Resisters and Assisters

Assisters:

1. NGOs (BC Seafood Alliance, Living Oceans Society, and many others)
2. Ministry of Agriculture, Food, and Fisheries
3. Government of Canada losing $93.8 million in tax revenue and Canadian fishers losing $379 million a year in potential revenue. (<https://oceana.ca/en/blog/canadian-government-has-lot-its-plate-one-those-things-should-not-be-illegally-caught-seafood>)
4. Canada and Canadians generally value sustainability as a progressive developed nation.

Resisters:

1. Canadians spend $160 million on seafood caught illegally every year, whoever profits from that will be a resistor (<https://oceana.ca/en/blog/canadian-government-has-lot-its-plate-one-those-things-should-not-be-illegally-caught-seafood>)
2. Flag of Convenience: When a vessel operates under a different flag instead of its own country’s flag to take advantage of lower fees or so that it is not subject to fishing rules or regulations that it would face under its own flag. More than 1200 commercial fishing vessels were registered to flags of convenience in 2005, and registration of approximately 1600 fishing vessels was unknown (<https://www.dfo-mpo.gc.ca/international/isu-iuu-drvrs-eng.htm>). Most of these vessel profiters will be resisters, almost all of those who operate under flag of convenience will be resisters.

2. (Alternate) Commercial fishing vessels under Flag of Convenience. More than 1200 fishing vessels operated under Flag of Convenience in 2005, and 1600 vessels with unknown registrations also might be fishing illegally.

(I will take out ref. And put them at the end - Amlan)

The Plan

1. Use the Automated Identification System to determine when and where each fishing vessel is fishing
2. Use available resources on migratory and spatiotemporal patterns of marine species to infer likely target species of any given vessel
3. Use satellite imagery (Copernicus is open to the research community) and the AIS system to determine whether vessels were fishing legally or illegally
4. Use satellite imagery to estimate the mass of products transferred from fishing to transport vessel based on changes in the transport vessel’s wake (process exists to simulate the wake characteristics based on factors including vessel mass, this regression line would have to be adjusted so that the vessel mass is the target variable and the wake characteristics are used as predictors instead of targets).
5. Create an app to visualize this information based on an inputted MMSI value
6. Create awareness within stakeholder communities (port authorities to gain acceptance, public to build enthusiasm) about this newly available information

Actions:

In this order (from short term to long term):

1. Build and Launch social media handles and website and maintain the profiles regularly to establish digital presence
2. Continue to connect with experts and authorities to further validate our problem and solution
3. Integrate technologies into a cohesive system and build a reverse-engineering process of detecting changes in vessel mass based on changes in wake patterns.
4. Iteratively validate and adjust our solution in coordination with Greater Vancouver Fishing Industry and Ministry of Agriculture, Food, and Fisheries.
5. Once we can manage how seafood that gets to the port can be regulated, or at least be traced for illegal sourcing, we will eventually get to the supply chain from port to consumers.