How do European bass use Devon's estuaries?

Thomas Stamp

Prof Martin Attrill, Dr Shaun Plenty, Tim Robbins, Dr Elizabeth West (1), Dr Emma Sheehan (1)

UNIVERSITY OF PLYMOUTH

Devon & Severn IFCA Inshore Fisheries and Conservation Authority

European Commission

I-BASS DEVON TAGGING PROJECT

Tracking movement

I-BASS DEVON TAGGING PROJECT

Project aims to track European bass over 2 years, to assess:

- Residence to estuary
- Habitat use within estuary
- Range of movement outside estuary

146 European bass tagged within three designated bass nursery areas:

- Dart estuary
- Taw and Torridge estuaries
- Salcombe Harbour

UNIVERSITY OF PLYMOUTH

IFCA

Tracking movement

I-BASS DEVON TAGGING PROJECT

Project aims to track European bass over 2 years, to assess:

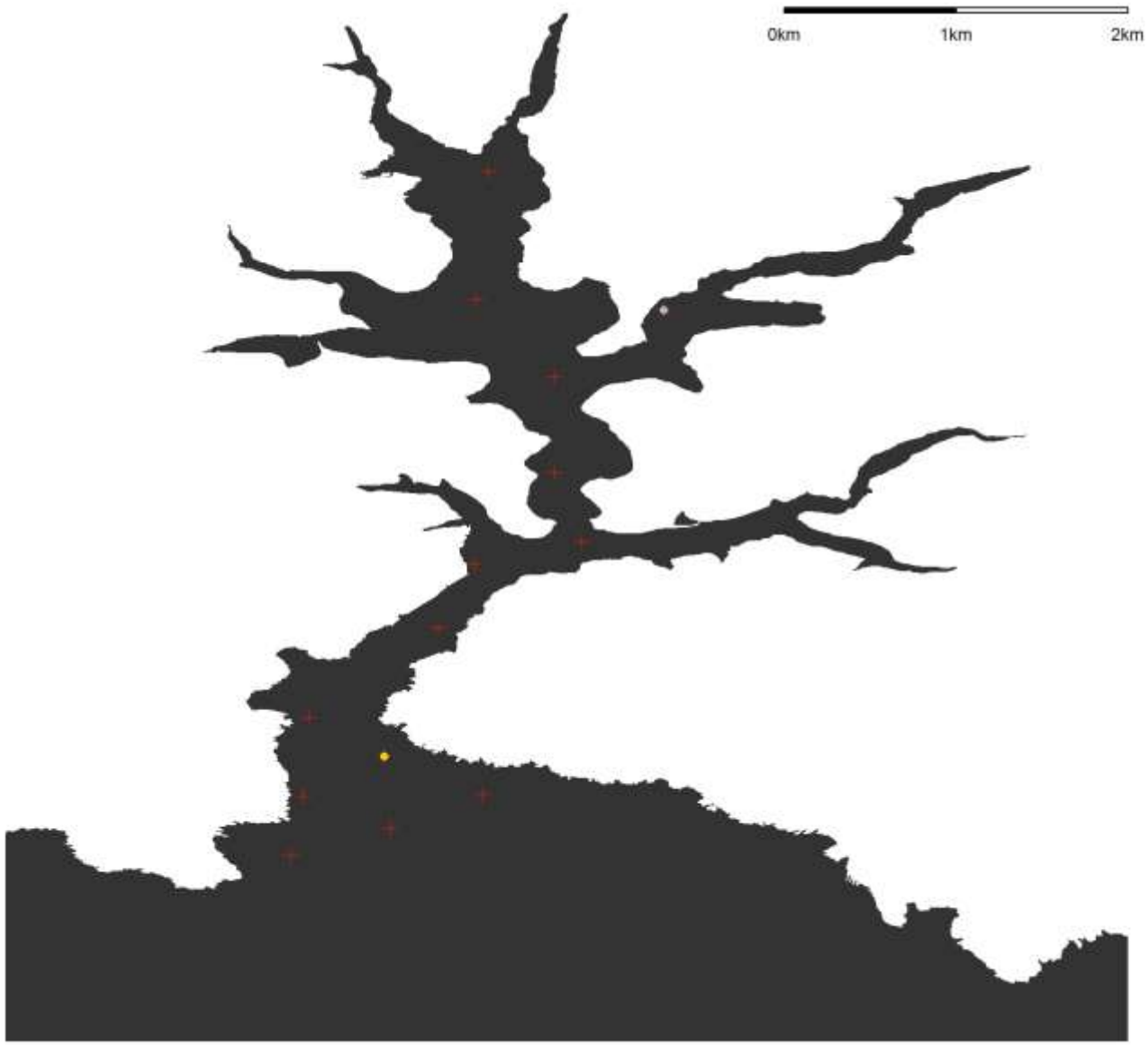
- **Residence to estuary**
- Habitat use within estuary
- **Range of movement outside estuary**

