

## Supplementary Information

Table S1

Zoobenthos model comparison based on Akaike Information Criteria (AIC), Bayesian Information Criteria (BIC), and the log-likelihood ratio test.

| <b>Model</b>                   | <b>AIC</b> | <b>BIC</b> | <b>Log-likelihood</b> | <b>p-values</b> |
|--------------------------------|------------|------------|-----------------------|-----------------|
| Model 1: Month                 | 2407       | 2508       | -1169.7               |                 |
| Model 2: Month + Accessibility | 2403       | 2522       | -1161.6               | 0.0128          |
| Model 3: Month × Accessibility | 2364       | 2501       | -1136.0               | <0.001          |

Table S2

Parameter estimates (95% Wald confidence intervals) of the best overall model (i.e., Model 3). Month and Accessibility variables were dummy coded with June and accessible habitat as the reference category, respectively.

| <b>Taxonomic group</b> | <b>Intercept</b>  | <b>Month</b>        | <b>Accessibility</b> | <b>Month × Accessibility</b> |
|------------------------|-------------------|---------------------|----------------------|------------------------------|
| Anisoptera             | 3.51 (3.26; 3.76) | 0.73 (0.58; 0.89)   | 0.65 (0.27; 1.02)    | -0.10 (-0.30; 0.10)          |
| Chironomidae           | 1.9 (1.52; 2.27)  | 0.43 (0.07; 0.79)   | 0.84 (0.32; 1.36)    | -0.54 (-1.02; -0.07)         |
| Ephemeroptera          | 3.72 (3.38; 4.05) | -0.09 (-0.25; 0.07) | 0.91 (0.39; 1.42)    | -0.17 (-0.038; 0.03)         |
| Gammaridae             | 5.32 (5.17; 5.47) | -0.07 (-0.15; 0.00) | -0.06 (-0.29; 0.17)  | 0.28 (0.17; 0.39)            |
| Trichoptera            | 1.88 (1.49; 2.28) | 1.69 (1.39; 1.98)   | 0.50 (-0.08; 1.08)   | 0.42 (0.01; 0.82)            |
| Zygoptera              | 2.97 (2.61; 3.33) | 1.14 (0.96; 1.33)   | 0.47 (-0.07; 1.01)   | 0.48 (0.24; 0.73)            |

Table S3

Abundances predicted by the best overall model (i.e., Model 3). D (difference): predicted abundance in inaccessible habitat minus predicted abundance in accessible habitat. R (ratio): predicted abundance in inaccessible habitat divided by predicted abundance in accessible habitat.

| Taxonomic group | June          |     | D   | R   | September     |     | D  | R   |
|-----------------|---------------|-----|-----|-----|---------------|-----|----|-----|
|                 | Accessibility |     |     |     | Accessibility |     |    |     |
|                 | No            | Yes |     |     | No            | Yes |    |     |
| