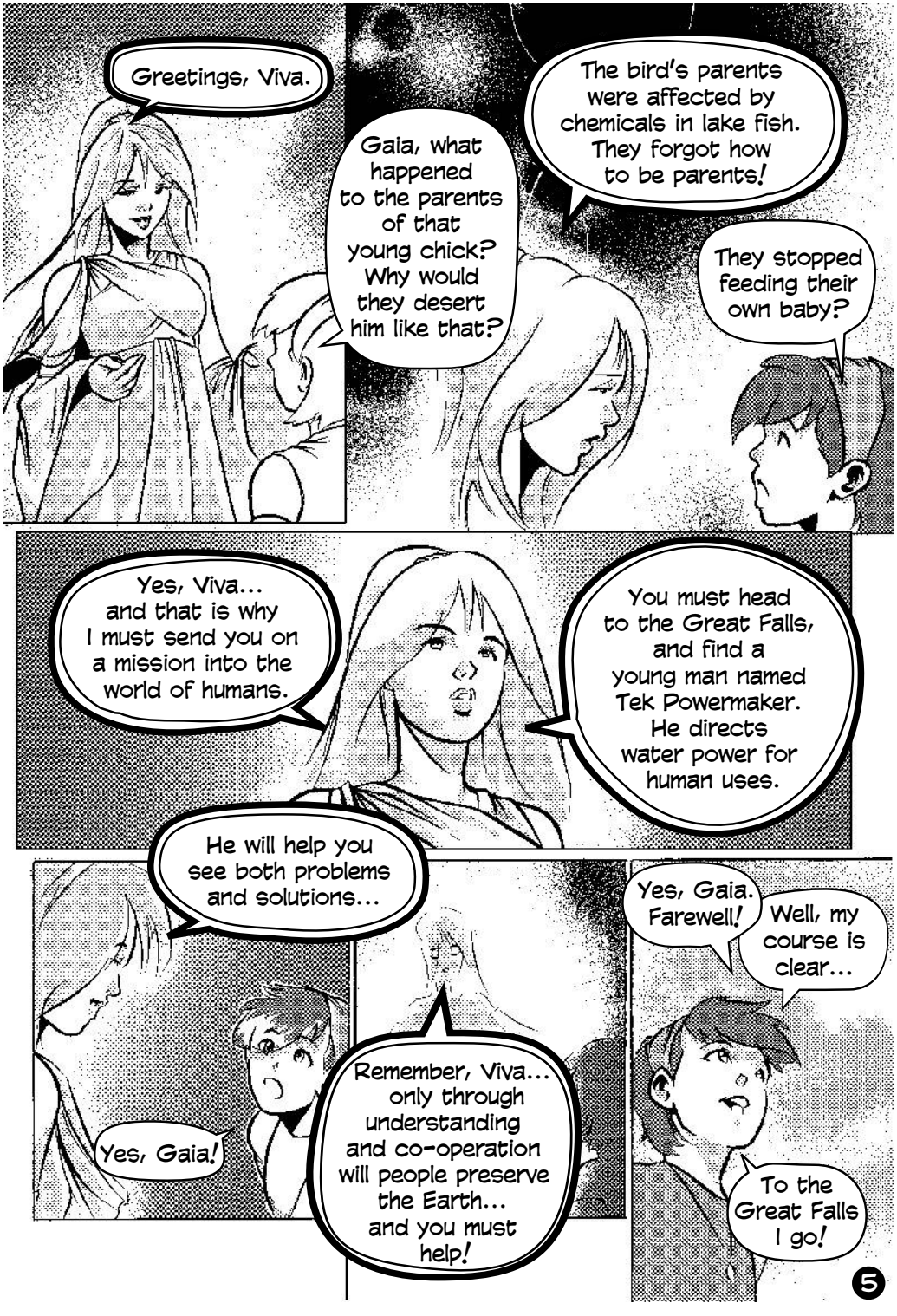

Water Heroes

In ancient times, the goddess *Gaia* was known as the protector of the Earth, the great caretaker and regulator of life.
Gaia's envoys act as the eyes and spirits of the Earth. Their special powers help them keep living systems on the Earth in balance.
Viva Lifewater is a Gaian envoy. Her task is to help people safeguard the clean water on which all living things depend.

Pure water... the source of my power...
Hey Omesh... what's up?
Slow down, old friend. Let me read your thoughts...
Utilizing one of the many magical gifts bestowed upon her by Gaia, Viva learns the source of Omesh's anguish...
Oh, no... that poor baby bird!
I can "see" where it is... I'll head there right now!

