Supplementary material

1   Table S1. Selection of recapture probability structure (p) for multistate models examining the effect

2   of geolocators on adult survival of southern dunlin. Φ = survival, sex = sex of the individual; t =

3   time (year); state = state 1 (no-geolocator), state 2 (geolocator) and state 3 (geolocator removed); *

4   = interaction, AICc = Akaike's Information Criterion; Δ = AICc(i) - AICc(min); w = Akaike

5   weight; k = number of parameters. The structure for movement rates (ψ) included only state with

6   movements from state 1 to state 2 and from state 2 to state 3.

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#	Model for survival (Φ)	recapture (p)	movement (ψ)	AICc	Δ	w	k
1	state+sex+t+state*sex+sex*t	state+sex+t	S1-S2; S2-S3	2031.96	0.00	0.43	56
2	state+sex+t+state*sex+sex*t	sex+t	S1-S2; S2-S3	2032.13	0.17	0.40	54
3	state+sex+t+state*sex+sex*t	state+sex+t+state*sex	S1-S2; S2-S3	2033.95	1.99	0.16	58
4	state+sex+t+state*sex+sex*t	t	S1-S2; S2-S3	2040.61	8.65	0.01	53
5	state+sex+t+state*sex+sex*t	state+s	S1-S2; S2-S3	2045.96	14.01	0.00	42
6	state+sex+t+state*sex+sex*t	sex	S1-S2; S2-S3	2047.53	15.57	0.00	40
7	state+sex+t+state*sex+sex*t	state+sex+t+state*sex+sex*t	S1-S2; S2-S3	2050.26	18.30	0.00	69
8	state+sex+t+state*sex+sex*t	state	S1-S2; S2-S3	2054.35	22.39	0.00	41

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16   Table S2. Selection of recapture probability structure (p) for multistate models examining the effect

17   of geolocators on adult survival of southern dunlin. Φ = survival, sex = sex of the individual; t =

time (year); strata 2 = state 1 (no-geolocator) and state 2 (geolocator); strata3 = state 1 (no-

geolocator), state 2 (geolocator) and state 3 (geolocator removed); AICc = Akaike's Information

Criterion; Δ = AICc(i) - AICc(min); w = Akaike weight; k = number of parameters. The structure

for movement rates (ψ) included only state with movements from state 1 to state 2 and from state 2

to state 3.

#	Model for survival (Φ)	recapture (p)	movement (ψ)	AICc	Δ	w	k
1	strata2+sex+t+tms	strata3+sex+t	S1-S2; S2-S3	2016.29	0	0.705	40
2	strata3+sex+t+tms	strata3+sex+t	S1-S2; S2-S3	2018.03	1.74	0.295	41

Table S3. Parameter coefficients, their SE and 95% confidence intervals for the best model on a

logit scale. Φ(sex+t+tsm+GEOC2) p(state+sex+t) ψ(S1-S2; S2-S3). Φ = survival, p = recapture

37   rate, ψ = movement probability; sex = sex of the individual; t = time (year); tsm = time since colour

38   ringing; GEOC2 = linear effect of the years an individual had carried a geolocator; state = 1 (no-

39   geolocator), state 2 (geolocator) and state 3 (geolocator removed).

Parameter	Coefficient	SE	95% CI-	95% CI+
Intercept	1.291	1.216	-1.092	3.674
sex (males)	0.265	0.150	-0.029	0.558
Year2002	-0.124	1.318	-2.707	2.459
Year2003	-0.309	1.254	-2.767	2.148
Year2004	-0.174	1.252	-2.628	2.279
Year2005	-0.031	1.243	-2.468	2.405
Year2006	-0.425	1.232	-2.841	1.990
Year2007	-0.432	1.229	-2.841	1.978
Year2008	-0.038	1.237	-2.463	2.387
Year2009	-0.131	1.233	-2.548	2.286
Year2010	1.164	1.317	-1.417	3.746
Year2011	-0.564	1.223	-2.960	1.833
Year2012	0.146	1.254	-2.312	2.604
Year2013	0.094	1.236	-2.329	2.517
Year2014	0.564	1.285	-1.955	3.083
Year2015	0.010	1.265	-2.470	2.489
Year2016	-0.525	1.250	-2.974	1.925
GEOC2	-0.525	0.206	-0.928	-0.122
tsm	-0.045	0.034	-0.111	0.022

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