

The following supplement accompanies the article

Habitat effects on population connectivity in a coastal seascape

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Supplement. Additional results from the mark-recapture experiment on Atlantic cod and generalized additive modeling of movement distances

Table S1. Detailed summary of the mark-recapture experiment on Atlantic cod carried out from 2005 to 2010 in 3 regions along the Norwegian Skagerrak coast

Tagging Region	No. marked	No. recaptured	Recaptured proportion	Mean length at tagging (range, mm)		Median days at liberty (range)	Median distance (km)	Moved >20 km
				Tagged	Recaptured			
Lillesand	1663	646	0.39	441 (160–930)	463 (160–810)	72 (2–1525)	0.26	13
Arendal	3883	1309	0.34	401 (165–905)	421 (210–830)	138 (2–1507)	0.38	36
Risør	3972	1347	0.34	390 (155–860)	399 (195–800)	122 (2–1588)	0.37	20

Table S2. Final generalized additive models (GAMs) of the log(distance) between tagging and recapture locations for Atlantic cod from each region. The estimated number of degrees of freedom, EDF, for each smoothed model term, s(), is shown. When EDF = 1, a linear function provided the most parsimonious fit. The percent of variance explained (%Var) and the total number of data points (N) are shown. ‘DaysBtw’ is the number of days between tagging and the final recapture; ‘Length’ is the total length when tagged. Month of recapture was included as a factor (fMonthR). ***p < 0.001, **p < 0.01, *p < 0.05

Region	Model terms			%Var	N
Lillesand	s(LonLat, 9.4)***	s(DaysBtw, 1.7)***	fMonthR***	20.4	478
Arendal	s(LonLat, 12.8)***	s(DaysBtw, 1.8)***	s(Length, 1)**	22.3	1018
Risør	s(LonLat, 18.9)***	s(DaysBtw, 1)**	s(Length, 1)*	13.1	1087

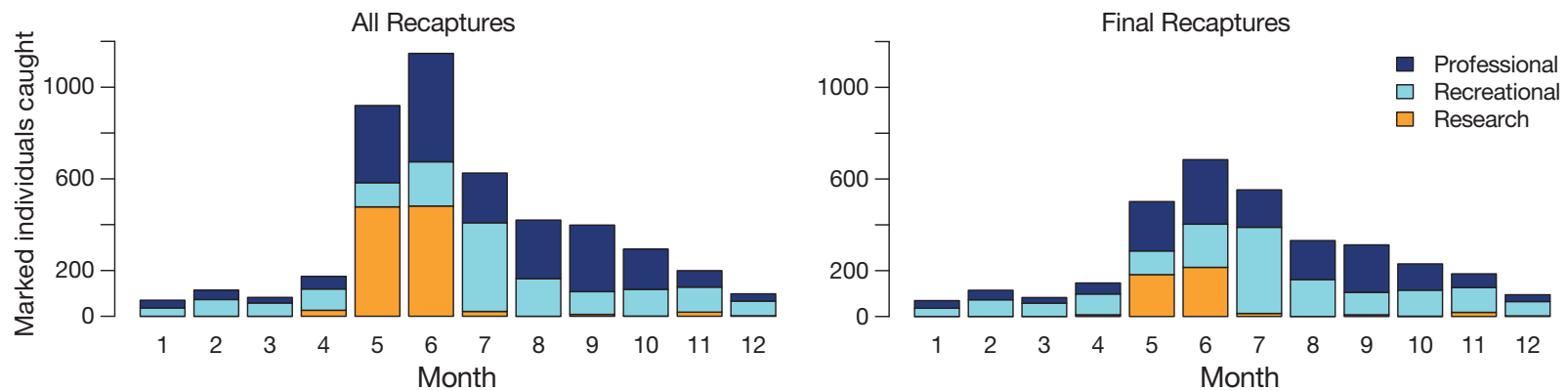


Fig. S1. Numbers of tagged Atlantic cod recaptured by professional, recreational, and research fishers by month, showing seasonal patterns in recapture effort by fishery. Data from all regions are grouped

