Metadata for "Gag Tagging Data for SEDAR10.xls" and "gag2001"

Data provided by: Jack McGovern, Pat Harris, MARMAP

Explanation: Included is an excel and asci version of the same data. These data represent gag that were caught and tagged (n = 3,879) by commercial fishermen from NC to FL during 1995-1998. Information is also provided on gag recaptured by commercial fishermen (n = 437). All fish were double tagged and had air removed from swim bladder. A detailed description of the tagging study along with analyses of data is provided in:

McGovern, J.C., George R. Sedberry, H. Scott Meister, T. Mark Westendorff, David M. Wyanski and Patrick J. Harris. 2005. A Tag and Recapture Study of Gag, *Mycteroperca microlepis*, from the Southeastern United States. Bull. Mar. Sci. 76:47-59.

Information provided in the data set includes: TL (mm) of fish tagged, depth tagged, date tagged, latitude/longitude tagged, if fish was recaptured, date recaptured, latitude/longitude recaptured, and TL (mm) recaptured. The layout for the asci data set is below.

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DATA NEW; INFILE 'C:\\GAG2001' LRECL = 421 PAD;
INPUT COLL $3-8  MO 13-14 DAY 15-16 YR 17-18 SPECIES $22-25 TL 28-31
lat 56-57 @61 latd 4.1 long 71-72 @ 77 longd 4.1 TAG $86 RECMO 94-95
RECDAY 96-97 RECYR 98-99 rlat 107-108 @114 rdeg 4.1 rlong 125-126 @132
Ldeg 4.1 RECTL 139-142 DAL 146-149 DIST 155-158 DEPTH 48-50 MALE 170-
189;
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Utility of data: Commercial fishermen tagged all gag caught regardless of the whether or not they were of legal size. Therefore, these length data can be used to determine the length distribution of gag caught by commercial fishermen, the percentage of gag that would be released by depth, and survival of released fish. These data can be used to determine the depths where most gag would be released for a particular size limit (i.e. 24" TL) and an estimate of mortality at that depth can be provided by McGovern et al. (2005).

Release mortality

The data can be used to determine that average release mortality rate for a 24" TL size limit. The average depth tagged for fish <= 610 mm TL (eliminating fish with no length info and records with no depth information) was 25 m. Estimated mortality of fish tagged at 25 m is ~23% (See Table 4 on next page). The data can also be used to determine the release mortality during the March – April spawning season closure. The average depth of gag caught during March and April was 47 m. If all those fish were released the estimated percentage that would die is ~50%. The average depth of fish <24"TL and fish caught during March-April was 34 m. If all those fish were released the estimated percentage that would die is ~34%.

Table 4. Depth (midpoints), number of gag tagged, number recaptured, percent recapture, mortality (number) determined by logit analysis, and percent mortality at depth determined by logit analysis. From McGovern et al. (2005).

Median Tagging Depth (m)	Number Tagged	Number Recaptured	Percent Recaptured	Fitted Logit Mortality (Number)	Fitted Logit Mortality (Percentage)
15	253	49	19.4	36.04	14.2463
25	1221	181	14.8	281.16	23.0274
35	730	88	12.1	255.58	35.0113
45	871	76	8.7	428.90	49.2420
55	357	23	6.4	227.04	63.5966
65	321	16	5	243.58	75.8801
75	39	1	2.6	33.15	84.9966
85	57	0	0	51.91	91.0728
95	11	0	0	10.43	94.8377