

Supplementary Table

List of all samples of goosfish (*Lophius americanus*), with known ages and ring counts for both illicia and vertebrae, used in this study. Samples were collected for this study during the NOAA Northeast Fisheries Science Center (NEFSC) bottom trawl surveys and scallop dredge surveys in 2015–2018. Other samples were obtained through the NEFSC Study Fleet program and the NEFSC Fisheries Monitoring Operations Branch (FMOB). Sexes include female (F), male (M), and unknown (U). A dash indicates that a ring count was not obtained for that structure. A plus sign indicates that there was evidence of growth beyond the last ring; this growth was recorded only during initial ring counts.

Date collected	Sample source	Total length (cm)	Weight (g)	Sex	Known age (years)	Ring count		Test count	
						Illicia	Vertebrae	Illicia	Vertebrae
4-Sep-2015	NEFSC survey	14	41	F	0	0+	1+	0	
4-Sep-2015	NEFSC survey	15	62	U	0	0	–		
11-May-2016	NEFSC survey	28	314	M	1	2	3	3	
11-May-2016	NEFSC survey	28	296	M	1	1+	3		
12-May-2016	NEFSC survey	28	311	M	1	1	3		
2-Jun-2016	Study Fleet	26	195	F	1	2	3		
2-Jun-2016	Study Fleet	39	790	M	1	2+	4		
2-Jun-2016	Study Fleet	32	416	F	1	1+	3+		
2-Jun-2016	Study Fleet	29	293	M	1	2	3	2	
2-Jun-2016	Study Fleet	31	368	M	1	2	3+		
2-Jun-2016	Study Fleet	27	271	M	1	1+	3		3
2-Jun-2016	Study Fleet	29	324	F	1	2	3	3	
2-Jun-2016	Study Fleet	26	256	F	1	1	3+	3	
2-Jun-2016	Study Fleet	32	416	F	1	–	3		3
2-Jun-2016	Study Fleet	34	614	F	1	2	3+		4
2-Jun-2016	Study Fleet	27	265	M	1	1+	3	4	
2-Jun-2016	Study Fleet	24	163	M	1	1+	3		
2-Jun-2016	Study Fleet	25	224	M	1	1	3		
2-Jun-2016	Study Fleet	32	405	M	1	2	3+		3
2-Jun-2016	Study Fleet	31	435	F	1	2	3+		
2-Jun-2016	Study Fleet	30	383	F	1	1+	3		
2-Jun-2016	Study Fleet	30	399	F	1	2	3		3
2-Jun-2016	Study Fleet	33	459	M	1	2	4+		
3-Jun-2016	FMOB	34	490	M	1	2	3+		
3-Jun-2016	FMOB	32	538	M	1	1+	4		4
3-Jun-2016	FMOB	30	456	M	1	1+	3+	3	4
3-Jun-2016	FMOB	27	333	M	1	1	3		3
3-Jun-2016	FMOB	30	470	F	1	2	3+		4
12-Jun-2016	NEFSC survey	30	596	M	1	2	3+		3
14-Jun-2016	FMOB	27	254	F	1	1+	3+		
15-Jun-2016	FMOB	34	602	F	1	–	4		
15-Jun-2016	FMOB	38	934	F	1	–	5		5
16-Jun-2016	FMOB	33	417	M	1	2	4		4

