

The instructions of the fishing game were extremely vague, as the purpose was simply, “try to end the game with 18 fish.” Does this mean catching as many fish as possible as an individual? Is the goal to catch as many as possible in combination with the other fishermen? Or does it mean you should try to end with as many fish as possible in the commons? Interestingly enough, I did not ask myself all of these questions and then settle on one of the above definitions; instead, I made a set of subconscious assumptions that the goal was to catch as many fish as possible. It was not until we gathered in groups and discussed our collective strategy that I was exposed to other possible interpretations of the system. Looking back, I believe the instructions were intentionally vague in order to allow users to apply their own assumptions, boundaries, and goals to the system. In this way, it is similar to systems around us every day. Individuals subconsciously form boundaries and have goals for systems, and therefore interact with them differently. This game yet again proves how differently people can interact with systems, and it is continually surprising to me how there can be so many different interpretations of the same simple system (ex: fish and a commons).

It is important to note the inherent differences between this simulated fishing game and the real world. Sitting in a classroom with a laptop in Madison, WI, we faced no risk of consequences. As students, we could try whatever strategy we wanted with no consequences; as opposed to the real world where we would risk the overexploitation of resources. Even when we did run into traps, they educated us and served as opportunities, as Meadows views them. While this is an optimistic view of traps, I think the unique experience of no consequences differentiates this experience from systems in the real world.

Escalation was one of the traps our group ran into. There were times when another boat took one more fish than us (even though they were supposed to mimic our behavior), and both individually and as a group we got frustrated and reacted by taking one more the next time. We fell victim to the “I’ll raise you one” decision rule, and thus experienced the trap of escalation. The proposed solutions to this trap (by Meadows) are to reduce your own state in order to induce reductions in the competitor’s state. This worked in the fish game because the other boats were programmed to match your take. However, this would be much harder to have success with in the real world as a result of the tragedy of the commons. This term can be partially defined as, “the intensification of anyone’s effort leading to the intensification of everyone else’s.” If you started to take less, competitors in the real world might see it as an opportunity to take *more* fish. You would then not want to be the one consistently taking less, and start to take more as a result – leading to escalation all over again. I do not have a better proposition for a solution, which is somewhat disheartening but I think for a lot of these traps there is not really a fix.

Changing your goal dramatically affects how you interact with the system. Other groups shared their experience of trying to leave as many fish as possible in the commons – a different strategic interaction with the system than ours. While playing the game, another trap we fell into was seeking the wrong goal. If goals are inaccurate/incomplete the system may produce an unwanted result. Meadows’ way out is to align various goals of the subsystems with one overarching goal. This is possible in the fishing game because you set the precedent and the other fishermen generally follow your lead, but in real life you don’t know how much the others are catching, and cannot trust others to follow your lead. It is extremely hard to define a specific goal for a large system, especially one that is the commons. We were able to achieve this with our group by talking to each other, but we still only represented one of the fishers taking the common resource. In addition, we were not able to communicate with the other boats to let them know our strategy/goals. This might be a “way out” according to Meadows, but it is oftentimes

unattainable in the real world because of the complexity of even the simplest of systems. The more I think about it, I don't think there is such thing as a "simple" system. Alternate perspectives can complicate even those with the least parts and feedback loops.

Are you ever able to set a universal goal or boundaries for a system? There are unlimited amount of components in the system, each of which has the potential to view the boundaries and goal differently. Even if the object in the system is not able to communicate these goals/boundaries, they each have their own viewpoint. For example, the fish in this system most likely see the boundaries of their system as the physical body of water they live in. Their goal is to stay alive. Even if the fishermen were able to communicate and be on the same page regarding the goals of the system, they would never be able to coordinate with the animals and inanimate objects in the system to coordinate the system as a *whole*. As humans, we are the only creatures in systems that have the ability to be conscious of setting goals and boundaries. And even within the category of humans, only a small percentage of us are system thinkers (in other words: aware of these systems). We can assume how other components of the system may operate, but since there is no way to communicate with them directly it is impossible to get the whole system to view the same boundaries and goals. As a result, I think that the solutions to a lot of the traps discussed in Meadows' text are unrealistic. Meadows herself admits that the "ways out" she suggests are difficult and in most cases unrealistic. I would take it further and say that they are almost always impossible because coordination among and equal representation of all parts in a system is not possible. Even if we are able to come to a consensus on the goal and boundaries, as humans we will always play a larger part in dictating the goals and flows. There is no way for the other parts to consent to them, so even if we think a system is able to work together and have a common goal it is still only from *our* perspective. We can't ask the body of water if it consents to the boundaries and goals that we have established.