**Slide 1(Cover)**

Hi! Thank you for listening to our presentation today! In this project our group set out to apply the Creative Problem Solving process to the UN’s Sustainable Development Goal number 14 - life below water.

**Slide 2 (Introduction with team members)**

I’m Megha, and I have worked together with Amlan, Stefano, Tawhid, and Susmi to come up with the solution we are presenting to you today.

**Slide 3 (Clarification)**

Our CPS journey started with the clarification stage, where we gathered information and set up a divergent discussion to explore all issues affecting life under water in some way.

We were a bit intimidated by the scope of this SDG, as we found out multiple different problems that are affecting life under water

We later learned that this is a part of the CPS process, and that there are strategies and criteria we could use (like the 3 I’s) to narrow down our focus!

**Slide 4 (Clarification)**

In the clarification stage, we diverged to find as many different problems as possible affecting life underwater so that we could bring some clarity to our broad problem scope.

We gathered information from a variety of different sources and later met as a group to learn about what each of us had found and to begin converging onto a more specific subproblem.

We identified that fishing was a common theme among all the problems we found, so we decided to focus on that!

**Slide 5 (Use of 3 I’s for the convergence of the problem statement)**

For our convergent discussion, each of our group members wrote down tentative problem statements based on their own resource collection. We had a discussion to share key pieces of information between our group, and went through the list of statements to combine those that were similar to each other.

Then, for each of our tentative problem statements, we asked three questions as selection criteria: can our group influence it, would it impact the Life Under Water SDG, and did it require imagination to be solved. We then selected the problem statement that best fit our chosen criteria!

**Slide 6 (Illegal Fishing)**

Our resulting problem statement from the first pass at the clarification stage is as follows:

* How might we help consumers make an informed decision about the marine products they purchase, and create awareness about the impacts of illegal fishing?

**Slide 7 (Ideate)**

With that problem statement in mind, we moved onto our first ideation stage. We wanted to diverge and come up with as many ideas that might solve our selected problem.

At this stage, we continued to meet and brainstorm as well as reached out to relevant people to help us ideate. We came up with lots of ideas, from marketing campaigns to changing laws!

After checking in with Bruce during this discussion, we learned that our problem statement might still be a little too unspecific for us to take action. This meant we went back to the drawing board and cycled several more times through clarification, ideation, and development to refine our problem statement to something that was workable.

**Slide 8 (Narrowing down problem statement)**

In these many cycles of clarification, ideation, and development, we eventually identified a 6 step process that leveraged the resources at our disposal and allowed us to tackle our broad problem statement. These steps are:

1. Determining when and where each fishing vessel is fishing using AIS data,
2. Determining whether each vessel was fishing legally or illegally based on behaviour,
3. Determining likely target species based on geographic location
4. Determine change in transport vessel mass after transshipment event
5. Determine who purchases catch from each transshipment vessel
6. Tie purchased marine products to the produced lots of seafood

**Slide 9 (Convergence from narrowing down problem statement)**

Eventually, we converged from the complete monitoring of the supply chain to a partial one - where we would only focus on monitoring the flow of marine products until the point they reach a port (and not beyond that)

Our refined problem statement then became:

* How might we integrate existing open-source technology tools used to monitor illegal fishing behaviour at sea in a way that could empower stakeholders to verify the supply chain (and legality thereof) of the marine products arriving at ports in the Greater Vancouver Fishing Industry?

This focuses only on the first 4 steps of the 6-step process, which are noted down right there.

**Slide 10 (Development and implementation)**

Now as we moved to the development and implementation stages, we wanted to be clear on how this solution helps!

* Stakeholders can verify how much illegal marine products are in every vessel coming to port,
* Then they can use this information to prevent the sale of illegal products in fish markets
* And this enables future efforts in supply chain monitoring beyond the port level!

**Slide 11 (Resisters and assisters)**

At the development stage, we researched who might be this projects’ assisters and resisters. We identified as assisters:

* BC Seafood Alliance, and Living Oceans Society - NGOs with an interest in life below water in the Greater Vancouver area
* The Ministry of Agriculture, Food, and Fisheries - governmental organizations related to fishing
* And the public at large, which in Canada (and particularly BC) generally tends to value sustainability

As for our resisters, we identified 2 main groups:

* Those who profit from illegal fishing (which generally are large, industrial organizations)
* And those who fish illegally (such as vessels operating under flags-of-convenience to avoid law enforcement at sea)

**Slide 12 (The Plan)**

As for the implementation stage, we elaborated a plan based on our ideation and development:

The first 4 steps are related to the process Stefano described previously. Then we would also:

Create an app to visualize this information based on an inputted vessel identifier

and

Create awareness within stakeholder communities

* 1. Port authorities may help us gain acceptance of our solution
  2. Public might help build general enthusiasm around this newly available information

**Slide 13 (Actions)**

From that plan, the actions we would take are:

* Build and launch social media profiles to create awareness (within the next 24 hours)
* Continue to connect with experts and authorities to validate our problem and solution
* Integrate the technologies of the first 4 steps into a single system
* Build our app for port authorities to use
* And eventually (once the rest has been completed) shift our focus on monitoring the supply chain beyond the port level
  + So that in the future, consumers may make an informed decision about what they purchase

**Slide 14 (Prototype)**

If time permits, we have a low fidelity prototype we would like to share!

[show prototype]

**Slide 15 (Thank you)**

Let’s remember: our fish are getting sicker, let’s do something quicker! Thank you for listening, are there any questions from the audience?