

Marine Lens Florida Keys: Empowering Participatory Scientists to Explore Marine Habitats via Zooniverse

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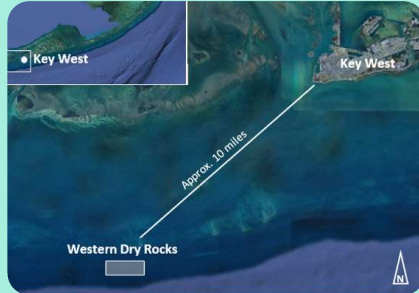
Main Takeaways

- The substantial video footage from the deployment of long term underwater cameras in search of specific behaviors, such as fish spawning aggregations or predation events, is highly labor intensive.
- Using a participatory science platform to analyze this footage reduces staff workload as well as educates and connects the public with habitats and cryptic species they might not otherwise interact with.
- The Fish and Wildlife Research Institute (FWRI) has launched two pilot projects that utilize Zooniverse to evaluate video data.

Pilot Projects

Western Dry Rocks (WDR)

- Snappers and jacks gather in large groups yearly to spawn.
- This is vital for reproduction but also makes them vulnerable to fishing pressure.
- WDR closes seasonally to protect these spawning aggregations.



Solution Holes

- The dominant structural feature in Florida Bay.
- Act as critical nursery habitat and ecological corridors for marine life.
- Sites were resurveyed to assess how these habitats have changed over time.



Underwater video cameras (Fig. 1 & 2) at key locations to study and monitor critical habitats.



Fish spawning aggregation (WDR)



Solution hole in Marathon

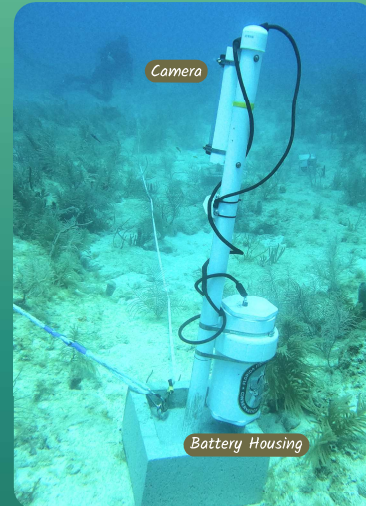


Fig. 1 Long term camera placed near fish spawning aggregation



Fig. 2 Long term camera recording at a solution hole

Data Management

- Leveraging volunteers to help analyze the vast amounts of footage collected drastically reduces the time and effort currently being spent by scientists manually reviewing videos.



4.5 Terabytes of data collected between both studies,



Over 2,700 hours of footage collected,



With more than 100 species and over 50,000 individuals seen already...

... and counting.

Acknowledgements

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Zooniverse Platform

- A crowd-sourcing platform that allows researchers to process data via volunteer observers.
- Volunteers identify target animals or behaviors of interest in video data (Fig. 3).
- Enhances education opportunities, while providing support to researchers.

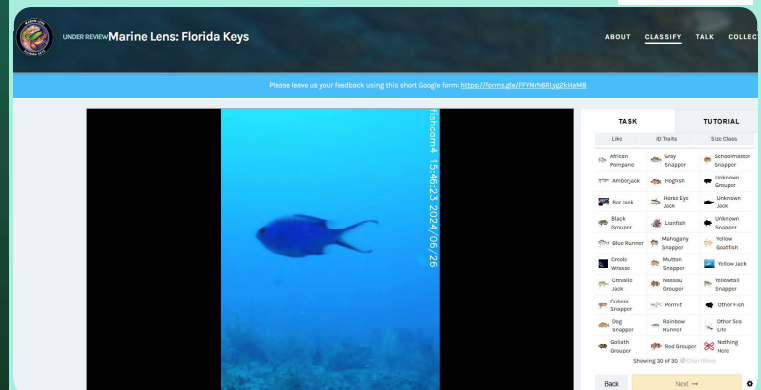


Fig. 3 The identification page for the WDR Zooniverse project