S2 Table: Model selection and abundance estimates for *T. aduncus* obtained from POPAN open population Jolly-Seber models. Models are ordered according to their Akaike Information Criterion (AICc) values. Column headings are: number of parameters (NP); AICc; the difference between the current model and the top ranked model (ΔAICc); the model deviance (Dev); the relative support for the model (W); estimate of the number of marked animals ($\widehat{N}_m$); lower and upper limits of the 95% confidence interval of (LCL and UCL); and estimated total population ($\widehat{N}_{total}$).

		Model selection criteria				Marked population				Total population			
Model[1]	NP	AICc	ΔAICc	W	Dev	$\widehat{N}_m$	SE	LCL	UCL	$\widehat{N}_{total}$	SE	LCL	UCL
ϕ(a)p(t)b(s)N(.)	**29**	**2811.4**	**0.0**	**0.4**	**-3722.5**	**1765**	**126**	**1535**	**2029**	**2155**	**154**	**1873**	**2479**
ϕ(a+s)p(t)b(s)N(.)	**30**	**2812.2**	**0.8**	**0.3**	**-3723.9**	**1764**	**109**	**1562**	**1992**	**2154**	**134**	**1906**	**2434**
ϕ(a)p(t)b(.)N(.)	**28**	**2813.3**	**1.9**	**0.2**	**-3718.6**	**1761**	**140**	**1507**	**2058**	**2150**	**172**	**1839**	**2514**
ϕ(a+s)p(t)b(.)N(.)	**29**	**2814.4**	**3.0**	**0.1**	**-3719.5**	**1772**	**127**	**1540**	**2038**	**2163**	**155**	**1879**	**2489**
ϕ(a+t)p(t)b(s)N(.)	51	2850.1	38.7	0.0	-3731.1	1796	108	1597	2020	2193	132	1948	2468
ϕ(a+t)p(t)b(.)N(.)	50	2852.7	41.3	0.0	-3726.4	1800	115	1588	2040	2198	141	1938	2492
ϕ(a+s)p(t)b(t)N(.)	51	2853.0	41.6	0.0	-3728.2	1738	124	1511	1998	2122	152	1844	2442
ϕ(a)p(t)b(t)N(.)	50	2854.2	42.8	0.0	-3724.9	1722	126	1492	1987	2102	155	1820	2428
ϕ(a+t)p(t)b(t)N(.)	72	2900.3	88.8	0.0	-3727.9	1742	113	1535	1977	2127	138	1873	2416
ϕ(a+s)p(.)b(t)N(.)	28	3246.6	435.1	0.0	-3285.3	1866	107	1667	2088	2278	132	2034	2551
ϕ(a+s)p(s)b(t)N(.)	29	3248.6	437.2	0.0	-3285.4	1869	109	1668	2094	2282	134	2035	2559
ϕ(a+s)p(e)b(t)N(.)	29	3252.5	441.1	0.0	-3281.4	1924	133	1681	2203	2350	163	2051	2692
ϕ(a)p(e)b(t)N(.)	28	3256.5	445.1	0.0	-3275.3	1922	140	1667	2216	2346	171	2034	2707
ϕ(a)p(.)b(t)N(.)	27	3257.3	445.9	0.0	-3272.5	1851	119	1632	2098	2260	146	1992	2564
ϕ(a)p(s)b(t)N(.)	28	3259.4	447.9	0.0	-3272.5	1848	120	1627	2098	2256	147	1986	2563
ϕ(a+t)p(e)b(t)N(.)	50	3275.5	464.1	0.0	-3303.5	2009	118	1791	2254	2453	145	2185	2754
ϕ(a+t)p(.)b(t)N(.)	49	3276.7	465.3	0.0	-3300.1	1966	112	1759	2197	2400	137	2146	2685
ϕ(a+t)p(s)b(t)N(.)	50	3278.7	467.3	0.0	-3300.4	1961	111	1754	2192	2394	137	2140	2678
ϕ(a+s)p(e)b(s)N(.)	8	3282.8	471.4	0.0	-3207.7	2143	127	1908	2407	2617	156	2328	2942
ϕ(a+s)p(.)b(s)N(.)	7	3285.2	473.8	0.0	-3203.3	2138	110	1934	2364	2610	135	2359	2888
ϕ(a+s)p(s)b(s)N(.)	8	3285.3	473.9	0.0	-3205.2	2140	110	1935	2366	2612	135	2361	2891
ϕ(a)p(e)b(s)N(.)	7	3286.0	474.5	0.0	-3202.6	2121	118	1902	2365	2590	145	2321	2890
ϕ(a)p(.)b(s)N(.)	6	3287.1	475.7	0.0	-3199.4	2130	118	1910	2375	2601	146	2331	2903
ϕ(a)p(s)b(s)N(.)	7	3289.0	477.6	0.0	-3199.5	2125	119	1904	2372	2595	147	2323	2898
ϕ(a+s)p(e)b(.)N(.)	7	3296.1	484.6	0.0	-3192.5	2111	127	1877	2375	2578	156	2290	2902
ϕ(a+s)p(s)b(.)N(.)	7	3299.3	487.9	0.0	-3189.2	2097	113	1888	2330	2561	139	2303	2847
ϕ(a+t)p(e)b(s)N(.)	29	3300.4	489.0	0.0	-3233.6	2228	132	1983	2503	2720	163	2419	3058
ϕ(a+s)p(.)b(.)N(.)	6	3302.0	490.6	0.0	-3184.5	2088	112	1880	2319	2549	138	2293	2834
ϕ(a+t)p(.)b(s)N(.)	28	3302.1	490.7	0.0	-3229.8	2213	131	1971	2485	2702	161	2405	3036
ϕ(a)p(e)b(.)N(.)	6	3302.3	490.8	0.0	-3184.2	2001	129	1764	2270	2443	158	2152	2774
ϕ(a+t)p(s)b(s)N(.)	29	3304.1	492.6	0.0	-3229.9	2190	123	1963	2444	2674	151	2395	2987
ϕ(a)p(s)b(.)N(.)	6	3308.9	497.5	0.0	-3177.6	1954	128	1719	2222	2386	157	2097	2715
ϕ(a)p(.)b(.)N(.)	5	3310.2	498.8	0.0	-3174.3	1944	111	1739	2174	2374	136	2121	2656
ϕ(a+t)p(e)b(.)N(.)	28	3312.4	501.0	0.0	-3219.4	2126	120	1904	2373	2596	147	2323	2900
ϕ(a+t)p(s)b(.)N(.)	28	3317.3	505.8	0.0	-3214.6	2091	113	1881	2324	2553	139	2295	2840
ϕ(a+t)p(.)b(.)N(.)	27	3318.5	507.1	0.0	-3211.2	2114	114	1903	2348	2581	140	2321	2870

[1] The parameters used to build these models are: survival probability (ϕ); capture probability (p); entry probability (b); population size (N). Each parameter may be designated as age class dependent (a), time dependent (t), constant over time (.) and seasonal (s). Full table available on S2 table.