

Sad Farewell to C. Lavett-Smith's Iconic Nassau Spawning Aggregation Site

Adios Triste a la Agregacion Famosa de Mero Cherna Conocida por la Descipcion de C. Lavett-Smith

L'agregation Iconique du Merou Nassau decrit pour C. Lavett-Smith est Disparu

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EXTENDED ABSTRACT

In January 1971, C. Lavett Smith, a renowned North American ichthyologist, witnessed a spectacular event off the coast of Bimini, Bahamas (Smith 1972). At the shelf edge just a short distance west of Little Cat Cay, following up on reports from fishers, he witnessed a massive gathering of Nassau groupers about to spawn. Smith estimated that between 30,000 and 100,000 fish were present.

His was the very first underwater observation of a reef fish spawning aggregation ever recorded for a reef in the scientific literature. Nothing has been reported from this site since Smith's initial publication which remains today, 40 years on, the largest grouper aggregation ever recorded. Given that most spawning aggregations of this species have now either disappeared, or at best precipitously declined, and given that the Nassau grouper is currently being assessed under the Endangered Species Act, Science and Conservation of Fish Aggregations (SCRFA; www.SCRFA.org) sponsored a trip in 2012 to resurvey the site and see what had happen to "Smith's" famous aggregation.

In January 2013, a trip was organized to revisit Smith's site. The location was determined from Smith's paper, recent discussion with Dr. Smith, and local knowledge in Bimini, which clearly pinpointed a small shelf edge area of around 3.2 km miles within which the site must lie. Between 25 and 30 January, over the full moon phase when the species is known to aggregate, an extensive area covering 7.2 linear miles and entirely encompassing Smith's 1971 survey area was surveyed. Over six days of surveys only 5 Nassau grouper were observed, none of which showed any evidence of spawning. Nor was there evidence of commercial fishing anywhere in the area in relation to grouper aggregations. Local fishermen noted that the aggregation had disappeared by the early 1980s and that grouper had not been a focus of seasonal fishing in the area for a long time.

We sadly concluded that the site, which once represented a global baseline for a large grouper aggregation, was long gone. Even with protection there would seem to be little hope of recovery for this famous site. Very little regulation of fishing activities exists in Bimini or Cat Cay. There is a long history of commercial poaching in The Bahamas by Dominicans, and other Caribbean fishers (Figure 1)(KM-L, pers. comm.). The site is very close to South Florida, and according to discussions with local residents, Florida sport fishers pay little heed to Bahamian fishing laws. So even if a minor recovery were to occur, it is likely to be quickly diminished. Despite our disappointing, albeit not surprising, finding and the unlikely potential for recovery of this lost site under such conditions, the disappearance of Smith's aggregation site should send a strong and clear signal that urgent action is required so that we don't lose the remaining aggregation sites in the region.

This GCFI volume reports on another lost aggregation site from Mahahual, Mexico, so Cat Cay is by no means unique (Aguilar-Perera 2014) and Cuba, like the Bahamas a very important country for this species, appears to have lost most of its aggregations (Claro et al. 2009). Bahamas began implementing a country-wide annual closed reproductive season for Nassau grouper in 2004, and is currently considering amending fisheries legislation to implement a fixed annual three-month closure. Although this will be too late for Smith's Bimini aggregation, it is an essential management tool to help sustain remaining Nassau grouper aggregations. Recent work on the status of this aggregating species and changes over time highlights ongoing declines and concerns for commercially exploited aggregating species (Sadovy de Mitcheson., 2008; Sadovy de Mitcheson 2012).

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Figure 1. Bahamian grouper poached by foreign fishers.