

## **Life After Catch: Application of Pop-up Satellite Archival Tags to Follow The Fate of Atlantic Billfishes Released from Commercial and Recreational Fisheries**

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Over the past decade we have deployed more than 200 pop-up satellite archival tags (PSATs) to investigate post-release survival and habitat utilization of Atlantic blue marlin, white marlin, and sailfish released from commercial and recreational fisheries. Blue marlin (n = 9), white marlin (n = 19) and sailfish (n = 17) released from the commercial pelagic longline fishery exhibit high levels of post-release survival (85–90%). Survival rates of billfishes released from recreational fisheries are dependent upon the species and the type of hook used as the terminal tackle. Standard “J” hooks result in a high frequency of potentially very damaging deep hooking events in white marlin and sailfish. PSAT-tagged white marlin caught on standard “J” hooks had a significantly higher level of post-release mortality (35%, n = 20) than white marlin caught on circle hooks (< 2%, n = 59). Relative to white marlin and sailfish, blue marlin caught on standard “J” hooks had a reduced incidence of deep hooking and a lower level of post-release mortality (8%, n = 25). PSAT studies indicate that billfishes released from both commercial and recreational fisheries exhibit higher rates of post-release survival than suggested by previous anecdotal reports (conventional tagging, acoustic tracking), thus confirming the benefit of live release as an effective management tool for these highly overexploited species.