

Fish tracks

Tracking barramundi in the Roper River

Peter Dostine DENR

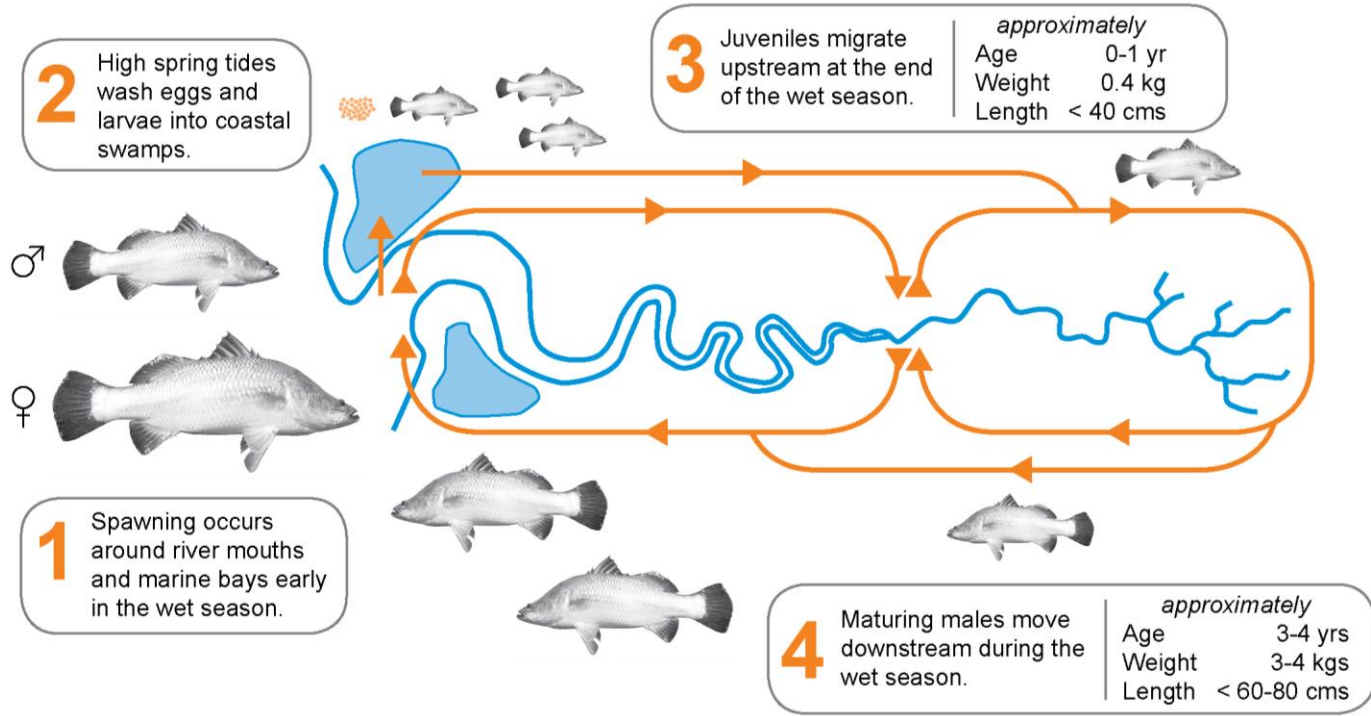