146 European bass tagged within three designated bass nursery areas:

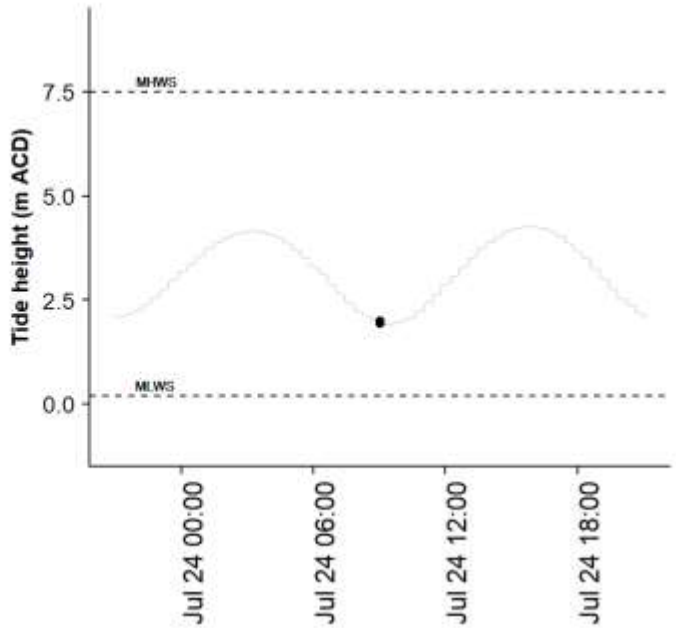
- **Dart estuary**
- Taw and Torridge estuaries
- **Salcombe Harbour**

UNIVERSITY OF PLYMOUTH

IFCA



Adam Rees
Alan Ross
Andy C
bass10
Bede
Benjamin
Bill
Boo Boo
Bridger
Cameron
Caroline
Catie
Charles Dance
Chloe Game
Chris Roberts
Christine
Doris
Fin
Francis Drake
Ghost
Hush
Jack
Jake
Jerry
John
Joss
Katherine H
Kier
Kiz
Leona
Manda
Midge
Mike
Monty
Mr Hindes
Nick
Paula
Pete
Phil
Phil
Rosie
Ruby
Sarah Clarke
Seabass…tian
Stewart
Sylvester
Sylvia
Tim
Tim Robbins
Timelord
Tom
Tom Daley
William Cookworthy



Fin . . .

