

Supplemental material

Laser ablation–accelerator mass spectrometry reveals complete bomb ^{14}C signal in an otolith with confirmation of 60-year longevity for red snapper (*Lutjanus campechanus*)

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Raw data and data reduction for block ^{14}C means that were correlated with locations (dft, mm) in the RS07 otolith scan, which resulted in estimated ages and dates within the otolith (Fig. 2 in the main paper).

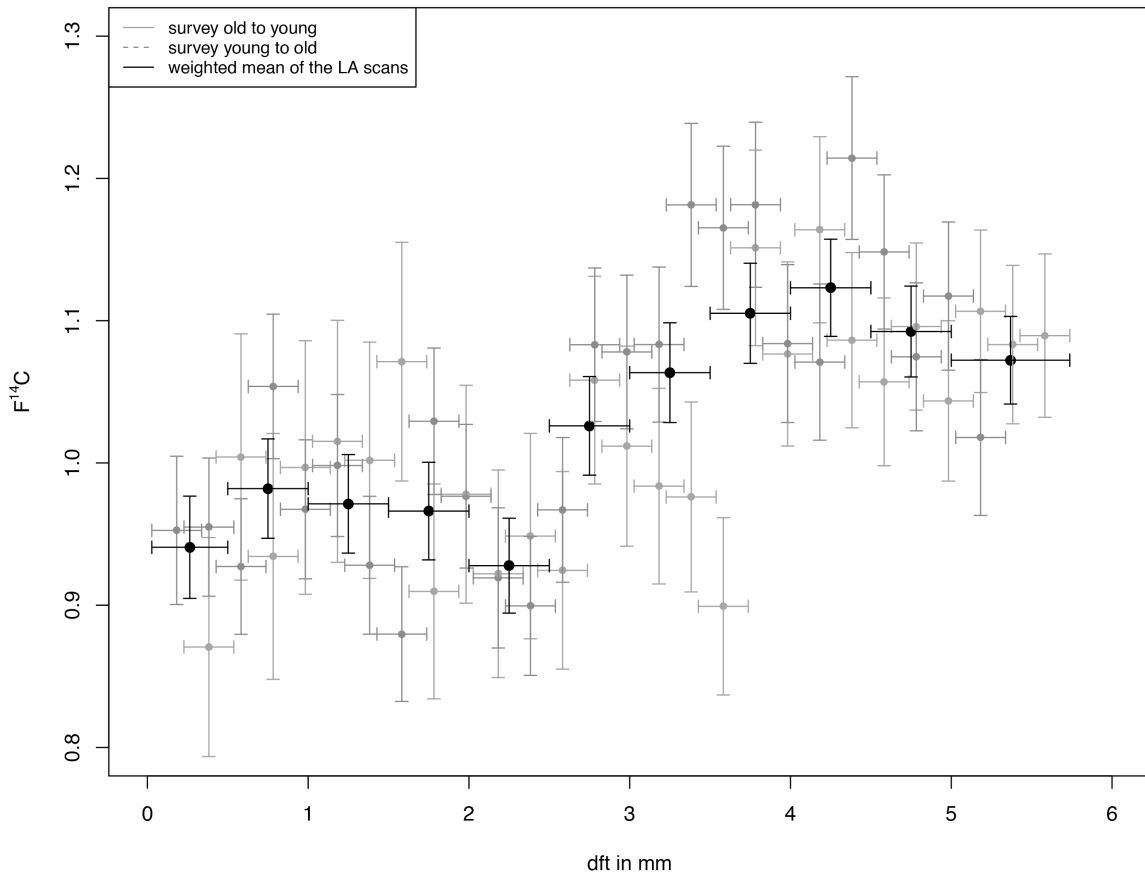


Fig. S1. Plot of the RS07 $F^{14}C$ data determined from the first laser ablation–accelerator mass spectrometry (LA-AMS) scan (RS17 Scan 1) across 5–6 mm of the otolith section surface. Two passes were made along the same track during this scan from the core (old) to the edge (young) and back to the edge (grey dots) at a rate of $20 \mu\text{m s}^{-1}$ and a runtime of 10.2 min. The mean value from a block sample of 3–6 AMS $F^{14}C$ measurements within a scanning distance increment of ~ 0.5 mm is indicated by the black dots. The initial rise in ^{14}C was between the 4th and 5th mean values where a notable increase was observed ($F^{14}C = \sim 0.93$ cf. ~ 1.03).

