

Supplementary Table 1. Data for individual samples of bigeye tuna otoliths that were recovered and analyzed for daily and annual increment (incr.) counts. O=Opaque, NT=Narrow Translucent, WT=Wide Translucent.

Sample code	Date of Release	Length at release (cm)	Length at capture (cm)	Date of capture	OTC Mark Detected?	Total daily incr. count	Estimated age at tagging (daily incr. count)	Number of daily incr. after OTC mark		Number of annual incr. after OTC mark		Total annual incr. count	Otolith Margin	Estimated time at liberty from annual ageing (days)
								Expected	Observed	Expected	Observed			
L03BET66	14-Nov-16	43	49.5	16-Jan-17	Y	287	234	61	53	0	0	1	NT	125
L03BET129	16-Mar-17	45	51	13-May-17	Y	248	199	58	49	0	0	0	O	80
L03BET144	16-Mar-17	43	60.4	5-Nov-17	Y	282	199	234	88	0	0	0	O	100
L03BET145	16-Mar-17	48	64.5	5-Nov-17	Y	371	240	234	131	0	1	1	NT	200
L04BET111	5-Apr-19	67	67	27-May-19	Y	375		52	28	0	0	2	NT	40
L03BET151	15-Mar-17	42	69.5	2-Dec-17	Y	373	213	262	160	0	1	1	NT	280
L03BET153	18-Mar-17	64	70	13-Feb-18	Y	597		332	198	0	1	2	NT	280
L03BET147	18-Mar-17	52	75	19-Nov-17	Y	460	294	246	166	0	0	1	O	360
L08BET17	2-Oct-16	54	76.2	14-Sep-17	Y	604	368	347	236	1	1	1	O	365
L03BET128	30-Jul-16	56	77.5	20-May-17	Y	538	375	294	163	0	0	2	NT	360
L03BET141	1-Nov-16	50	77.5	20-Oct-17	Y	420	233	353	187	1	1	1	WT	365
L03BET148	18-Mar-17	60	80	30-Nov-17	Y	477	335	257	142	0	1	2	NT	280
L04BET81	15-Mar-17	45	84	16-Jun-18	Y	403	196	458	207	1	1	1	O	500
L08BET11	30-Sep-16	73	84	7-Apr-17	Y	422	335	189	87	0	0	1	NT	125
L08BET15	12-Sep-16	68	89	12-Aug-17	Y	617		334	152	0	0	1	O	250
L04BET80	25-Sep-16	72	90	14-Dec-17	Y	567	399	445	168	1	1	2	NT	365
L04BET82	18-Mar-17	49	93	24-Aug-18	Y	556	274	524	282	1	2	2	NT	450
L08BET16	13-Sep-16	56	99.9	25-Jun-18	Y	552	369	650	183	1	1	2	WT	480

Sample code	Date of Release	Length at release (cm)	Length at capture (cm)	Date of capture	OTC Mark Detected?	Total daily incr. count	Estimated age at tagging (daily incr. count)	Number of daily incr. after OTC mark		Number of annual incr. after OTC mark		Total annual incr. count	Otolith Margin	Estimated time at liberty from annual ageing (days)
								Expected	Observed	Expected	Observed			
L03BET137	24-Sep-16	98	114	1-Jul-17	Y	449	377	280	72	0	1	2	NT	250
L07BET38	2-Dec-17	45	114	29-Apr-20	Y	642	148	879	494	2	2	3	NT	2.25
L02BET11	15-Jun-18	58	54.5	27-Jun-18	N	422		12		0		1	NT	
L02BET12	14-Jun-18	58	56.5	3-Jul-18	N	298		19		0		0	O	
L02BET9	16-Jun-18	56	56.5	25-Jun-18	N	347		9		0		1	NT	
L02BET4	15-Jun-18	55	57	3-Jul-18	N	268		21		0		0	O	
L02BET6	15-Jun-18	59	58.5	30-Jun-18	N	327		15		0		0	O	
L02BET10	15-Jun-18	61	63.5	5-Jul-18	N	323		21		0		0	O	
L02BET3	16-Jun-18	64	64	1-Jul-18	N	364		20		0		1	NT	
L02BET1	16-Jun-18	74	76.5	21-Jul-18	N	382		35		0		1	NT	
L03BET92	12-Aug-16	63	82.7	15-Apr-17	N	492		246		0		2	NT	
L04BET33	11-Aug-16	61	87	7-Jun-17	N	373		300		1		1	WT	
L03BET135	12-Aug-16	58	89	19-Jul-17	N	506		341		0		2	NT	

Supplementary Table 2. Data for individual samples of yellowfin tuna otoliths that were recovered and analyzed for daily and annual increment (incr.) counts. O=Opaque, NT=Narrow Translucent, WT=Wide Translucent.

Sample code	Date of Release	Length at release (cm)	Length at capture (cm)	Date of capture	OTC Mark Detected?	Total daily incr. count	Estimated age at tagging (daily incr. count)	Number of daily incr. after OTC mark		Number of annual incr. after OTC mark		Total annual incr. count	Otolith Margin	Estimated time at liberty from annual ageing (days)
								Expected	Observed	Expected	Observed			
L03YFT98	16-Mar-17	48	45	13-May-17	Y	285	276	58	9	0	0	1	NT	40
L03YFT39	31-Oct-16	46	50	16-Feb-17	Y	311	255	108	56	0	0	1	NT	75
L03YFT99	16-Mar-17	50	52.5	13-May-17	Y	247	232	58	15	0	0	1	NT	75
L03YFT133	17-Mar-17	39	54.5	24-Feb-18	Y	393	212	344	181	0	1	1	O	365
L04YFT199	17-Mar-17	40	56	16-Nov-17	Y	331	173	244	158	0	1	1	NT	250
L03YFT126	16-Mar-17	38	56.5	20-Nov-17	Y	258	175	249	83	0	0	1	WT	180
L03YFT127	16-Mar-17	48	60	10-Nov-17	Y	375	263	239	112	0	0	1	WT	220
L04YFT178	1-Nov-16	46	64	4-Aug-17	Y	333	188	276	145	0	0	0	WT	210
L03YFT124	1-Nov-16	43	64.5	15-Sep-17	Y	368	189	318	179	0	0	1	WT	180
L04YFT200	16-Mar-17	48	66	6-Dec-17	Y	366	217	265	149	0	1	1	NT	180
L03YFT132	17-Mar-17	41	67	8-Mar-18	Y	429	207	356	222	1	1	1	WT	365
L03YFT139	22-Dec-18	68	69.2	6-Feb-19	Y	403	373	46	30	0	0	1	WT	50
L03YFT130	17-Mar-17	47	69.5	8-Nov-17	Y	413	265	236	148	0	1	1	WT	280
L03YFT125	16-Mar-17	51	70	22-Oct-17	Y	370	242	220	128	0	1	2	NT	280
L04YFT204	16-Mar-17	49	71	17-Mar-18	Y	394	202	366	192	1	1	1	WT	365
L03YFT129	24-Jan-17	54	72	26-Nov-17	Y	430	284	306	146	0	0	2	WT	250
L03YFT131	1-Nov-16	45	77	19-Jan-18	Y	515	240	444	275	1	1	2	WT	547.5
L04YFT203	16-Mar-17	38	80	4-Apr-18	Y	487	195	384	292	1	1	1	WT	365
L04YFT197	31-Oct-16	47	81	12-Oct-17	Y	428	259	346	169	0	1	1	WT	450
L04YFT74	14-Jul-16	59	85	8-Mar-17	Y	390	264	237	126	0	1	1	WT	270
L02YFT1	31-Oct-16	51	86.5	29-May-18	Y	591	330	575	261	1	1	1	WT	500
L04YFT65	14-Jul-16	60	88	10-Feb-17	Y	438	309	211	129	0	0	1	WT	290
L04YFT202	15-Mar-17	48	89	21-Jan-18	Y	339	143	312	196	0	1	1	NT	450

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								Expected	Observed	Expected	Observed			
L03YFT136	16-Mar-17	47	89.6	2-Aug-18	Y	498	264	504	234	1	1	2	NT	550
L04YFT69	14-Jul-16	71	94	19-Feb-17	Y	627	519	220	108	0	1	2	NT	330
L07YFT55	30-Jan-18	50	94	14-Mar-19	Y	434	276	408	158	1	1	2	NT	401
L04YFT201	17-Mar-17	48	95	23-Jan-18	Y	498	261	312	237	0	1	1	WT	365
L07YFT54	27-Jan-18	75	100	2-Feb-19	Y	579	463	371	116	1	1	3	NT	456
L03YFT134	18-Mar-17	50	103.3	25-Mar-18	Y	424	247	372	177	1	2	3	O	547.5
L03YFT135	16-Mar-17	62	132.3	7-Aug-18	Y	636	377	509	259	1	2	3	O	638
L03YFT149	13-May-17	77	150.6	2-Feb-20	Y	728	357	995	371	2	3	4	WT	912
L16YFT3	3-Apr-17	154	159	26-Apr-19	Y	1168	1080	753	88	2	1	8	WT	600
L03YFT138	22-Dec-18	56	54.6	29-Dec-18	N	266	-	7	-	0	-	1	NT	-
L15YFT1	9-Jan-19	81	93	11-Apr-19	N	405	-	92	-	0	-	2	NT	-
L15YFT2	11-Jan-19	78	94	27-May-19	N	469	-	136	-	0	-	1	O	-
L03YFT112	12-Sep-16	70	106.6	19-Jul-17	N	514	-	310	-	0	-	3	NT	-
L07YFT52	11-Oct-17	67	110	9-Feb-19	N	704	-	486	-	1	0	3	WT	-
L03YFT140	7-Oct-17	70	135.4	18-Apr-19	N	766	-	558	-	1	-	3	NT	-
<i>Non-AOTTP samples</i>														
L15YFT1	9-Jan-19	81	93	11-Apr-19	N	405	-	92	-	0	-	2	NT	-
L15YFT2	11-Jan-19	78	94	27-May-19	N	469	-	136	-	0	-	1	O	-
L10YFT9	-	-	127	18-Oct-18	N	-	-	-	-	-	-	2	WT	-
L10YFT7	-	-	146.4	18-Oct-18	N	-	-	-	-	-	-	3	WT	-
L10YFT3	-	-	147	28-Oct-15	N	-	-	-	-	-	-	6	WT	-
L10YFT5	-	-	149	18-Oct-18	N	-	-	-	-	-	-	7	WT	-
L10YFT1	-	-	150	28-Oct-15	N	-	-	-	-	-	-	4	O	-
L10YFT8	-	-	151	18-Oct-18	N	-	-	-	-	-	-	9	WT	-
L10YFT4	-	-	157.4	16-Oct-18	N	-	-	-	-	-	-	10	WT	-

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								Expected	Observed	Expected	Observed			
L10YFT6	-	-	159	18-Oct-18	N	-	-	-	-	-	-	7	WT	-
L10YFT10	-	-	159.7	18-Oct-18	N	-	-	-	-	-	-	6	WT	-
L10YFT11	-	-	161	18-Oct-18	N	-	-	-	-	-	-	10	O	-
L10YFT2	-	-	172	28-Oct-15	N	-	-	-	-	-	-	8	WT	-