Date collected	Sample source	Total length (cm)	Weight (g)	Sex	Known age (years)	Ring count		Test count	
						Illicia	Vertebrae	Illicia	Vertebrae
16-Jun-2016	FMOB	30	318	U	1	2	3		3
16-Jun-2016	FMOB	32	424	F	1	2	4		
16-Jun-2016	FMOB	31	511	F	1	2	4		
16-Jun-2016	FMOB	33	482	M	1	3	4+		
18-Jun-2016	FMOB	26	283	F	1	2	3	4	
18-Jun-2016	FMOB	25	264	F	1	1	3		3
18-Jun-2016	FMOB	28	451	F	1	2	3	3	3
18-Jun-2016	FMOB	32	502	F	1	2	4	3	
18-Jun-2016	FMOB	24	214	M	1	1	3		
18-Jun-2016	FMOB	24	319	F	1	1	3		
18-Jun-2016	FMOB	25	300	F	1	2	3		3
18-Jun-2016	FMOB	29	446	F	1	2	4	3	
18-Jun-2016	FMOB	35	617	M	1	2	4		4
18-Jun-2016	FMOB	31	457	F	1	2	3+	3	4
18-Jun-2016	FMOB	36	695	F	1	2	4		
18-Jun-2016	FMOB	36	746	F	1	2	4+		5
18-Jun-2016	FMOB	35	728	M	1	2	4		
18-Jun-2016	FMOB	24	211	F	1	1	2+		
18-Jun-2016	FMOB	23	132	F	1	1	2+		
18-Jun-2016	FMOB	28	365	M	1	2	3	2	
18-Jun-2016	FMOB	25	320	M	1	1	3		
18-Jun-2016	FMOB	28	330	M	1	2	3+		
18-Jun-2016	FMOB	25	273	F	1	1	3	2	
18-Jun-2016	FMOB	26	251	M	1	1	3		
18-Jun-2016	FMOB	27	325	F	1	1+	3+		
18-Jun-2016	FMOB	34	567	F	1	2	4		
18-Jun-2016	FMOB	27	415	M	1	–	3	–	
12-Jul-2016	Study Fleet	36	685	F	1	1+	3+	4	
12-Jul-2016	Study Fleet	35	605	M	1	1+	3+		
12-Jul-2016	Study Fleet	31	571	M	1	1+	4		
12-Jul-2016	Study Fleet	31	463	F	1	1+	3+		
12-Jul-2016	Study Fleet	32	481	M	1	1+	3+		
12-Jul-2016	Study Fleet	34	579	F	1	2+	4		
12-Jul-2016	Study Fleet	33	543	M	1	1+	4+	3	3
12-Jul-2016	Study Fleet	35	633	M	1	2+	4		
12-Jul-2016	Study Fleet	36	616	F	1	1+	4		4
12-Jul-2016	Study Fleet	32	464	F	1	1+	3+		
12-Jul-2016	Study Fleet	33	528	M	1	1+	4	3	
4-Aug-2016	Study Fleet	35	756	M	1	1+	3+	3	
4-Aug-2016	Study Fleet	36	679	F	1	1+	4+	2	
4-Aug-2016	Study Fleet	34	659	M	1	–	4+		
4-Aug-2016	Study Fleet	38	745	F	1	1+	4+		
4-Aug-2016	Study Fleet	38	825	F	1	2+	4+	3	4
4-Aug-2016	Study Fleet	34	556	F	1	1+	3+		

Date collected	Sample source	Total length (cm)	Weight (g)	Sex	Known age (years)	Ring count		Test count	
						Illicia	Vertebrae	Illicia	Vertebrae
4-Aug-2016	Study Fleet	40	832	M	1	1+	4+		
4-Aug-2016	Study Fleet	38	842	F	1	1+	4+		4
4-Aug-2016	Study Fleet	39	968	F	1	1+	3+		4
4-Aug-2016	Study Fleet	35	690	F	1	1+	4+		3
4-Aug-2016	Study Fleet	37	891	F	1	1+	4+		
4-Aug-2016	Study Fleet	36	723	M	1	1+	4	2	
4-Aug-2016	Study Fleet	35	568	F	1	1+	3+	3	
4-Aug-2016	Study Fleet	40	925	F	1	1+	4	3	5
4-Aug-2016	Study Fleet	35	679	F	1	–	4+		
11-Sep-2016	NEFSC survey	33	745	F	1	–	3+		
18-Sep-2016	Study Fleet	33	486	F	1	1+	3+		3
18-Sep-2016	Study Fleet	33	550	M	1	1+	3+		3
18-Sep-2016	Study Fleet	32	517	U	1	1+	3+		
18-Sep-2016	Study Fleet	32	430	M	1	2+	3+		
18-Sep-2016	Study Fleet	31	426	F	1	1+	3+		3
18-Sep-2016	Study Fleet	33	436	M	1	1+	4+		
18-Sep-2016	Study Fleet	35	645	F	1	2+	4+	3	
18-Sep-2016	Study Fleet	33	618	F	1	–	3+		4
18-Sep-2016	Study Fleet	32	743	M	1	–	3+		
21-Sep-2016	NEFSC survey	31	471	M	1	1+	4+		
22-Sep-2016	NEFSC survey	32	588	M	1	1+	3+		
22-Sep-2016	NEFSC survey	32	677	M	1	1+	4+		
28-Sep-2016	NEFSC survey	34	735	F	1	1+	4+	4	
29-Sep-2016	NEFSC survey	41	1044	M	1	2+	4+		
29-Sep-2016	NEFSC survey	39	886	F	1	2+	4+		
30-Sep-2016	NEFSC survey	33	676	F	1	1+	3+		4
30-Sep-2016	NEFSC survey	36	687	F	1	1+	4+	3	
30-Sep-2016	NEFSC survey	33	635	M	1	2+	4+		
30-Sep-2016	NEFSC survey	37	921	M	1	1+	4+	3	
30-Sep-2016	NEFSC survey	40	1064	M	1	2+	4+		
17-Oct-2016	Study Fleet	40	1108	F	1	2+	4+		5
17-Oct-2016	Study Fleet	35	566	M	1	1+	3+	3	
17-Oct-2016	Study Fleet	39	832	F	1	1+	4+	3	
17-Oct-2016	Study Fleet	36	747	F	1	2+	4+		
17-Oct-2016	Study Fleet	34	697	F	1	–	4+		
17-Oct-2016	Study Fleet	36	854	M	1	2+	4+	3	
17-Oct-2016	Study Fleet	35	783	F	1	1+	3+		4
17-Oct-2016	Study Fleet	38	683	F	1	1+	4+		
17-Oct-2016	Study Fleet	40	963	F	1	3+	4+		
17-Oct-2016	Study Fleet	38	812	F	1	1+	4+		
17-Oct-2016	Study Fleet	34	649	M	1	1+	3+	3	
2-Nov-2016	Study Fleet	38	882	M	1	2+	4+	4	4
2-Nov-2016	Study Fleet	37	734	M	1	1+	3+	3	
2-Nov-2016	Study Fleet	39	975	M	1	2+	4+		

