Section One: What is the Blue Economy?

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QUIZ YOURSELF

HOW MUCH DO YOU ALREADY KNOW ABOUT THE BLUE ECONOMY?

1. Canada is leading the way in the blue economy because;
   - a. we have so many educated people working in the ocean industry;
   - b. we already have leading ocean technology companies across Canada
   - c. we are focused on a Blue Economy that is sustainable
   - d. all of the above

2. True or False; We have only explored about 4% of the ocean.
   - T
   - F

3. Aquaculture is;
   - a. farming seafood in the ocean
   - b. farming fish in pens on land
   - c. farming seaweed and other water plants
   - d. all of the above

4. True or False; Salmon can be farmed in pens in the ocean or on land.
   - T
   - F

5. Most of the world’s poorest people get their animal-based protein from;
   - a. Beef
   - b. Chicken
   - c. Pork
   - d. Seafood

6. The blue economy means;
   - a. money we have taken from the sea (i.e. old coins, jewels)
   - b. an underground economy involving pirates and explorers
   - c. all industries that happen on, in, from or because of the ocean
   - d. how sad we feel when the economy isn’t good

7. The blue economy includes;
   - a. traditional fishing and ship building only
   - b. dozens of industries, including fishing, shipbuilding, boat building, energy, defense, ocean technology, marine tourism, and others
   - c. only industries that take resources from the ocean
   - d. only industries that work to keep the ocean clean and secure

8. Algae can be cultivated (grown);
   - a. to clean a fish tank
   - b. for protein and for fuel
   - c. to prevent fish from getting sunburns

9. True or False; We can harness the renewable energy of the waves, the wind and the tides to convert into electricity.
   - T
   - F

10. True or False; To be involved in the blue economy you must be near the ocean.
    - T
    - F

Check your answers:
How I Sea Things...

Some people are drawn to mountains, to grasslands, to land in general. Me, I’m drawn to the ocean, I always have been. It’s calm, sitting at the front of the boat and feeling the salt-water splashing up on your legs. Falling asleep, feeling the boat rocking back and forth under you. Even the rain feels different on the sea.

~ Haley Scully-Maloney, 14

The Blue Economy, Then...

The blue economy refers to how people make a living from the ocean. For example; for thousands of years people have been fishing and trading resources from, and on, the ocean. Indeed, in some early and Indigenous cultures, the first currency (money) was actually shells – the rarer or more beautiful the shell, the more one could trade it for. Early industries quickly developed across the globe by people trading and selling fish and seafood, and also salt that was harvested from the sea.

The ocean became the highway for trading and selling these and other goods like spices, fruit, grain, textiles (furs, cotton and silk cloth), and other valuables like gold and silver, which created other ocean industries like boat and ship building (because merchants were good at buying and selling, but not so good at building their own vessels).
Where there were merchants, there were pirates who wanted to steal those goods, and this created a defense industry of navies and coast guards who work to protect the industries at sea.

And where ships allowed people to explore new parts of the world, there were inevitably greedy kings and queens who wanted to conquer those new lands and claim them for themselves, which creates more demand for navies and armies, and for the weapons and resources they use.

If I asked you what the Blue Economy is today, the first thought that probably comes to mind is still – catching and selling fish. And you would be partly correct. But the Ocean Economy is more than that. It is all of the industries that work in, on, and around the ocean, that use the ocean’s resources, or that explore and study the ocean.

In these pages you will learn more about these different industries and how they relate to your own life. You will learn about some of the risks and threats to the ocean that happen when we build industries in and around it. And, you will learn about how industry is working to help protect the ocean and build a sustainable blue economy – and how you can too!
WHAT ON EARTH IS A SUSTAINABLE BLUE ECONOMY?

Before we answer that question, let's start with two quick but important facts:

1. **There is just one ocean.** We have different names for the ocean in different places – Atlantic, Pacific, Indian, Arctic – sometime we even call it the Sea – the Mediterranean, the Caribbean, the North, the Baltic, and the Dead Seas – but no matter how we refer to it – its all the same body of water.