David Crook CDU

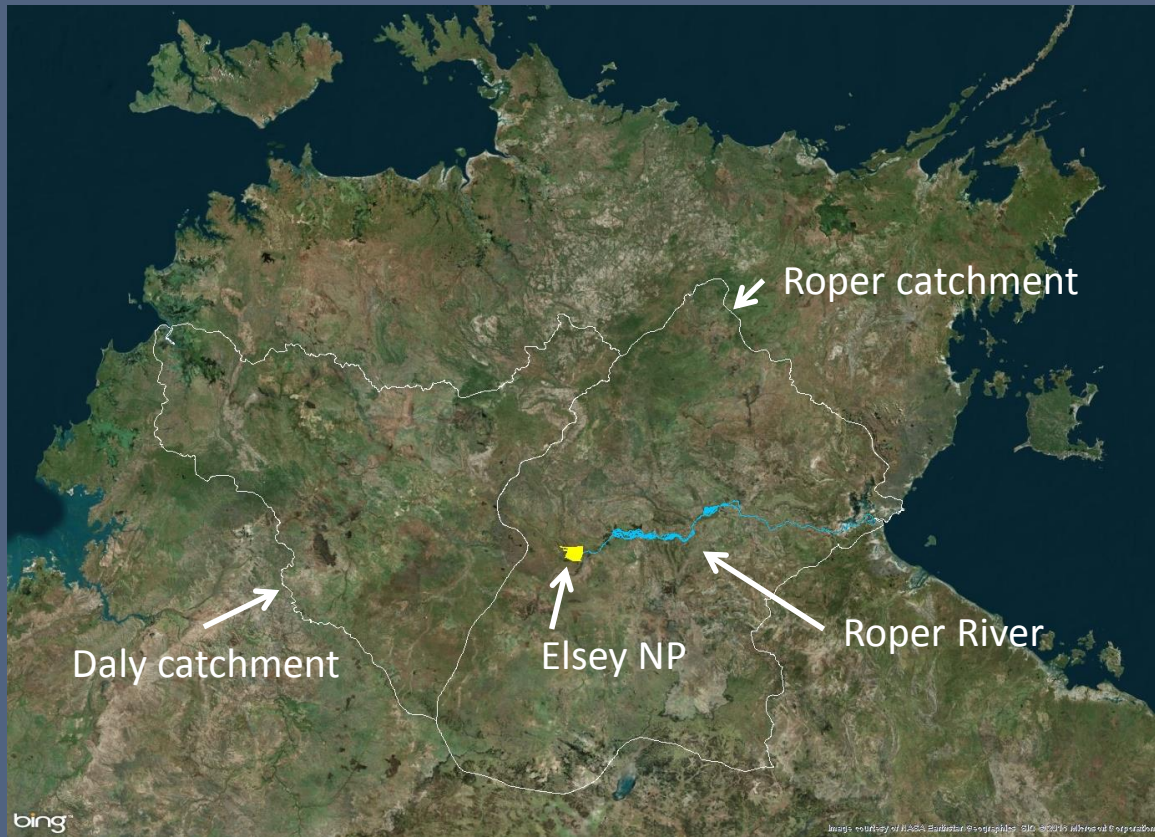




Vallisneria at Red Rock riffle
Roper River







