What are BRUVs?

Baited remote underwater video (BRUV) is a method used to visually survey elasmobranch populations and is traditionally used in high-visibility systems.

What are we doing?

The goal of this study is to evaluate the effectiveness of BRUV surveys, compared to bottom longline surveys, to assess shark populations in low-visibility estuarine systems.

Deploy bottom longlines and BRUVs simultaneously in the Tolomato River, FL.

Compare the relative abundance and species composition of sharks in this estuary using MaxN and CPUE.

Why are we doing this?

The Tolomato River serves as a primary nursery for multiple coastal shark species.

It is crucial to ensure BRUVs provide valid data before BRUVs are expanded into low-visibility systems.

Potential benefits of BRUVs:

Non-extractive   Cost-effective   Less biased

Baited remote underwater video can be used to characterize shark nursery habitat use in low-visibility estuarine systems

Sarah Worthington and Jim Gelsleichter - University of North Florida

What we've found

Although visibility varied, various elasmobranchs and bony fish species could be identified using BRUVs.

Scan below for video clips:

Figure 1. Underwater images captured from BRUV footage. (a) View of bait cage in water with a surface visibility of 95 cm and (b) water with a surface visibility of 102 cm. (c) Atlantic sharpnose (*R. terraenovae*), (d) Hardhead catfish (*A. felis*), (e) Atlantic tripletail (*L. surinamensis*), and (f) blacktip shark (*C. limbatus*) seen in BRUV survey.

BRUV surveys demonstrated a different relative species composition than bottom longline surveys.

BRUV:

Bottom longline:

Figure 2. Total number of species seen with each survey method each month from April 2023 to January 2024, with species names and individual counts included.

Species only seen with BRUVs:
H. sabinus
R. terraenvae
M. undulatus
A. probatocephalus
M. menidia

Species seen with both methods:
S. lewini
C. limbatus
A. felis
B. marinus
L. surinamensis

Species only seen with longlines:
C. plumbeus
C. isodon
S. tiburo
M. littoralis
M. americanus

References

Brooks et al., 2011, Cappo et al., 2003, Harvey et al., 2012, McLean et al., 2015, Skomal, 2007, Winter and de Graaf, 2019