Another gift from Gaia is the ability to *teleport*...
Let's see... that baby bird should be in that tree...
Poor little guy... you're alone and thirsty!
Well, *I can help!*
Good thing I always travel with this *lifewater flask* on me!
There you go... How's that?
Yerrrrkk!
CurrAAeeeRRkkk!
I should consult *Gaia!* Why would his parents leave him?

Omesh, will you watch over this little bird?
Yerrkk!
This looks like a quiet place to summon Gaia...
Gaia, I came across an abandoned baby osprey in a marsh.
What happened to his parents? What should I do?


Greetings, Viva.
Gaia, what happened to the parents of that young chick? Why would they desert him like that?
The bird's parents were affected by chemicals in lake fish. They forgot how to be parents!
They stopped feeding their own baby?
Yes, Viva... and that is why I must send you on a mission into the world of humans.
You must head to the Great Falls, and find a young man named Tek Powermaker. He directs water power for human uses.
He will help you see both problems and solutions...
Yes, Gaia!
Remember, Viva... only through understanding and co-operation will people preserve the Earth... and you must help!
Yes, Gaia. Farewell!
Well, my course is clear...
To the Great Falls I go!

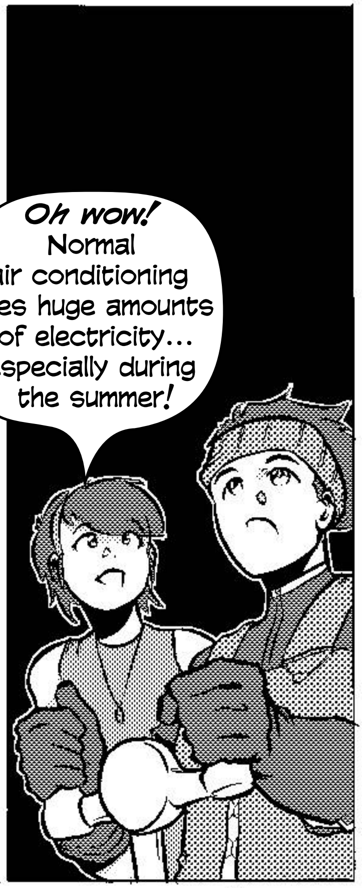
Hmm... the water output's a bit low for this time of year. I need to keep an eye on the turbines.
Ack!
Who- who are you?
Are you... Tek Powermaker?
Yeah, that's me... Tek Powermaker, engineer extraordinaire!
I was sent here to ask your help!
I'm Viva Lifewater, an envoy of Gaia.

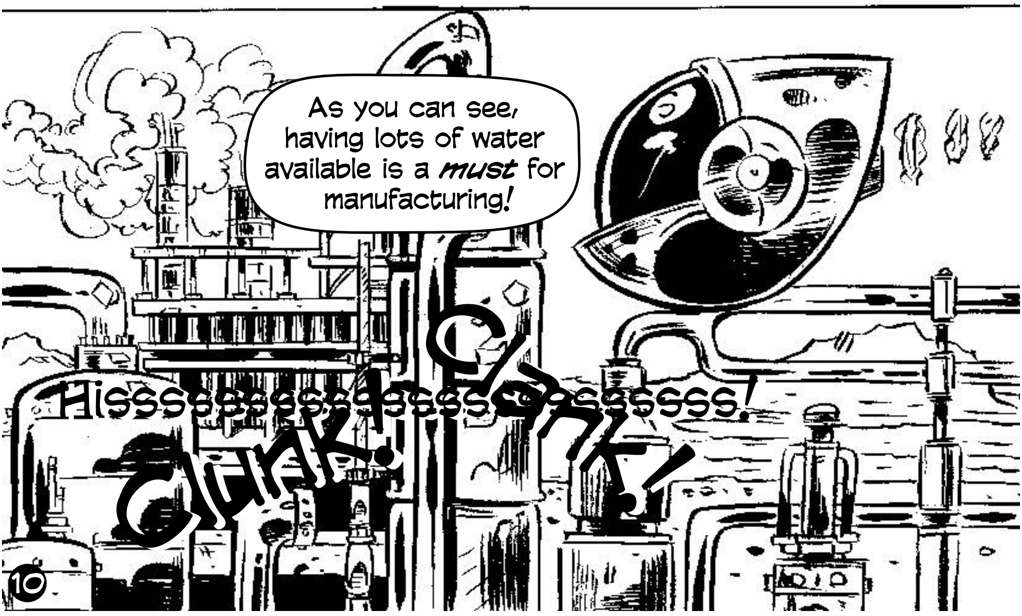
Me? But why?
I'm not sure yet. Gaia said that you would be able to help me find out what was hurting the wildlife!
I don't know much about wildlife... but I can take you on a tour of some of the things we do with water.
Would that help?
It certainly would!
Then come with me into my new hydro-sphere!
Er...
Don't worry... it's totally safe!
Are you sure...?
Oh yeah!
Let's head for the big generators.
Generators?
Yep! We use falling water from the river to spin the massive turbines...