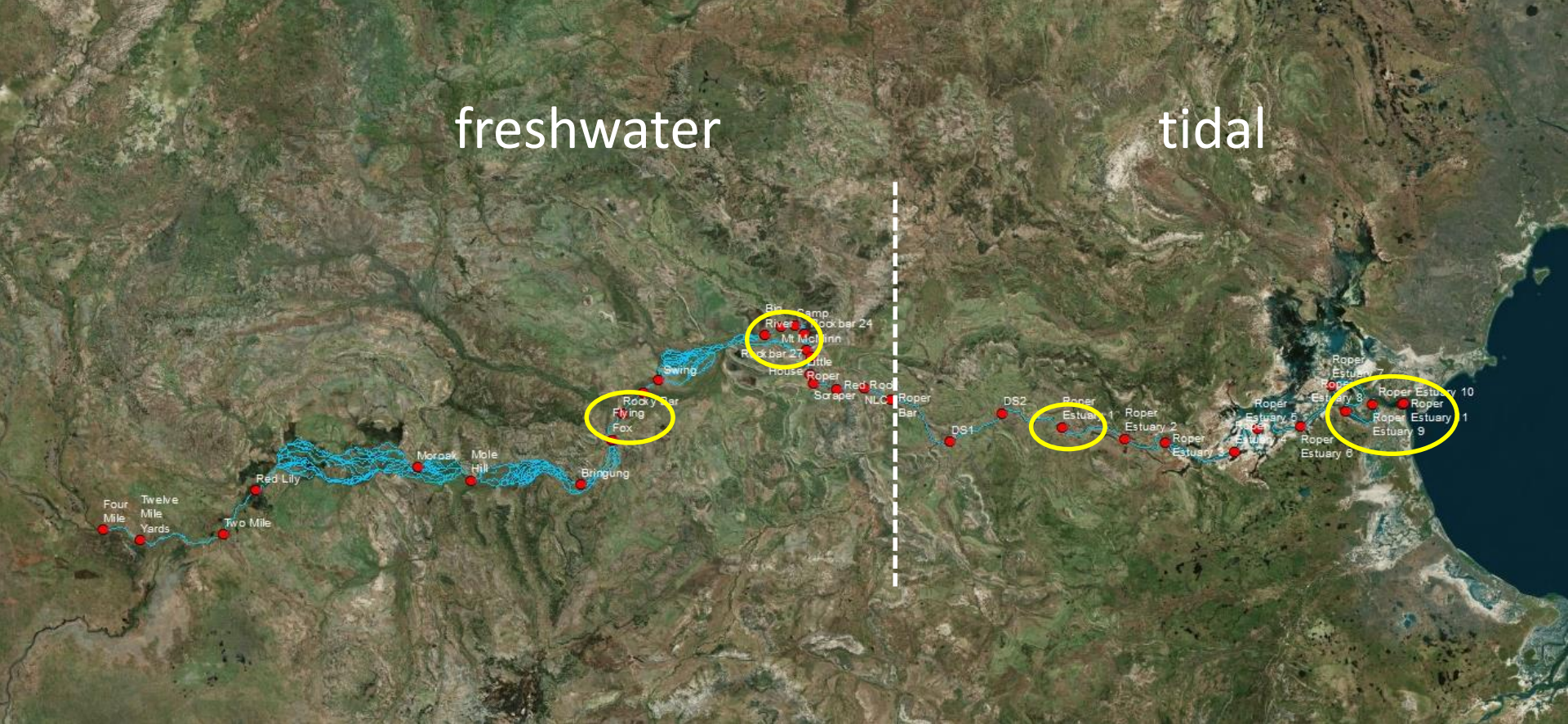


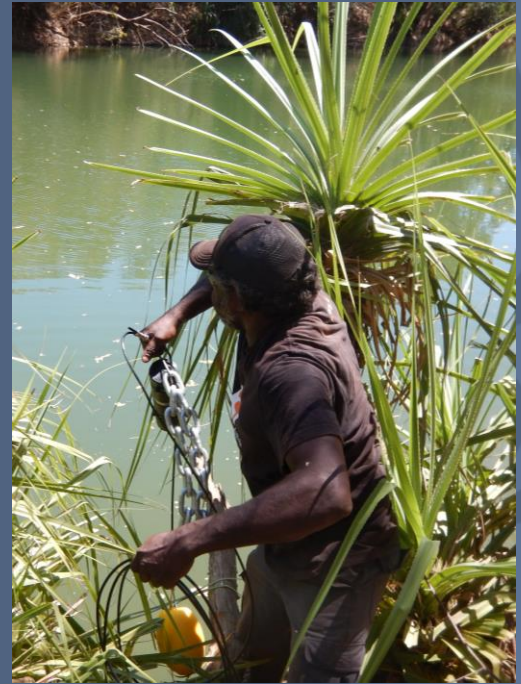
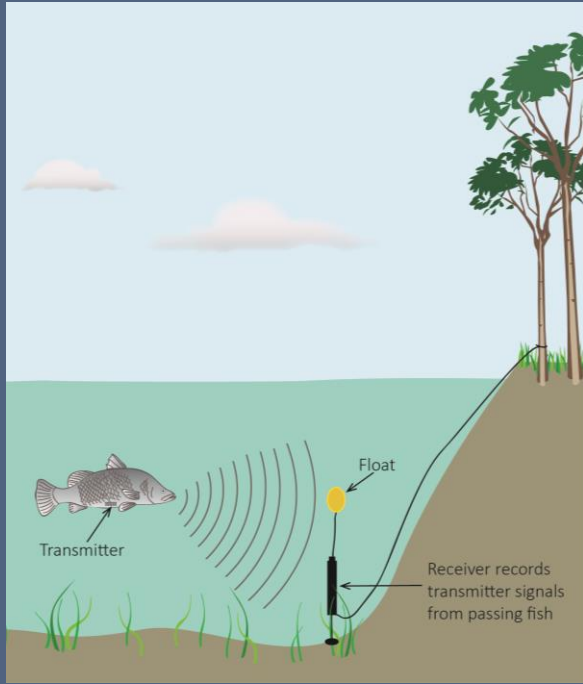
Project design

