EECS 472 Final Project Progress Report

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Agent Behaviors :

For forage fishes: it has the option to form a flock which would make its survival easier. If the flock? is false, the fishes can choose avoid action to detect nearby predators and escape. Every move would make the fish's age plus one and fishes can reproduce only after their ages are over 3. The fishes would eat seaweed.

For predators: They can chase after the forage fishes for food and if there is no fish nearby but some other predators nearby, they would fight with each other and one of them would die. Predators can eat fishes and reproduce at a certain possibility. If the age of predator is over 8, it would die. Every move would also make predator's age plus one.

For human-beings: there is an option to decide whether the human would involved in this ecosystem. If human-involved is false, the system would only have predators and forage fishes. If human-involved is true, the system would have boats moving around and catching predators and fishes. The boats' speed is higher than fishes and when there is a predator nearby, the boat would prefer predator rather than all the

fishes in radius 3.

System Behavior:

The system works fine. Even though at a lot of situations, the predator would die out, I do find system at certain situation that the predator and forage fishes would keep balance without the human involved. And this would help the later focus on how would human's fishing effects the whole system.

Rationale for agent rules:

These rules are basic knowledge for a marine ecosystem.

Model output:

Not yet. I still need some features to improve the behaviors of the agents. For example, after the death, all the features would turn to be detritus and come into the cycle again. The behavior of human needs improve also. For instance, more fishes, more boats for fishing.

Questions: Not yet.

Next step:

I would add energy for all the turtles and take energy into considerations. I would add another character---detritus, which is also a food for forage fishes. I would also make the human behavior more realistic.