That means that what happens to the ocean far across the earth matters to us here. And, what we do with the ocean here, matters everywhere else too.

2. **No matter how close or far you are from the ocean, you interact with it in a few important ways every single day.**

Every other breath you take comes from the ocean (that’s right – it’s not just trees that produce the oxygen we breathe – the ocean does that too).

And nearly everything you wear, eat, or use has spent time traveling to you on the ocean. Your phone or tablet, your running shoes, your t-shirt – if you check the labels you will see they were probably made in a country far from you and before you took them home from a store, they were loaded onto a cargo ship and sailed the great sea.

These two facts are important to understand what it means to have a sustainable Blue Economy, because they remind us that we all share the ocean, we all rely on the ocean and we must all work to preserve the ocean so it will be a healthy and bountiful resource into the future.

Today, we have a better understanding of the importance of the ocean, and of our dependence on it. Which definition seems to fit today’s Sustainable Blue Economy?

1. Making money by taking and trading resources from the ocean.
2. Making money by buying and selling things from the ocean with people across the globe.
3. Using information and technology to sustainably harvest the ocean’s resources, and finding ways to interact with the ocean that will have the least impact on the water and the living things that call it home.
Why does a sustainable Blue Economy matter?

Sustainable means using something carefully so that it continues to be healthy, is able to replace itself, and can be used well into the future.

In the Forestry Industry, we talk about sustainable forestry which means planting and nurturing new trees to replace the ones we cut down.

In the Agriculture Industry, (farming on land), sustainable farming means putting good nutrients back into the soil (and not putting dangerous chemicals into it) so that the soil is healthy and can continue to grow good food.

In the Energy Industry, sustainable energy is produced from things like the sun (solar), the wind, or moving water (hydroelectricity) that are renewable (they don’t run out) and that don’t produce pollution.
**THINKING GLOBALLY**

Did you know that a sustainable blue economy can help us feed and provide energy to a growing world. It can help us travel and transport goods cheaply and safely across the globe, and connect us as global citizens.

**SUSTAINABLE DEVELOPMENT GOALS**

And we can continue to appreciate the beauty and majesty of the great ocean, while also exploring its hidden mysteries, as technology allows us to peer into the deep.

**INNOVATIONS IN CANADA**

**Ocean Wise** Ocean scientists, like zoologists and marine biologists, work at Ocean Wise and understand the importance of sustainable seafood. More than a billion people around the world depend on seafood as their primary source of protein! But overfishing has reduced the ocean’s fishstocks, meaning that roughly 90 percent of the world’s fish stocks are now fully fished or overfished (UN’s Food and Agriculture Organization - FAO).

The scientists at Ocean Wise recommend sustainable seafoods that are abundant and resilient to overfishing, and that are well-managed, meaning they’re not overfished, they aren’t harvested in a way that damages the marine environment or other marine species. The work of these ocean scientists helps to relieve the pressure on overfished species and ensures that we will be able to continue to enjoy seafood for generations to come.
Here are some things you can do to get involved in the Blue Economy. Which ones are you already doing? Check all that apply.

- Learn more about the ocean and the creatures who live there.
- Dispose of garbage and recycling carefully so it doesn’t end up in any waterways or the ocean.
- Be thoughtful about what you buy and use so you contribute to less waste.
- Participate in beach, lake and river cleanups.

- Learn more about interesting jobs and technology in the blue economy.
- Be an ocean champion (help others learn more about the ocean). Participate in citizen science projects.
- Join an ocean technology or shipbuilding summer camp to experience these industries first-hand.
- Take a trip to a lake, pond, river or coastline to explore and see what you can see – get your hands – and your feet – wet!
- Take a virtual reality dive into the ocean by visiting Ocean School.