- Acoustic receiver array along the Roper
- 140 barramundi tagged with acoustic transmitters
- Receiver 'gates' at 5 potential stream barriers
- River height loggers at stream barriers

freshwater

tidal

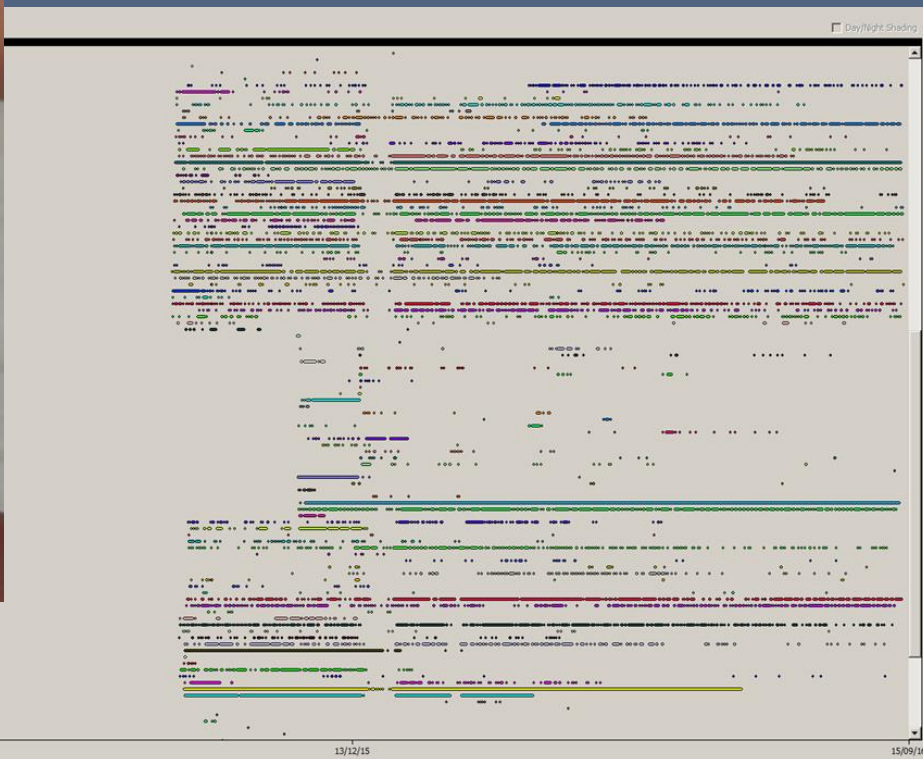






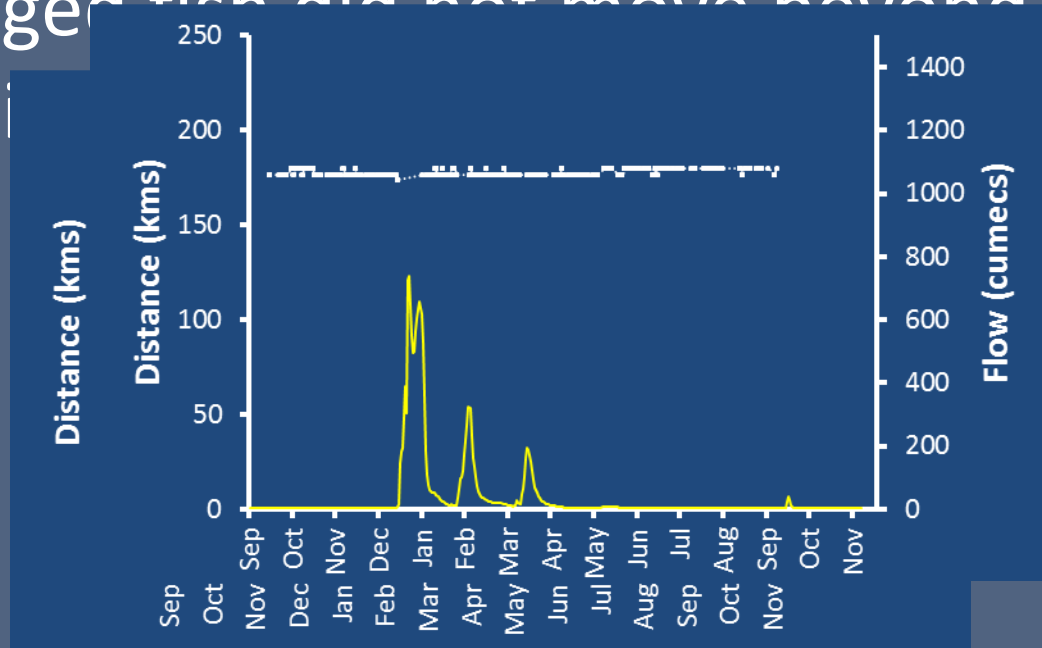


11/03/15



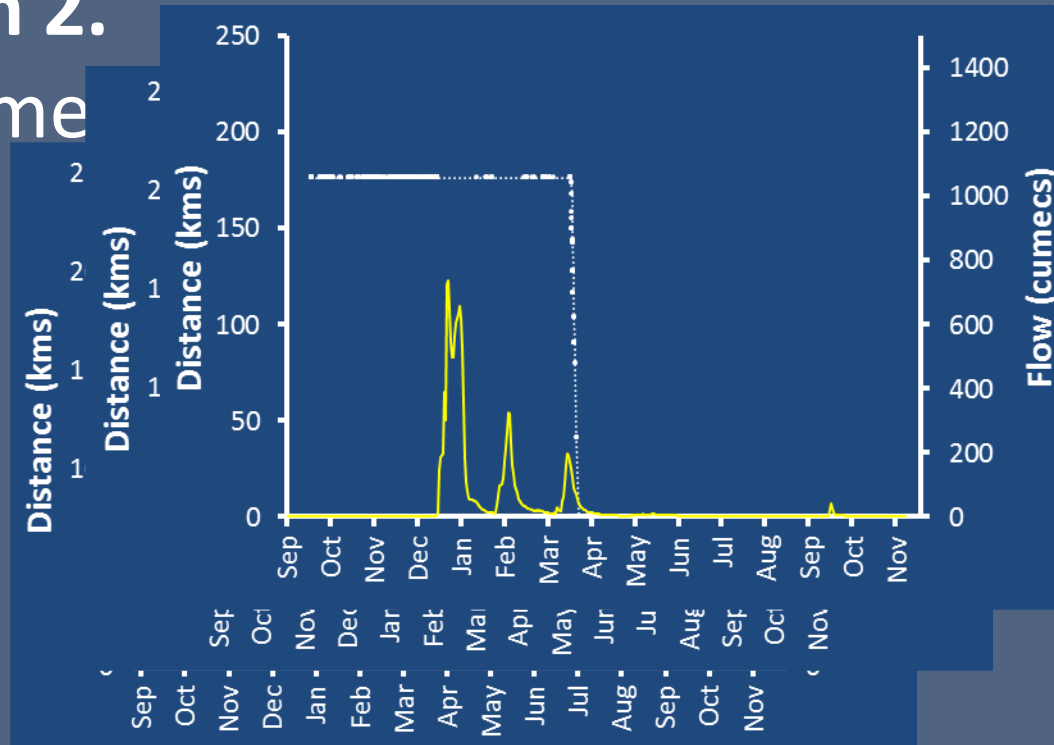
Observation 1.