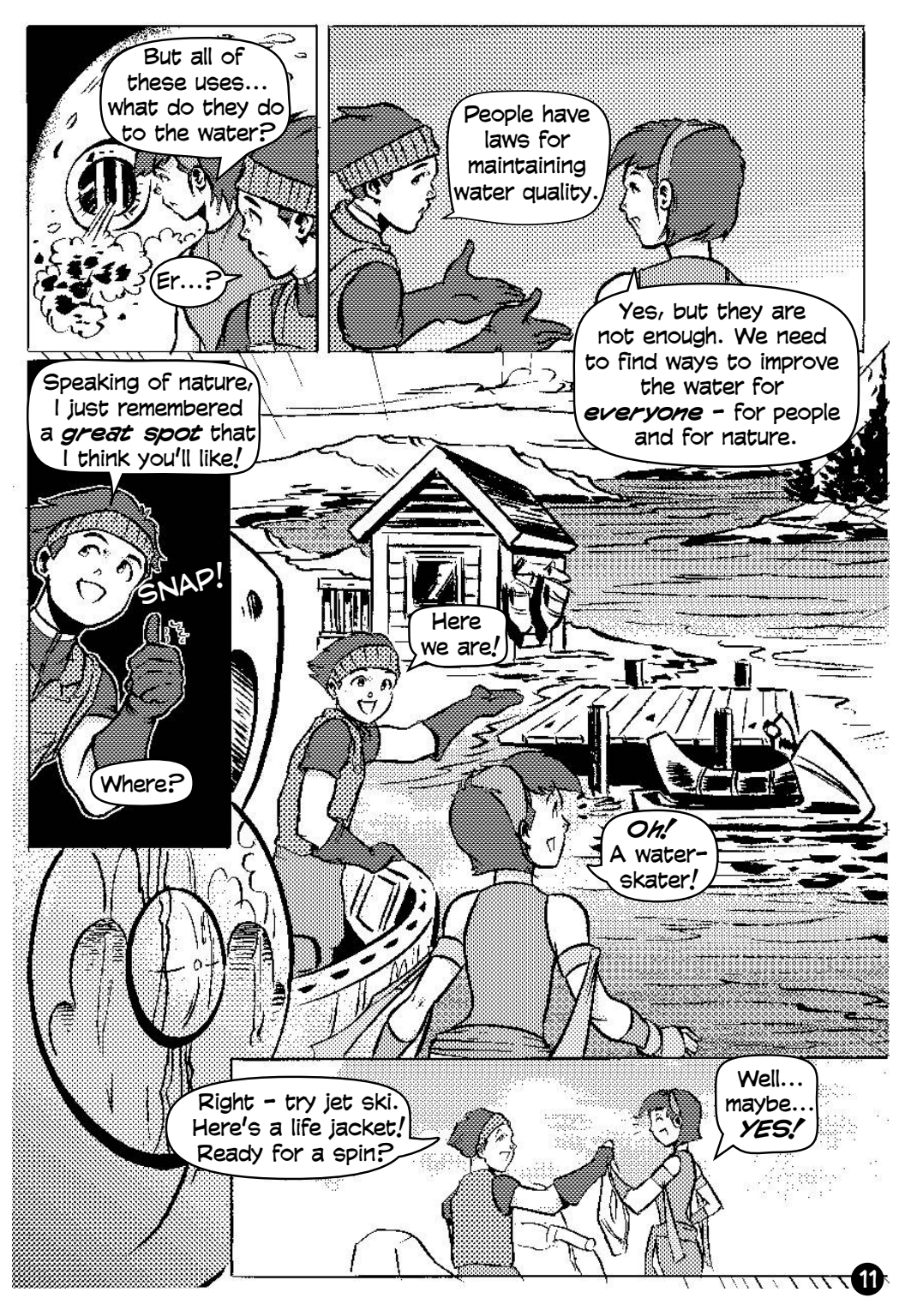
When the turbines spin, they generate electricity! *Hydroelectricity!*
Wow! That's really impressive!
Wow!
That's hydro power! These generators provide all the electricity people need for their homes and for offices, factories and industry.
This is just one of the many uses we have for water. *C'mon!* I'll show you more.
This is a canal. Here, water power and gravity move huge ships over land through man-made canals.
We're heading to a *huge* filtration plant... where we *clean* the water.
These canals allow people to transport goods all across water bodies!
That's quite a feat!
Where are we going now?

