

Special Session: Marine Animal Movement Ecology in the Wider-Caribbean

Sesión Especial: Ecología del Movimiento de Animales Marinos en el Gran Caribe

Session Spéciale: L'écologie des Mouvements D'animaux Marins dans la Région des Caraïbes

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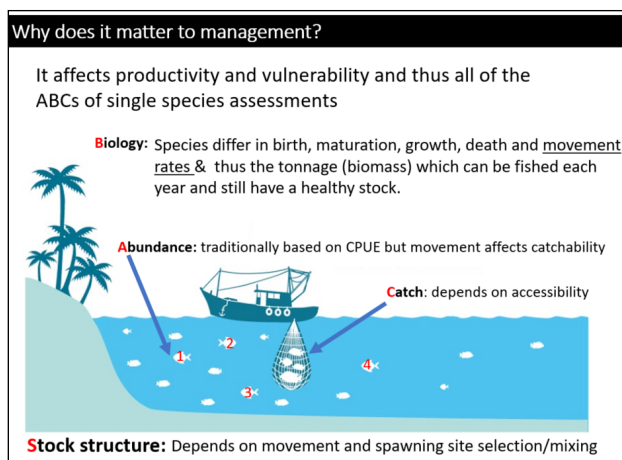
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SUMMARY

This special session focused on marine animal movement ecology in the wider-Caribbean region. We understand animal movement ecology as the study of ecological interactions associated with animal movement in the oceans, for better understanding the causes, mechanisms, patterns, and consequences of all movement. We thought that conveying this session at GCFI was important because animal movement ecology has broad applicability across taxa, habitat, and spatial scales, and it supports addressing holistic scientific and management questions. Thereafter, the goals of the session were to:

- i) Bring together scientists from the Gulf of Mexico and Caribbean to highlight the role that movement ecology plays in ecosystem based management,
- ii) Learn from each other about emerging methods, technologies, and species-specific movement ecologies, and
- iii) Build connectivity amongst Gulf and Caribbean scientists needed to assess movement ecology at the Large Marine Ecosystem scale.



This session provided science-based knowledge relevant for students, scientists, resource managers, decision-makers, and educators in understanding the concepts of animal movement ecology and how this contributes to integrative marine science in the Wider-Caribbean region. It consisted of 13 oral presentations representing variety of taxa countries and technologies:

- i) Species: Spotted eagle ray, mutton snapper, red snapper, Nassau grouper, spotted seatrout, and sea turtles
- ii) Geographic areas: Gulf of Mexico (Cuba, Mexico & USA), Caribbean (Cayman Islands, Dominica, Mexico & USVI), and areas beyond national jurisdictions.
- iii) Tagging technologies: Conventional, acoustic, and satellite.

OUTCOMES

Researchers, managers, and educators benefited from this session by increasing their understanding of how aquatic animals interact with seascapes and emerging understanding about important pathways (e.g., migratory corridors), nodes (e.g., stopovers, aggregations sites), and habitats (e.g., from reefs to water column features) that support their populations. Gulf-wide programs developed to support movement ecology research, such as the Integrated Tracking of Aquatic Animals

in the Gulf of Mexico (iTAG) and the Migratory Blueways were introduced. Contributed presentations provided concise examples not only of the science behind animal movement ecology studies, but the field challenges, technological limitations, and opportunities in marine movement ecology at varying spatial scales (i.e., regional, national, and international) Local projects and initiatives and their importance to resource management in the host nation were also discussed. To ‘dive deeper’ to some of the technological challenges and opportunities of marine animal ecology studies, VEMCO provided a workshop on Acoustic Telemetry Technology that this Canadian company offers to researchers and managers. At the workshop examples of the equipment and applications

were discussed with participants. To continue motivating the discussion among GCFI members and participants of the conference about animal movement, a green sea turtle was satellite tagged at El Cuyo Beach in the northeastern tip of the Yucatan Peninsula on September 5, 2017. This turtle was tagged with support from CINVESTAV and Pronatura in Merida, Mexico, and Wildlife Computers Inc. The turtle had traveled 140 km by the time of this conference and it was named Emma by conference participants (Figure 1a and b).

Emma’s pathways can be followed at:

<http://www.tinyurl.com/gcfi-turtle2017>

KEYWORDS: Animal movement, ecology, telemetry, wider-Caribbean



Figure 1a. The green sea turtle “Emma” satellite tagged at El Cuyo Beach in the Yucatan Peninsula, Mexico and tracking Emma for 140 km (1b).