Most tagged fish did not move beyond the tagging site



Observation 2.

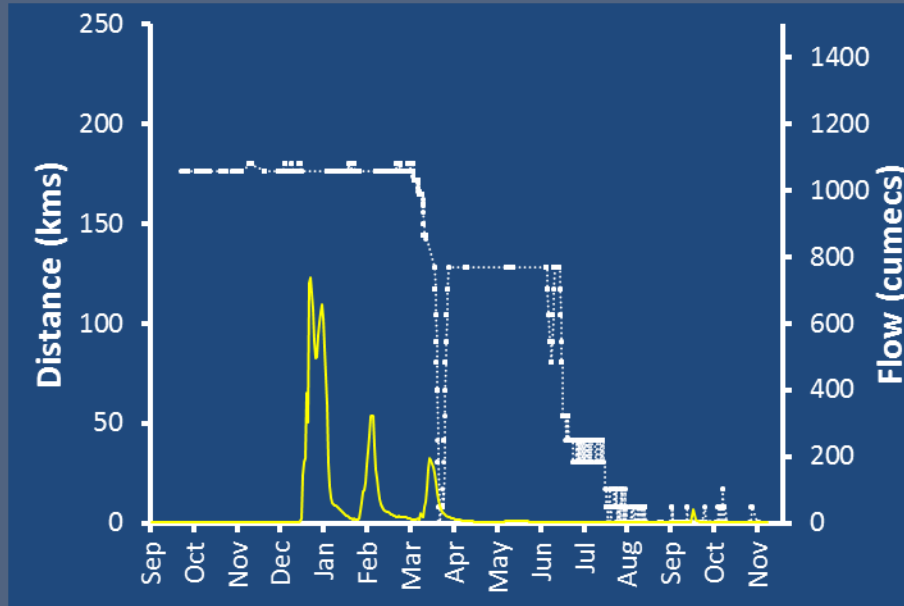
Most movement event



OW

Observation 3.

Movement patterns can be complex

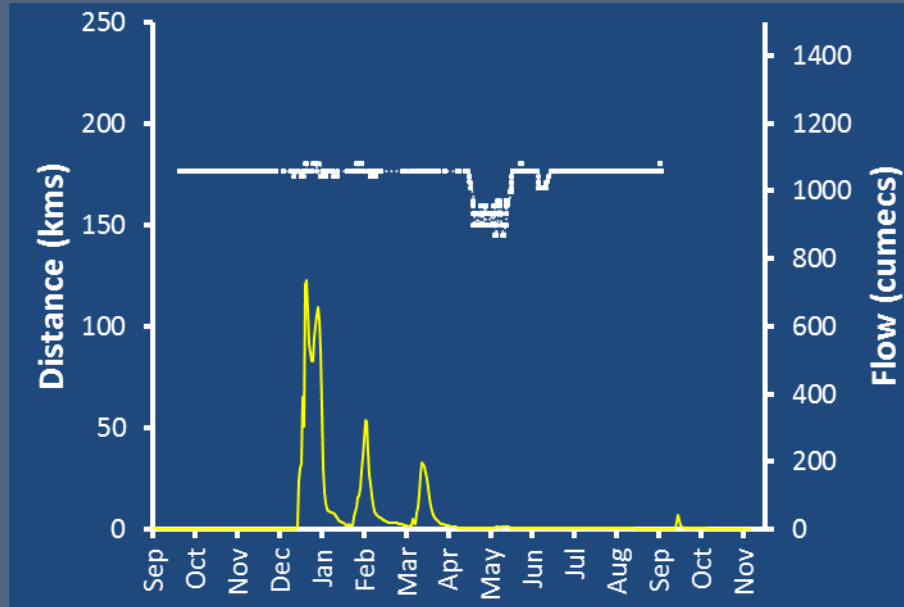


Total length 101 cm
Tagged Mt McMinn
23 September 2015
15,219 detections



Observation 4.

