

Something's Fishy at Lower Cape May Regional High School

Karen Reay, SCeMFIS Web & Communications, June 2018

Jeff Martin, a marine science teacher at Lower Cape May Regional High School, has submitted the results of their SCeMFIS-sponsored lab exercise examining discarded summer flounder (*Paralichthys dentatus*) scales to approximate age via annulus rings. Seven fish were analyzed in total and approximately 60 students participated in the lab exercise. Student data was collected and compiled from investigations using compound light microscopes on 40x.

The percentage values in Table 1 (below) represent the percentage of the students who estimated that the sample scale was of a particular age. Jeff felt that students were very receptive to instruction and that they were adequately prepared to provide fairly accurate estimates.

Future experiments may include a larger sample size with borrowed slides from Rutgers to see if age estimates improve with a larger sample size. To provide the full experience, the experiment also included cleaning dried mucous and dirt off of the scales from a summer flounder that was harvested in the fall.

Jeff says, "This exercise was beneficial in that many of the students in my class fish recreationally or even commercially, or at least have families that rely on fishing as their primary income. It led to several extension topics regarding regulation, scientific vs. political decisions and the importance of proper sample sizes and human error."

Jeff thanks SCeMFIS for the awesome opportunity to connect with brilliant researchers such as Daphne Munroe and Steve Lee at Rutgers to enhance his marine science program and is looking forward to the next adventure.

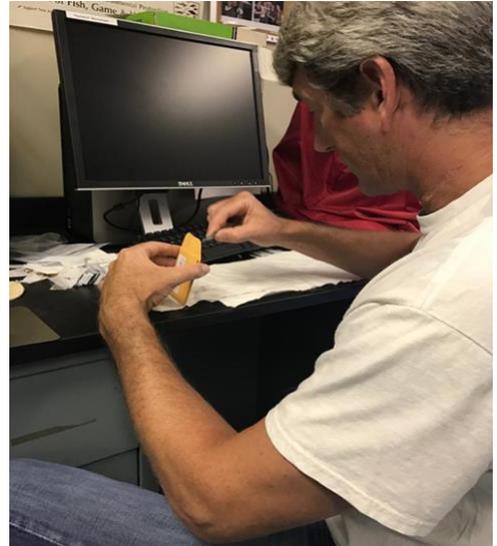


Figure 1: Jeff Martin, Lower Cape May Regional High School Science Teacher

Table 1: Flounder Scale Analysis Data Totals

Slide	% at 1 year old	% at 2 year's old	% at 3 year's old	% at 4 year's old	% at 5 year's old	Student's average age	Teacher's Estimate age
A	31	63	0	0	6	1.89	1
B	13	47	40	0	0	2.27	2
C	64	14	8	0	14	1.86	3
D	47	27	13	0	13	2.05	2
E	27	40	6	27	0	2.33	2
F	29	64	0	0	7	1.92	2
G	7	21	57	15	0	2.80	1



Figure 2: Students attempting to count the annulus rings from flounder scales mounted on slides.



Figure 3: Another student preparing scales by cleaning debris before they are mounted on slides.