

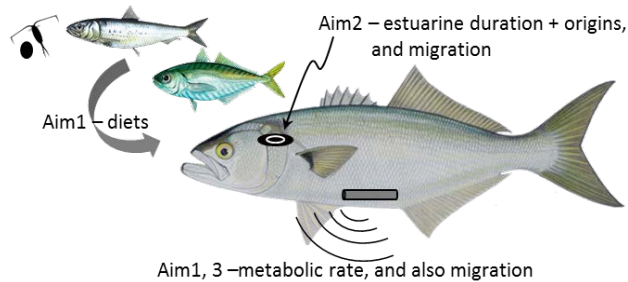
## PhD Project Available at UNSW or Univ. Adelaide

### Bioenergetics and migration of tailor *Pomatomus saltatrix*

Investigators and possible supervisors: Prof Iain Suthers (UNSW), Dr John Stewart (NSW DPI-Fisheries), Prof Bronwyn Gillanders (Univ. Adelaide), Dr Julian Hughes (NSW DPI-Fisheries), Dr Nick Payne (UNSW, Univ. Adelaide), Dr James Smith (UNSW)

We are seeking an outstanding PhD student to contribute to the bioenergetics component of a funded ARC Linkage Project with NSW Fisheries on the migration and predatory impact of tailor off eastern Australia. The applicant should have first class honours in science with strong quantitative skills, with some experience in R, MATLAB or equivalent. The candidate should apply for an Australian Postgraduate Award at UNSW or at University of Adelaide. An annual top-up of \$7,500 will be provided. Deadline for APA applications is ~16 October (UNSW). Annual trips between Sydney and Adelaide or to

collaborators in Hobart will be expected.

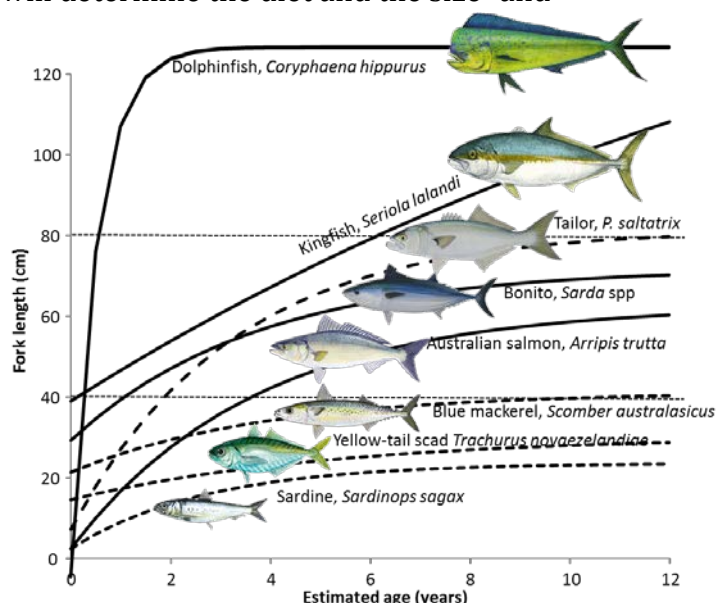


Diet, size, temperature, activity and ecosystem demand of tailor

Please send your CV (max 2 pp) and university transcript along with a cover letter outlining your relevant experience, skills and reasons for applying for this PhD project to Prof Iain Suthers ([I.Suthers@unsw.edu.au](mailto:I.Suthers@unsw.edu.au)) and Prof Bronwyn Gillanders ([bronwyn.gillanders@adelaide.edu.au](mailto:bronwyn.gillanders@adelaide.edu.au)).

The PhD project will integrate the diet, consumption and bioenergetics with data from other similar, mid-sized predatory fish into ecosystem models of the open coast, together with those of estuarine ecosystems using Ecopath with Ecosim. The ecosystem demand by predatory fish is not understood, because it fails to include the considerable impact of juvenile fish, especially when they reside in an estuary. This project will determine the diet and the size- and temperature-dependent growth and biogenetics of a species, from juvenile to adult; from estuary to the open sea. This study is significant for fisheries management of economically important baitfish, by incorporating the size-based metabolism of a representative predator. The project includes implanting acoustic transmitters, calibrated in a flume, to discover bioenergetic rates in the field. The student will prepare an ecosystem synthesis of related pelagic fish predators from catchment to coast.

This project complements an existing PhD project underway on the diet of juvenile, estuarine tailor and coastal adult tailor, and age, growth and fisheries management.



Growth curves of the main members of the mesopredator assemblage (solid line, or dashed for tailor) and their prey (dotted lines), with unresolved juvenile growth; truncated at 12 y for clarity. Growth curve for tailor and dolphinfish from North Atlantic (Robillard et al. 2009; Schwenke & Buckel 2008); rest by Stewart & co-workers.