Late starters stay at home

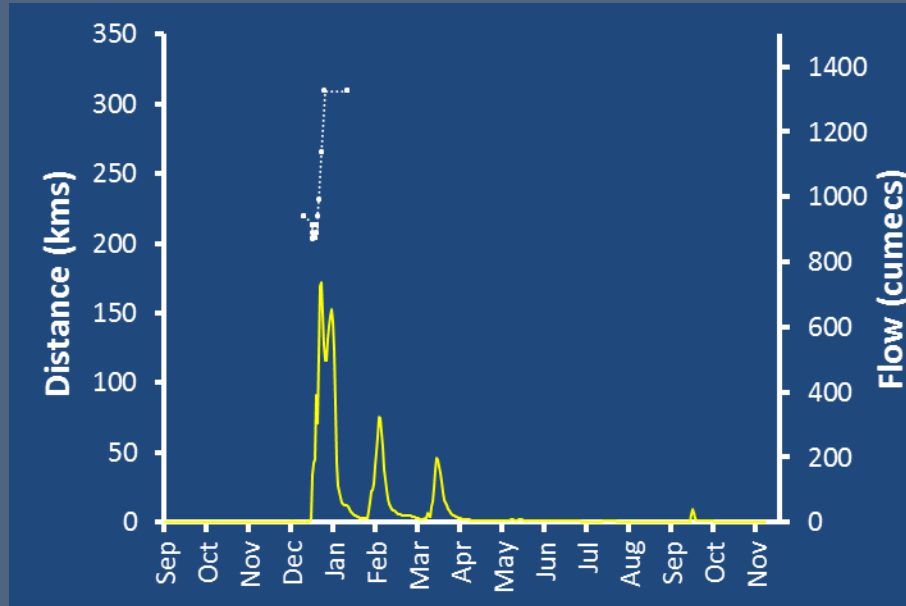


Total length 73 cm
Tagged Mt McMinn
22 September 2015
30,339 detections



Observation 5.