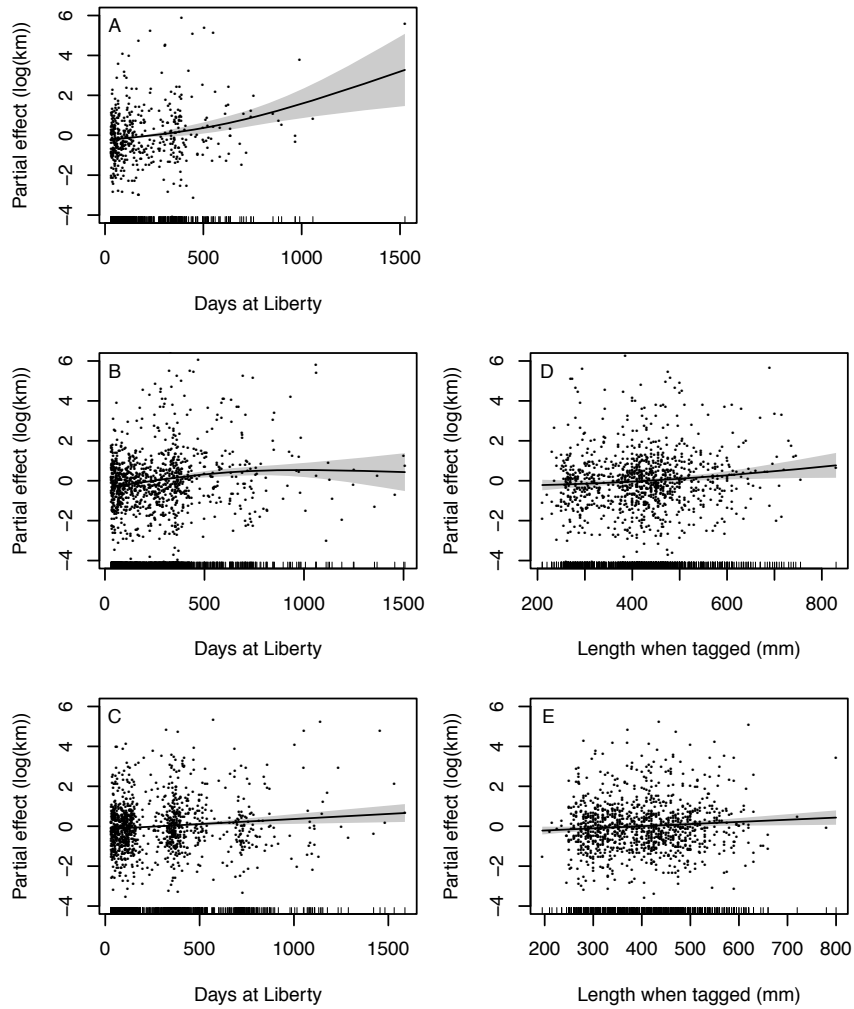


Fig. S2. Partial effects of days at liberty and length at tagging on Atlantic cod movement distances for (A) Lillesand, (B,D) Arendal, and (C,E) Risør. Length at tagging was not a significant predictor of movement distance for cod tagged in Lillesand. Black points are partial residuals and gray bands show 95% confidence intervals

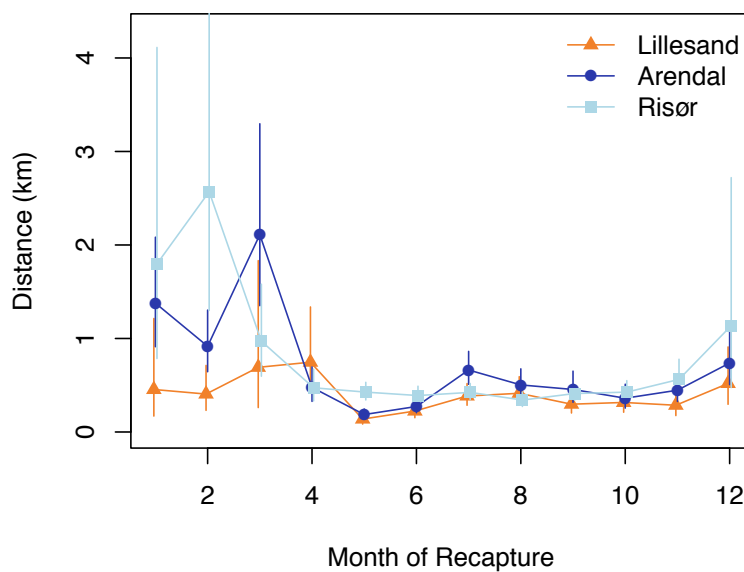


Fig. S3. Estimated generalized additive model (GAM) coefficients (with 95% CI) showing the relationship between the month of recapture and Atlantic cod movement distances. Coefficients are month-specific intercepts, converted from a \log_e scale