Teaching Notes

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For Bald Eagles TIEE module

I developed this adaptation to be distinct from the original in several major ways:

* Powerpoint slides introduction to the species and life history (not just reading background text)
* No statistics (students in this course haven’t taken statistics yet)
* No homework (this course has no homework)
* I gave the students the ‘open data’ workbook, instead of guided
* I adapted the background reading into its own handout
* I added a metacognition based ‘model and self reflection’ component to the assignment
* I added a grading rubric
* I turned the background into slides / PPT to present at the start of the first class period
* I modified the proposal table
* Students worked in randomly assigned teams

**Quantitative learning objectives for my adaptation:**

Using and creating models to explain environmental phenomena

Time series modeling of a population

**Other learning objectives for my adaptation:**

Developing hypotheses based on graphs (asking what other data could be added to take the inquiry further)

**Other notes**

* Part of a course is all ‘hands on’ with no lecture and no homework.
* The course is first year students in environmental science and open to any other major / all other years as an elective.
* Assumes and assigns no statistical training or experience

**Implementation notes**

Students found it frustrating to have “more” data than they needed to do the assignment. That’s intentional, because in their case, without stats or Solver, they were only making and testing two-way relationships / graphs. It also means there are lots of possible ‘correct’ answers - but they are used to only having enough information to do one thing and in only one possible way. I don’t think it’s a bad lesson for them to learn as second semester freshmen.  And in practice, none of the data were ‘red herrings’ - all could be used depending on what questions they had in their tables.

Students enjoyed working with real data more than our exercise the week previous, which used pretend bird data. They also felt, even with simple models, they could imagine more connections to real world applications - perhaps because they knew all this data really came from real birds and monitoring data. (I read the model and self evaluations for both this assignment and the assignment they completed the week before).

Students were in some ways frustrated not to find the relationship they expected between the salmon and eagles! That’s not a bad thing either, even if it was surprising for them.