Upstream colonists leave early



Total length 66 cm

Tagged Flying Fox

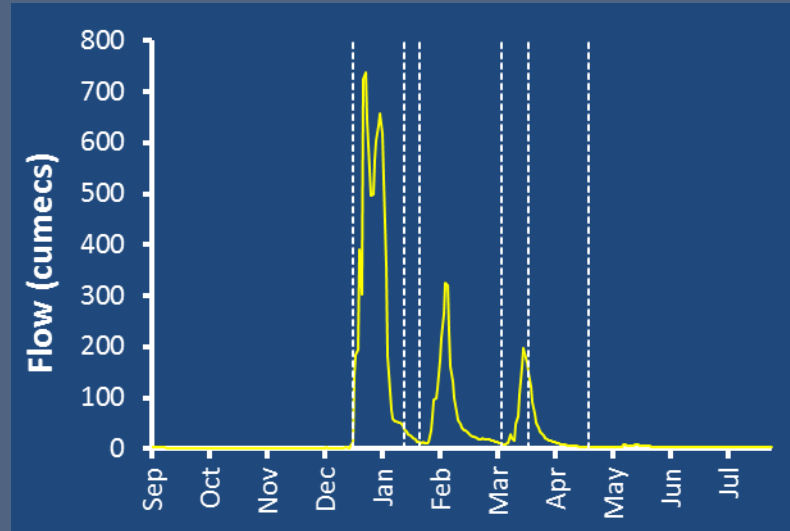
18 November 2015

76 detections



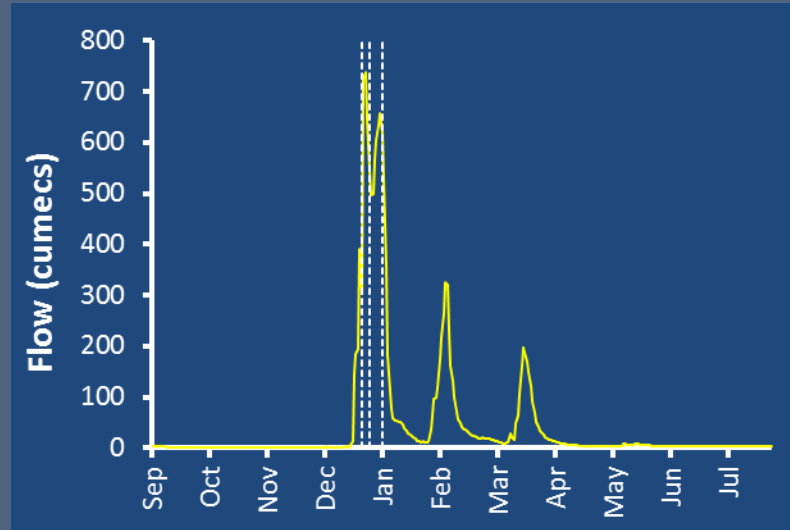
Observation 6.

Onset of downstream migration highly variable



Observation 7.

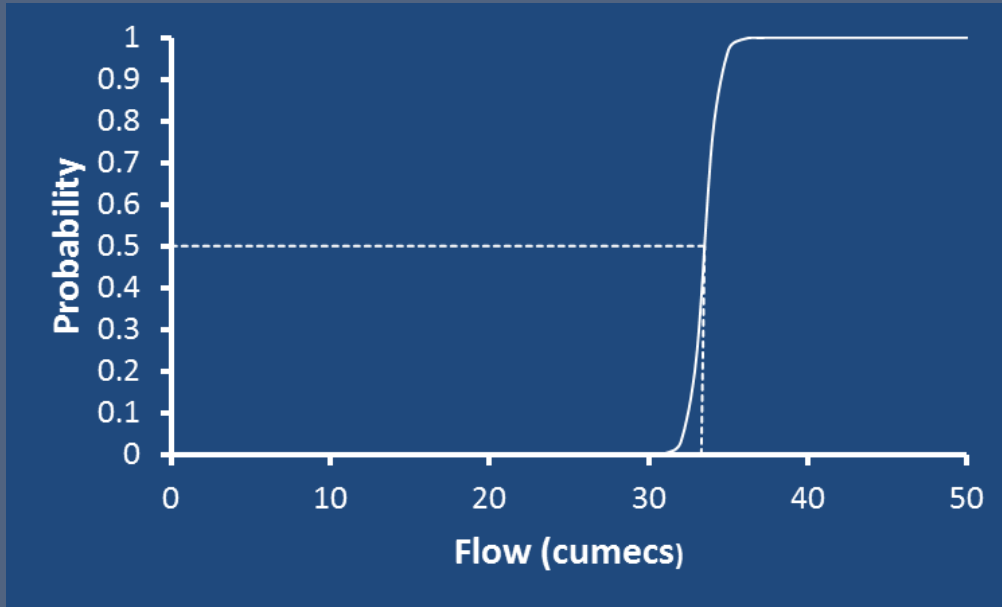
Onset of upstream migration highly synchronous



Observation 8.

Stream barriers constrain movements at moderate flows





... at 33 cumeecs 50% probability of downstream migrating barramundi crossing Roper Bar ...

What next?

- Assemble the jigsaw
- Expected life of project April 2019
- Quantitative modelling of responses to flow
- Risk assessment of movement responses and development scenarios

Acknowledgements

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Yugul Mangi rangers	Clarry Rogers, Winston Thompson
Roper River Landcare group, Mataranka Parks and Wildlife rangers	
Commercial fishermen	Vu Nguyen, Paul Reid
Recreational anglers	Warren de Witt, Brent Boswell
Station owners/managers	Mark Phelan, Mark Sullivan, Simon Hoar