**Reviewer Comments:**

This paper reports on the development of a simple, socio-ecological fisheries model that tests the impact of fish movement and social influence on outcomes in a two patch, co-managed fishery. Its contribution to the field would be improved by a clearer explanation of the rationale behind the model and a fuller explanation of the assumptions behind some of the model parameters.

I recommend including a description of co-management in the introduction and an alignment of the model’s parameters with the tenants of co-management. For example, are there limits on the movement of fishers between and beyond the two patches? The introduction references the difficulty of constraining fishing to one group but that is a basic principle of co-management because it changes fishers’ incentives from maximizing harvests to developing conservation strategies. Are there mechanisms for dispute resolution and enforcement? That would affect how conflict between overharvesters and sustainers might be resolved.

The tendency of fishers to move from patch to patch is noted in the introduction and referred to as “high migration”. However, the model includes only movement of fish, not people. In the introduction and elsewhere, references to populations and movement between patches are not always clear regarding whether the reference is to fish or people.

Failure of conservation due to a lack of stakeholder participation is mentioned in the introduction but is not addressed in the model. Similarly, the reference “cross-group communicators” as a solution to overharvesting is overly simplistic and unsupported.

I found it curious that the model tested the social influence of fishers from the overharvested patch and not vice versa. My experience is that groups of fishermen who fish sustainably exhibit a high degree of social cohesion (required to generate adherence to conservation strategies). As a result, they are more likely to “influence” non-conforming fishermen whose unsustainable practices threaten their patch. Therefore, I find the conclusion that fishers in population 2 will reduce their numbers in response to declines in fish population 2 unlikely. Perhaps the model needs more information on the access of either population of fishers to alternative behaviors (such as reducing fishing effort, protecting juveniles, etc.).

“Fish movement” should be clarified. Is the reference to the stray rate between demographically subpopulations? Or to the overlap of subpopulations that can occur among resident and migratory subpopulations? The implications are very different. Asymmetrical movement seems to be a reasonable if not typical assumption (but should be acknowledged as such).

Some factors were discussed in the discussion that I believe should have been addressed as assumptions in the description of the model. For example, a reference to “the only information being passed on to the other human population is the number of fishers as opposed to what sustainable practices were used” is a limitation that may explain model outcomes under high levels of social influence but should be declared – and explained earlier. The rationale for this assumption is stated in the next paragraph: the race for fish doesn’t allow for explanation of conservation practices. This has certainly been documented in boom and bust fisheries. But this usually precedes rather than follows the development of co-management.  Perhaps the two patch model doesn’t model a truly co-managed fishery. Co-management presumes that governance has been established that is unlikely to result in a boom and bust fishery.

The reference to homophily is relevant but should be addressed up front.

Normative social learning processes are often proposed for structured natural resource decisionmaking processes.  But fishers making decisions based the benefit-cost ratio of conservation strategies are more likely to exercise whatever power or influence they have to get what they think is best for their fishery in real time than to participate in structured decision making that may take weeks or months.

The development of socio-ecological models with social hierarchy and spatial structure is important in increasing our understanding of the dynamics in small-scale fisheries. With some modifications I believe that this paper can make an important contribution to the literature.