**HOW I SEA THINGS...**

The ocean has always been my safe space; a place that grounds me in my life and myself. I love it’s beauty and contrast. The way it can go so quickly from wild waves and stormy weather, to a peaceful calm, the warmth of the sun glowing on the surface of the water. To me, the salty air and crash of waves brings a feeling of freedom and deep appreciation for nature and the world around me.

- Ellie O’Driscoll, age 17

**Activity: How do you sea things...?**

The ocean has inspired thousands of songs and poems. Write your own original “How I sea things...” narrative like the one above, or a poem or song about a memorable experience you had involving the ocean or another natural waterway. Share it with us* on Instagram. Follow and tag us @cove_workforce and use the hashtag #COVEWI in your description.

*(Remember to get your parent’s permission before sharing your work or photos with us).
About COVE:
COVE is a world-class facility for applied innovation in the ocean sector and the only such hub of its kind in the world where start-up companies, small and medium sized enterprises, large firms and post-secondary expertise are housed together developing ocean technology. COVE Workforce Initiative focuses on workforce development and engagement in Ocean Industries where youth and teacher engagement is a primary focus. COVE brings together people, ideas, industry and research to help our community and members work in new ways. Together, we are a catalyst in creating the world’s next practical, commercial and revolutionary ocean tech advances. Irving Shipbuilding, as part of its Value Proposition commitments under the National Shipbuilding Strategy (NSS), has invested over $6 million in COVE to support development of the programs and operations. Learn more about COVE, our projects and our members at coveocean.com

Jim Hanlon, CEO of COVE
As the son of a navy commander, I developed a curiosity for the ocean from a very young age. When I was just 5 or 6, we were living in Victoria, BC, where my father was stationed, and he took me down to the port and showed me a jet-powered catamaran! It was amazing – and my attention was grabbed. I eventually became an electrical engineer, and while I could work in any industry, the ocean was where I saw the most interesting opportunities. For years I lived and worked around other ocean tech entrepreneurs, and eventually I bought my first ocean tech business in my late 30’s. Now, at COVE, I help other ocean entrepreneurs to start and build their businesses. I still find it fascinating – this is an industry for the curious and inventive – it’s an industry where people with many different skills can come together because the issues and opportunities of the ocean are so intertwined, so untouched compared with other industries. And COVE is a place where other ocean entrepreneurs come to bring their ideas to life.
Author: Dr. Sherry Scully, Executive Director
COVE Workforce Initiative

The first time I saw the ocean in real life I was 9 years old. I had grown up hundreds of kilometers from the coastline but a family vacation took me to the beaches of the Pacific. I was nervous at first about stepping into the waves. I had seen enough shark movies to feel certain that the ocean was a deep and dark pool of biting teeth and stinging tentacles and slithering serpents. But, my curiosity won out over my imagination and I tugged on a mask and snorkel and bravely waded in.

I felt the pull of the tide at my feet drawing me deeper. I fitted the snorkel onto my face, squeezed my eyes shut, and dipped my face down for a first breath beneath water – and was surprised when my lungs filled with cool air. The snorkel worked! And then I opened my eyes...

I saw sea grass dancing slowly, I saw fish – so many fish – all around me. And what really struck me was the quiet. All I could hear were my own slow deep breaths. Bubbles floated gracefully past my face. I saw nothing scary. No teeth. No stinging tentacles. Nothing slithered. It was an aquamarine scene of calmness. It was a whole new world that I had never been aware of. And in that moment – I was hooked. I knew I wanted to explore the mysteries of this great water-world.

Content Developer: Anna Naylor, COVE

I once was asked to think about a place where I felt the most relaxed and at peace. Without hesitation, I knew it was being in the ocean watching and observing a whole other world. When you are underwater, you realize how small you are in the larger ecosystem. You see all the other animals and plants who have evolved to spectacularly survive in the ocean. You learn that the ocean holds so much history, science and opportunities and we have so much yet to discover! The ocean has always been my favourite place, and as I got older I knew I wanted it to be part of my career so I could share my passion about it and get others just as excited as me.