

ESTIMATING INDICES OF RELATIVE ABUNDANCE FOR YELLOWFIN TUNA FROM CATCH-PER-UNIT-OF-EFFORT ON SCHOOLS ASSOCIATED WITH DOLPHINS

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Goal: Develop an index of relative abundance from purse seine catch and effort data on schools associated with dolphins

Problem: In addition to making sets on schools associated with dolphins, vessels can also set on schools associated with floating objects and unassociated schools

Concept: Only use vessels that make the majority of their sets on schools associated with dolphins

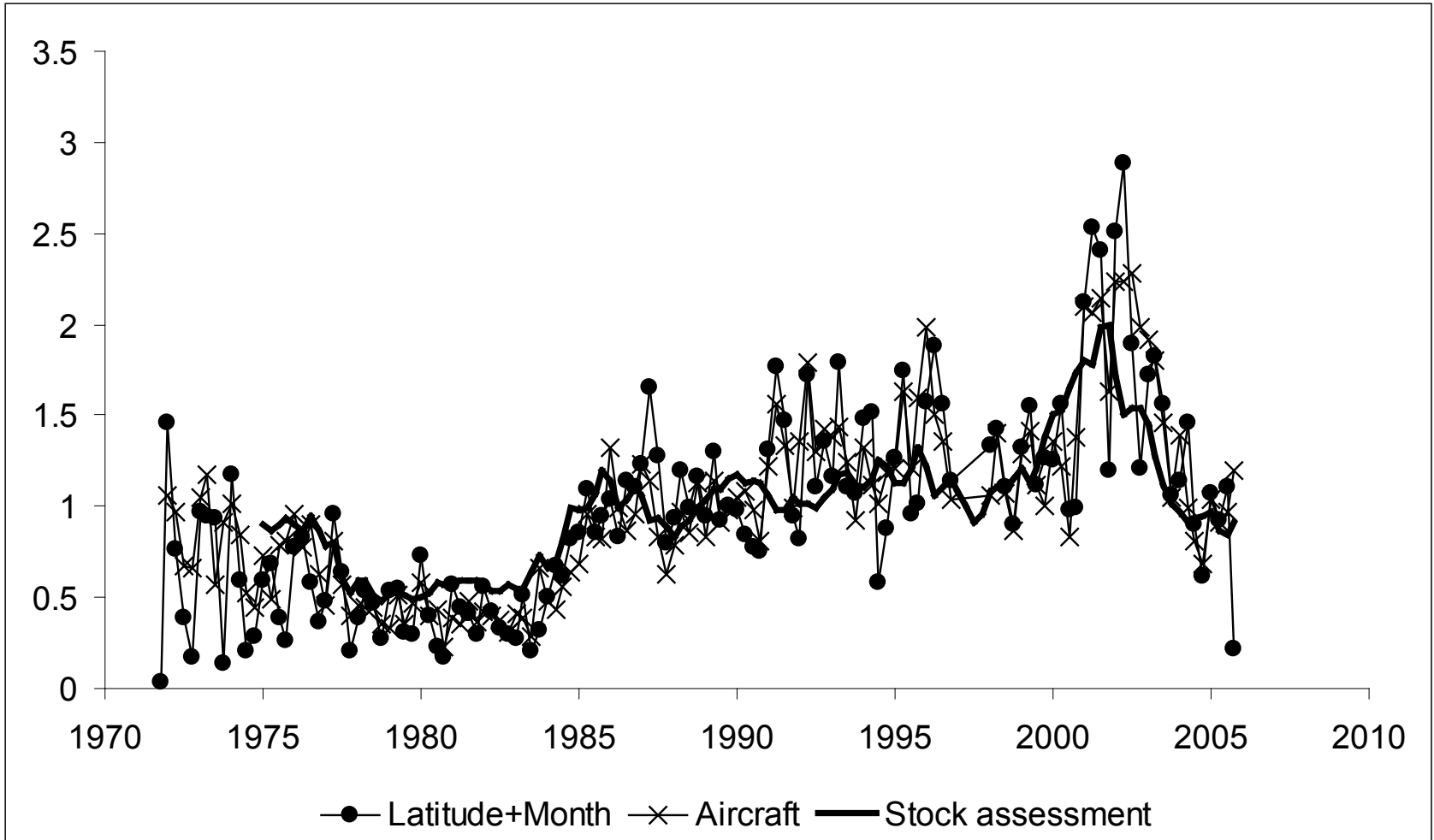


Method

- Restrict data to vessels that made
 - 80% or more of their sets on dolphin-associated tunas
 - 90% or more of their sets on either dolphin-associated or unassociated schools.
- Apply a two GLMs with covariates
 - Time in quarters, month, and latitude
 - Time in quarters, vessel, aircraft, and sonar.



Results



Discussion

- Restrict data to vessels that made sets on dolphin-associated tunas or standardization for the covariates did not have a large impact on the index of relative abundance
- The results are consistent with the stock assessment estimates of abundance
- Search time should be used as the measure of effort by eliminating the time taken to conduct a set (Punsly, 1987) .