Thomas.stamp@plymouth.ac.uk

https://sheehanresearchgroup.com

Movement outside estuaries

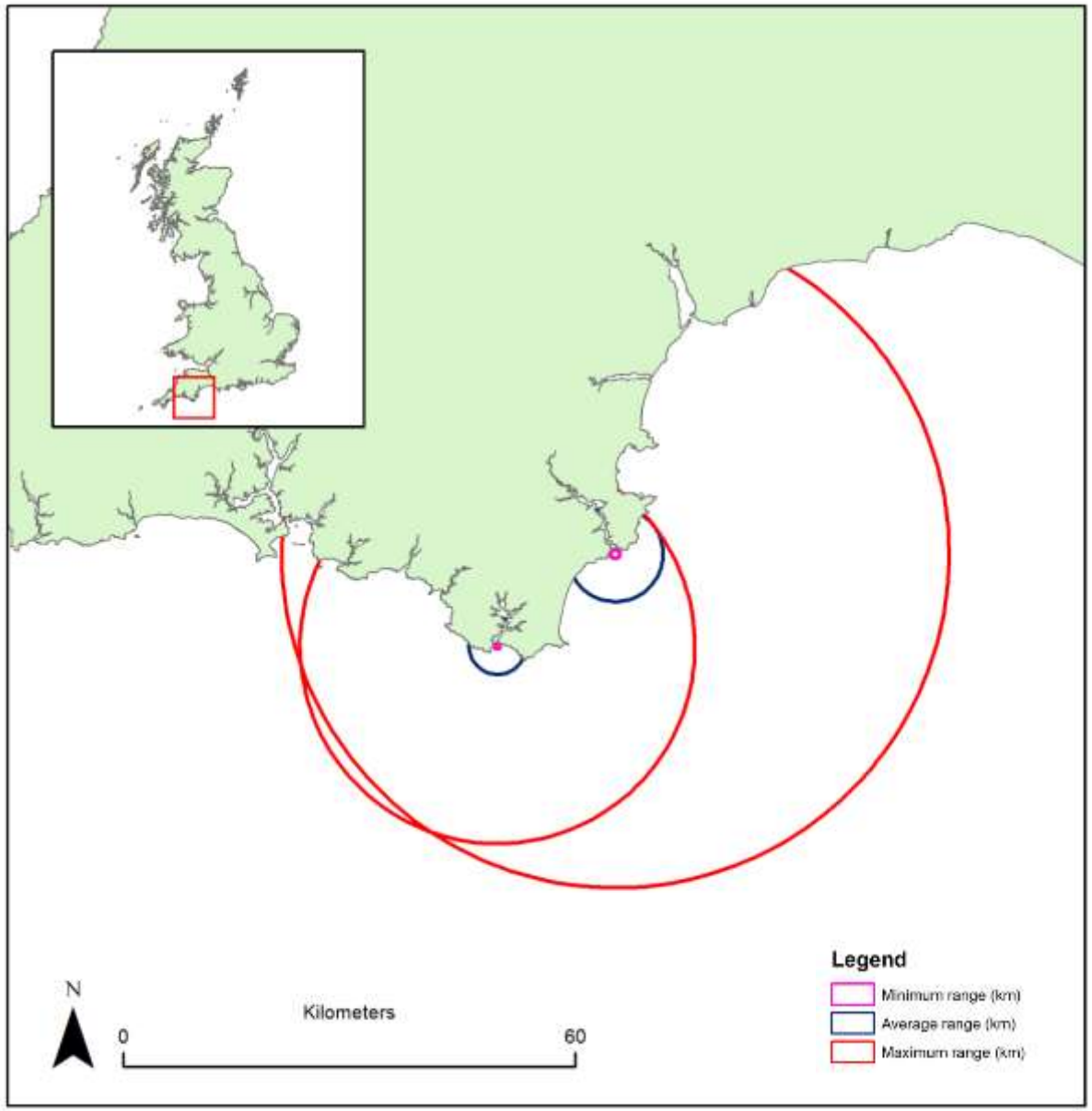
14 individuals moved between Salcombe harbour and Dart estuary

Movement speed calculated in open coast

- Distance (Salcombe harbour – Dart estuary: 24.9km) / time taken (secs)

Extrapolated for fish absence periods to estimate distance/ range of movement outside of BNA

Traveling speed	Estimated range (km) ± 95% conf	
	Dart estuary	Salcombe harbour
minimum (0.007 m/s)	0.6 ± 0.1	0.3 ± 0.1
average (0.07m/s)	6.3 ± 0.8	3.8 ± 0.5
maximum (0.49 m/s)	44.2 ± 5.8	26.3 ± 3.7



Project I-BASS: Residence to BNA

Proportion of time within BNA highly variable between individuals

Generalized linear model (Proportion within BNA~ Fork length)

- Gaussion + log link
  - Fork length: T=2.541; P=0.03
  - Sample site (Chi^2): P=0.29 (no sig difference)

Larger individuals spend a higher proportion of time within bass **NURSERY** area (??)

No significant difference between BNA, however the trend line for Salcombe harbour higher than Dart