Date collected	Sample source	Total length (cm)	Weight (g)	Sex	Known age (years)	Ring count		Test count	
						Illicia	Vertebrae	Illicia	Vertebrae
2-Nov-2016	Study Fleet	38	776	M	1	2+	3+		4
2-Nov-2016	Study Fleet	39	1019	M	1	2+	4+		4
2-Nov-2016	Study Fleet	39	935	F	1	2+	4+	2	
2-Nov-2016	Study Fleet	37	1023	F	1	2+	3+	4	
2-Nov-2016	Study Fleet	37	886	F	1	1+	4+	5	
2-Nov-2016	Study Fleet	43	1542	F	1	2+	4+		
22-Dec-2016	Study Fleet	39	985	F	1	2+	4+		4
22-Dec-2016	Study Fleet	38	800	M	1	1+	3+		
22-Dec-2016	Study Fleet	36	809	F	1	1+	4+		
22-Dec-2016	Study Fleet	37	720	F	1	1+	3+	4	
22-Dec-2016	Study Fleet	40	862	F	1	2+	4+	4	
22-Dec-2016	Study Fleet	36	709	M	1	1+	3+		
22-Dec-2016	Study Fleet	38	725	F	1	2+	4+	4	4
22-Dec-2016	Study Fleet	36	584	F	1	2+	4+		
22-Dec-2016	Study Fleet	36	601	F	1	2+	3+		
22-Dec-2016	Study Fleet	36	902	M	1	1+	4+	3	
9-Jan-2017	Study Fleet	37	672	F	2	2	4		
9-Jan-2017	Study Fleet	37	703	M	2	2+	4	4	4
9-Jan-2017	Study Fleet	38	637	M	2	3	4		4
9-Jan-2017	Study Fleet	36	610	F	2	3	4		
9-Jan-2017	Study Fleet	38	732	M	2	2+	5	4	5
9-Jan-2017	Study Fleet	37	840	M	2	2+	4		5
15-Feb-2017	Study Fleet	40	854	M	2	–	5		
15-Feb-2017	Study Fleet	38	759	F	2	3	5		
15-Feb-2017	Study Fleet	41	981	F	2	3	5	5	
15-Feb-2017	Study Fleet	37	732	F	2	3	5	4	5
15-Feb-2017	Study Fleet	39	883	F	2	2+	4		
15-Feb-2017	Study Fleet	38	691	F	2	2+	4	4	
15-Feb-2017	Study Fleet	38	729	M	2	3	4		
15-Feb-2017	Study Fleet	36	760	F	2	3	4		
15-Feb-2017	Study Fleet	36	632	F	2	2	4		
15-Feb-2017	Study Fleet	36	776	M	2	3	4		
15-Feb-2017	Study Fleet	38	692	M	2	2+	4	5	
15-Feb-2017	Study Fleet	38	808	F	2	3	5		
15-Feb-2017	Study Fleet	36	642	F	2	2+	4		
9-Mar-2017	NEFSC survey	44	1343	M	2	2+	5	4	
29-Mar-2017	NEFSC survey	40	941	F	2	2+	5		
29-Mar-2017	NEFSC survey	39	1202	M	2	2	5		
30-Mar-2017	NEFSC survey	38	920	M	2	2	5		
31-Mar-2017	NEFSC survey	41	1131	F	2	3	5		
31-Mar-2017	NEFSC survey	40	1250	F	2	2+	5		
3-Apr-2017	NEFSC survey	42	1519	U	2	3+	5		
9-Apr-2017	Study Fleet	40	890	M	2	3	4+		
9-Apr-2017	Study Fleet	41	844	M	2	2+	4		