Glug, glug
Lake water is pumped in here through this water pump...
...which is then filtered to make it drinkable for millions of people.
Electric power pumps the water up to reservoirs and water towers. That builds water pressure to deliver clean water to all the people who need it.
!
Map! Kilometres and kilometres of pipes!
The used water travels from homes and offices through these sewer pipes to a sewage treatment plant...
I know a little bit about these plants... they filter used water and kill germs with chlorine.
Yep. Hey, not bad!

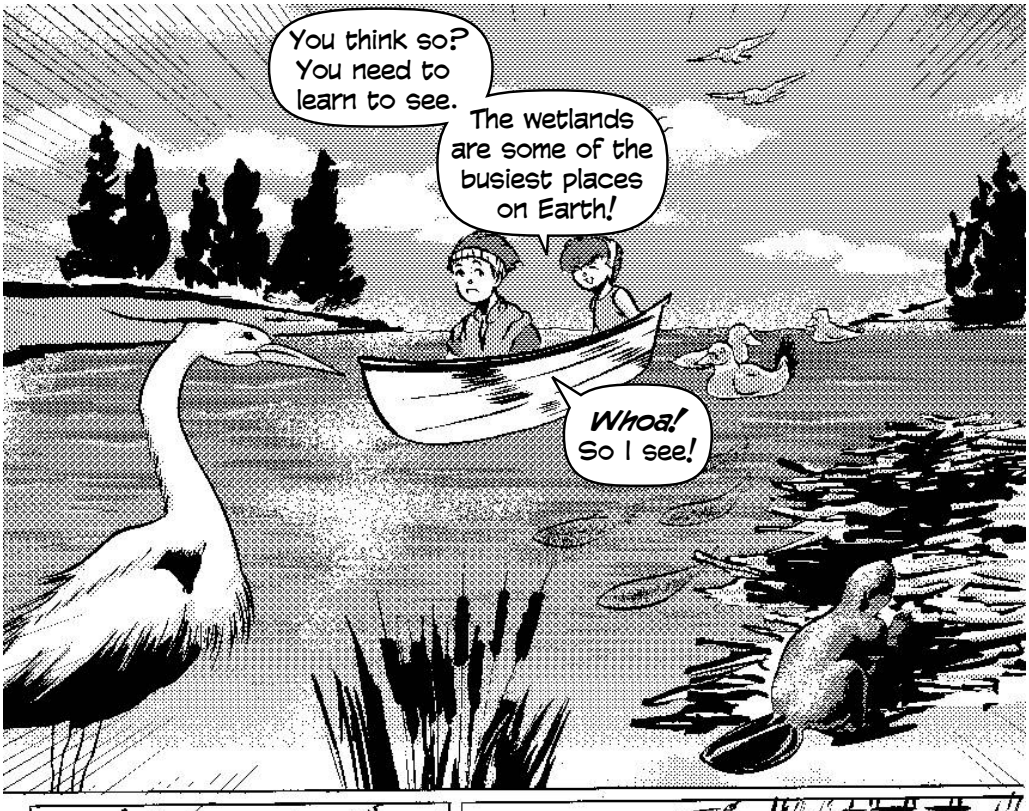
Another use for water is something called *"deepwater cooling"*.
How does it work?
Toronto cools office buildings with cold water from deep in Lake Ontario, to reduce electric air conditioning.

