Most species of sharks and rays use shallow sheltered habitats like lagoons as nurseries for their newborns. Manta nurseries are RARE! It requires massive & long-term effort to identify a nursery area.

How to define a nursery for manta rays?
1. Restricted movements within Wayag lagoon
2. Narrow core activity space within and around Wayag lagoon
3. Occasional brief excursions to areas outside of the lagoon up to ~45 km

How to define a nursery for manta rays?

Satellite telemetry
- Long-term and high residency of juvenile manta rays within Wayag lagoon!
- 14.5 months of near-continuous detections
- 119 days of consecutive detections
- 24 detections (daytime and nighttime)**

Passive acoustic telemetry
- Our findings fulfilled the three criteria of defining a manta ray nursery
- We conclusively confirm that the Wayag lagoon in Raja Ampat serves as a nursery for newborn and juvenile reef manta rays
- Our study presents the most robust assessment and comprehensive description to date of a manta nursery

Main findings
- Newborn and juveniles reef manta rays in Wayag lagoon in 2013–2021
- 34 unique IDs
- 21 longest sighting span
- 47 encounters
- 27 resighting rate (%)

Quick facts!
- Manta ray pups live independently without parental care immediately after birth
- Largest brain-to-body ratio of all fishes
- Give birth to only 1 pup every 2-6 years
- Keep swimming to breathe
- Males are smaller than females
- Have NO claspers

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Criteria of an elasmobranch** nursery
- As applied on manta rays, pups and juveniles:
  1. are more commonly encountered in this area than in other areas
  2. tend to remain and/or return to this area repeatedly for extended period**
  3. inhabit the area across years

Key references:

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*cartilaginous fish (sharks, rays, and skates)
** The majority of detections at aggregation sites used by large adult individuals were recorded during the day.