Date collected	Sample source	Total length (cm)	Weight (g)	Sex	Known age (years)	Ring count		Test count	
						Illicia	Vertebrae	Illicia	Vertebrae
14-Apr-2017	NEFSC survey	39	943	F	2	3	4+		
14-Apr-2017	NEFSC survey	43	1207	F	2	3	5		5
15-Apr-2017	NEFSC survey	43	1125	M	2	3	5		
15-Apr-2017	NEFSC survey	42	1061	F	2	2+	5+		
15-Apr-2017	NEFSC survey	40	940	F	2	3	5		
19-Apr-2017	NEFSC survey	45	1076	M	2	3	5	5	
20-Apr-2017	NEFSC survey	43	1393	M	2	3	5	4	5
20-Apr-2017	NEFSC survey	40	1268	F	2	3	5		4
20-Apr-2017	NEFSC survey	41	1138	M	2	3	5		
20-Apr-2017	NEFSC survey	43	1299	M	2	3	5		
20-Apr-2017	NEFSC survey	46	1261	M	2	3	5		
19-May-2017	Study Fleet	42	1040	M	2	2+	5		
23-May-2017	Study Fleet	44	1296	M	2	–	5		5
23-May-2017	Study Fleet	47	1368	M	2	4	5		
23-May-2017	Study Fleet	46	1585	M	2	4	5		
23-May-2017	Study Fleet	45	1257	M	2	2	5		5
11-Jul-2017	Study Fleet	43	1146	F	2	2+	4+		
11-Jul-2017	Study Fleet	42	1308	F	2	3+	5		4
11-Jul-2017	Study Fleet	43	1341	F	2	2+	5+		4
19-Apr-2018	NEFSC survey	48	1860	F	3	4	6		6
19-Apr-2018	NEFSC survey	49	2272	F	3	4	6		6
19-Apr-2018	NEFSC survey	52	2134	F	3	4	6		
19-Apr-2018	NEFSC survey	57	3085	F	3	4	6	5	
19-Apr-2018	NEFSC survey	49	1851	M	3	–	6		
19-Apr-2018	NEFSC survey	54	2431	F	3	3	6		
19-Apr-2018	NEFSC survey	53	2228	F	3	3	6		
19-Apr-2018	NEFSC survey	49	1781	F	3	3	6		
19-Apr-2018	NEFSC survey	49	1975	F	3	3+	6		6
19-Apr-2018	NEFSC survey	49	1483	M	3	3	6	5	
19-Apr-2018	NEFSC survey	56	2104	F	3	5	6	6	
19-Apr-2018	NEFSC survey	54	1955	F	3	4	6	5	6
20-Apr-2018	NEFSC survey	52	1650	F	3	4	6	5	
20-Apr-2018	NEFSC survey	50	1677	F	3	5	6		
20-Apr-2018	NEFSC survey	48	1757	M	3	4	6	5	6
20-Apr-2018	NEFSC survey	56	2673	F	3	5	6	5	
20-Apr-2018	NEFSC survey	49	1686	F	3	5	6		
20-Apr-2018	NEFSC survey	61	2837	F	3	4+	6	5	
21-Apr-2018	NEFSC survey	51	1768	M	3	–	6		
21-Apr-2018	NEFSC survey	49	1576	M	3	4	6		6