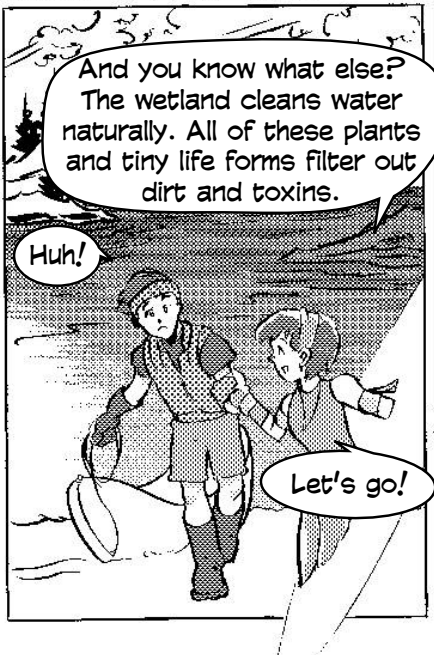

Oh wow! Normal air conditioning uses huge amounts of electricity... especially during the summer!


As you can see, having lots of water available is a *must* for manufacturing!
Hisssssssssssssssssssss!
Clunk! Clank!

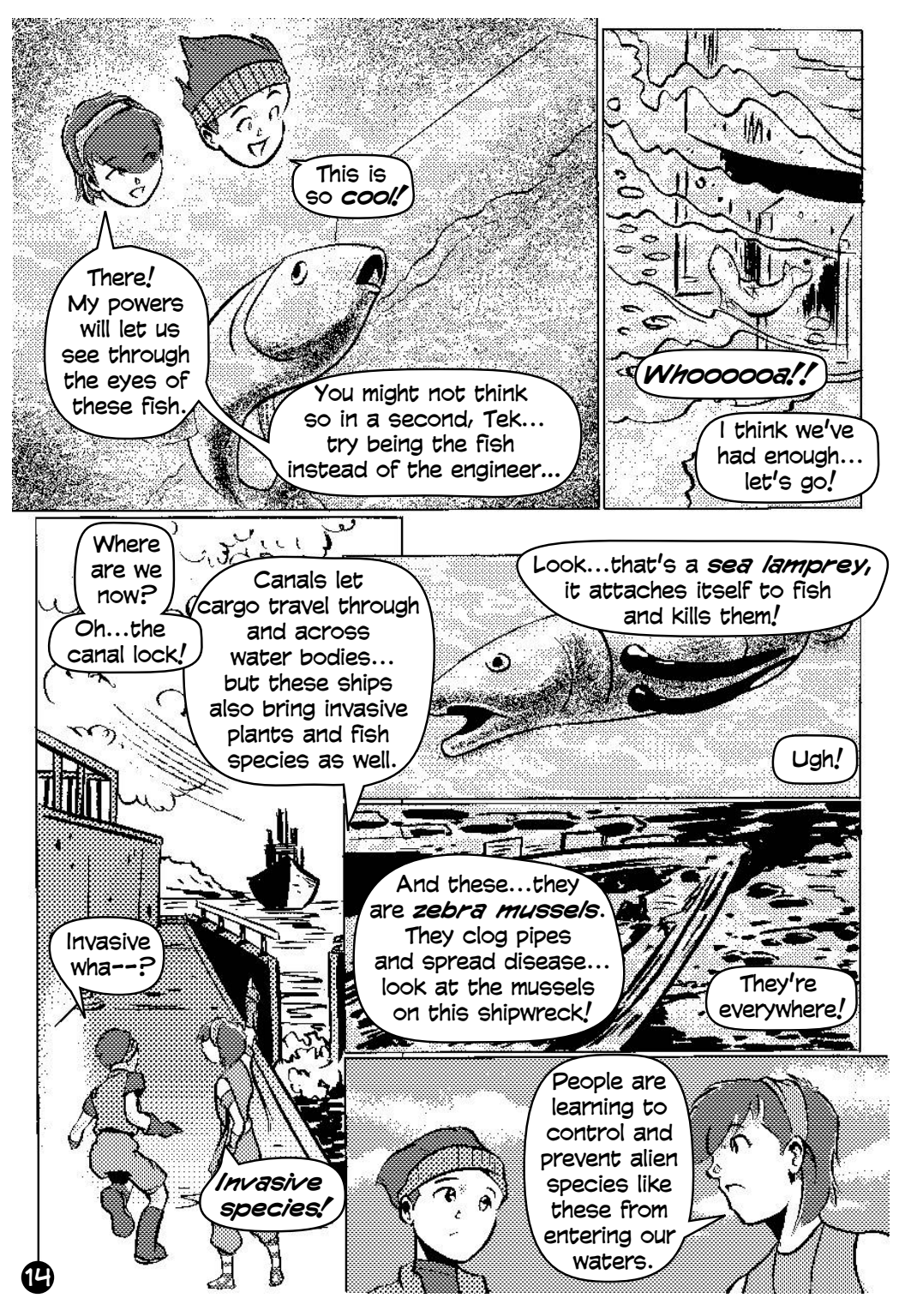

But all of these uses... what do they do to the water?
Er...?
People have laws for maintaining water quality.
Yes, but they are not enough. We need to find ways to improve the water for *everyone* - for people and for nature.
Speaking of nature, I just remembered a *great spot* that I think you'll like!
SNAP!
Where?
Here we are!
Oh! A water-skater!
Right - try jet ski. Here's a life jacket! Ready for a spin?
Well... maybe... *YES!*

Yee-hawww!!!
Tek! Watch out! You're washing away the birds' nests!
Yaawwwkk!
What? I can't hear you!
SNAP!
Wha--?
Where's the jet ski? How did you do that?
I'm an envoy of Gaia, remember? I've been granted special powers to help me in my duties!
I think it's time I took you on a little tour of my world, Tek...
Where are we going?
We're already there!
What, here? It's just a part of the lake!


You think so? You need to learn to see.
The wetlands are some of the busiest places on Earth!
Whoa! So I see!


And you know what else? The wetland cleans water naturally. All of these plants and tiny life forms filter out dirt and toxins.
Huh!
Let's go!

Hey! We're back at the generator!
Yes! But this time we're going to try a fish's point of view.
Huh? How?


This is so cool!
There! My powers will let us see through the eyes of these fish.
You might not think so in a second, Tek... try being the fish instead of the engineer...
Whoooooa!!
I think we've had enough... let's go!
Where are we now?
Oh...the canal lock!
Canals let cargo travel through and across water bodies... but these ships also bring invasive plants and fish species as well.
Look...that's a sea lamprey, it attaches itself to fish and kills them!
Ugh!
Invasive wha--?
Invasive species!
And these...they are zebra mussels. They clog pipes and spread disease... look at the mussels on this shipwreck!
They're everywhere!
People are learning to control and prevent alien species like these from entering our waters.

It's a very big deal to keep drinking water healthy and clean... after it's used.
