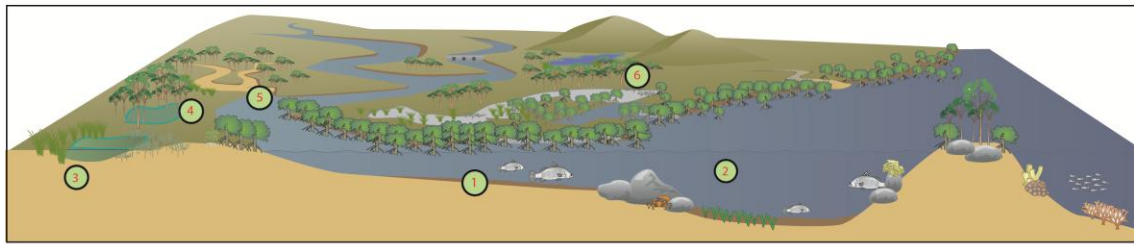
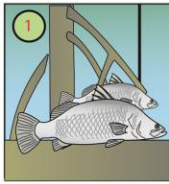


## Case study: Barramundi (*Lates calcarifer*) and the Great Barrier Reef catchment



### Early wet season

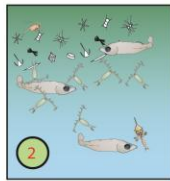
Early wet season rains reset the system, and flush the organic rich low oxygen blackwater away, providing clean water for migration.



Stimulated by early wet season rains mature male barramundi (where possible) migrate from wetlands into estuaries and nearshore marine environments, where they pair to spawn. Spawning occurs multiple times in a season.

### Wet season

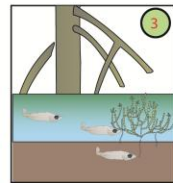
Organic nutrients from the catchment stimulate inshore productivity, providing plentiful food.



Barramundi eggs hatch in estuarine and nearshore marine waters, where larvae commence early development, and feed on small zooplankton.

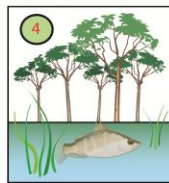
Grapsid crabs eat leaves and release nutrients into the water column, making them available for microalgae which is food for zooplankton.

Spring tides provide a connection and freshwater cues entice the larval barramundi to settle.



Larval barramundi flow passively into saltcouch fringed salt pans and sedge-lands near river mouths on the incoming tides. They generally remain here for up to four months.

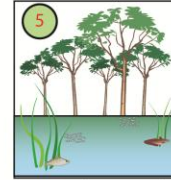
Wet season rains and over bank flows inundate the floodplain, opening new aquatic pathways.



Early season spawned barramundi (around 250-350mm in size) use these new pathways to move into inland freshwater wetlands and floodplain habitats. Here abundant food and few predators accelerate their growth and increase the overall barramundi population in the catchment.

### Late wet season

Floodwaters recede from the floodplain.

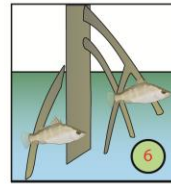


Aquatic algae growth provides abundant food for small native fishes and crustaceans. As the floodwaters recede, these small fauna are funnelled into barramundi nursery areas and become food for voracious barramundi.

This influx of food prevents cannibalism amongst the barramundi, leading to more of them reaching maturity.

### Early dry season

Early season barramundi will be stimulated by late season flows to move upstream into freshwater riverine and floodplain habitats.



Late season juvenile barramundi stay in the tidal creeks for a further eight months, feeding on small fish and crustaceans.



**Australian Government**  
**Great Barrier Reef**  
**Marine Park Authority**

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for the diagram which was created by Paul Groves  
Courtesy of the Integration and Application Network,  
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