

## Coastal Human Dimensions Agent-Based Model

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### Output:

	gender	race	education	knowledge_score	behavior
1	1	3	4	0.90	Positive
2	1	3	4	0.05	Negative
3	1	3	4	0.10	Negative
4	1	3	4	0.35	Negative
5	1	3	4	0.90	Positive
6	1	3	4	0.70	Positive
7	1	3	4	0.80	Positive
8	1	3	4	0.35	Negative
9	1	3	4	0.70	Positive
10	1	3	4	0.20	Negative
11	1	3	4	0.60	Positive
12	1	3	4	0.00	Negative
13	1	3	4	0.50	Positive
14	1	3	4	0.00	Negative
15	1	3	4	0.90	Positive

### Discussion:

This agent-based model seeks to answer the question: How do different educational material types influence Alabama coastal tourists' knowledge levels about wildlife/policies, as influenced by their demographics (gender, race, education) and other characteristics? The current iteration of this model has explored our initial objectives and is on the trajectory of answering more complex relationships between the public and knowledge dissemination for wildlife conservation efforts in coastal Alabama. We were first able to simulate the current coastal tourist demographics by drawing directly from our survey data and creating nested proportions, from which we would create our simulated population. We also verified this population by comparing the original survey proportions to the simulated population. The population could be updated in future versions to draw from census data directly and code in the ability to change over time to

reflect changing tourist demographics. Currently, this model reveals how different opportunities exist to interact with educational material (sign, magnet, sticker, pamphlet), all of which have differing values according to the willingness to read survey questions, as well as simulating knowledge loss. All of these different loops ultimately demonstrate how different educational strategies done by state fish and wildlife agencies or other wildlife education entities and organizations can influence whether or not the public performs positive or negative behavior towards wildlife based on how accessible and useful the educational material is to patrons. In the future, we aim to incorporate different willingness to read values based on the appropriate demographics instead of generalizing them for the entire population. Ultimately, this agent-based mode, with added complexity, will be able to best simulate how to educate the public about important wildlife species and their associated policies for conservation measures in the Alabama coastal tourism industry.