Cities treat the sludge, or "bio-solids", from wastewater to kill bacteria.
Where do you think all the stuff that's taken out of wastewater goes?
Um... I'm not sure!
Some of it gets incinerated. Some becomes fertilizer. Some goes off to landfills. Which brings me back to the original question...
...our orphaned bird and polluted wildlife.
Ah, yes!
Gaia let me know that the parents of a baby osprey were poisoned by the fish that they were eating...
Birds eating big fish?
The big fish ate smaller fish, that ate lake bottom creatures.
Animals in the food chain can take toxins in at every step.
So the little bird and its parents at the top of the food chain get them all!
Then the question is... Who can fix the problem?
People!

Hey, what's that crowd doing there?
I don't know... let's take a look!
HARBOUR RENEWAL CELEBRATION
It's a celebration!
"Harbour renewal"? What's that about?
Welcome to our town! What brings you here?
We're looking for ways to keep the water and wildlife in the lakes healthy.
That's terrific! We're celebrating our harbour cleanup and waterfront restoration.
We've been working hard on solutions to reduce toxins and chemicals in the lake.
We've also created a new habitat for water birds.
And our school is planting trees and shrubs...
...for a waterfront learning park for kids!
We've even cleaned up the pollution on the bottom of the harbour!

I'm here because of an abandoned baby osprey. We want to make people understand what pollution can do, and make them take better care of the water.
We're proud of our work taking care of the lake. It's healthier now... and we will share our ideas with others!
Let's give a big welcome to our young guests who are looking for ways to take care of the living things in our lakes. I'd call them water heroes!
Give us your baby osprey! We can raise him here!
Oh, thank you! Thank you all... for being water heroes too!!
Raaahhhh!!
Raaahhhh!!
Raaahhhh!!

Well, Tek, it looks like this mission has ended. Or maybe, in a way...just begun. Thanks for teaching me so much!
Well, I should *thank you*! I think I'd forgotten how important it is to use water wisely to help keep the earth in balance!
Hey, I've got something for you. To help you remember!
Really?
It's a *lifewater flask!*
Gosh! Thanks, Viva! I will remember!
Goodbye, Tek Powermaker! Be strong! Live well.

www.on.ec.gc.ca/greatlakeskids/