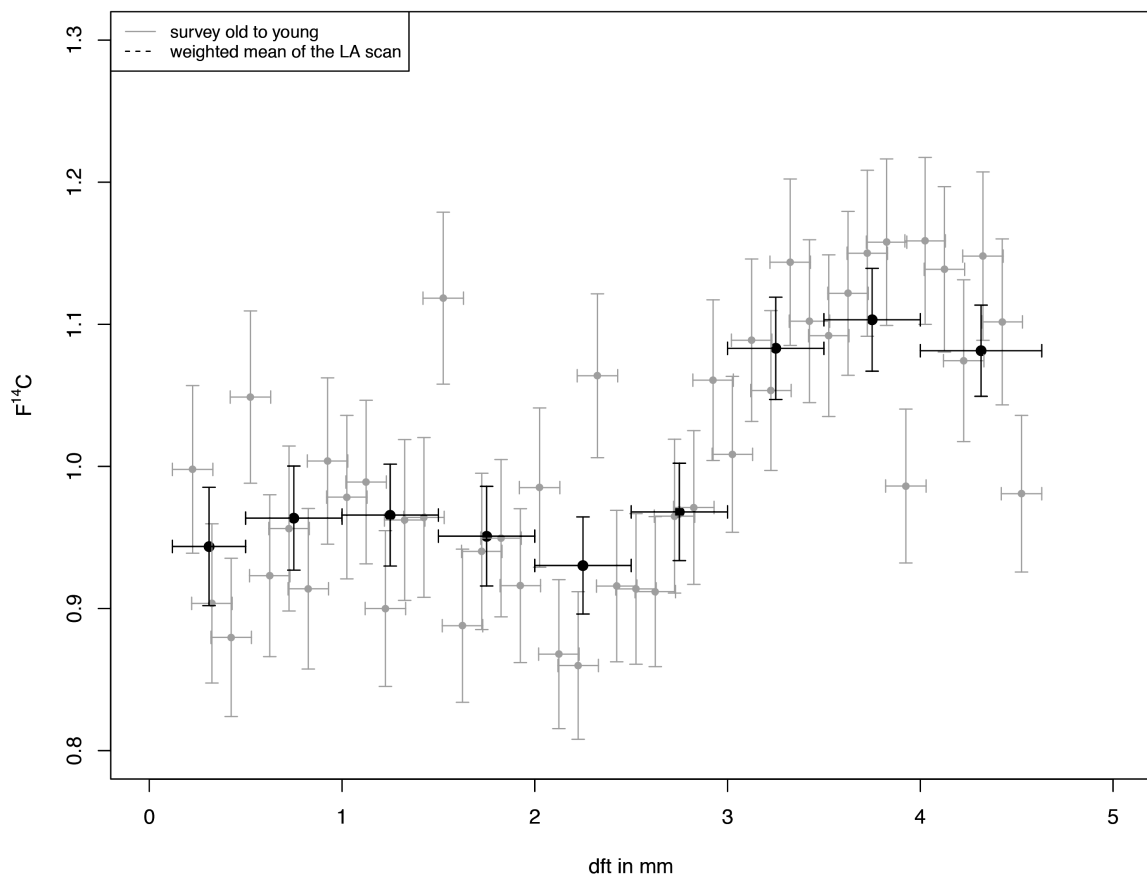


Fig. S2. Plot of the RS07 $F^{14}C$ data determined from the first laser ablation–accelerator mass spectrometry (LA-AMS) scan (Scan 2) across 4–5 mm of the otolith section surface. This scan was a single pass from the core (old) to the edge (young) at a slower scanning rate of $10 \mu\text{m s}^{-1}$ for an 8.4-min run. The mean value from a block sample of 5–6 AMS $F^{14}C$ measurements is indicated by the black dots. The initial rise in ^{14}C was between the 6th and 7th mean values where a notable increase was observed ($F^{14}C = \sim 0.97$ cf. ~ 1.08).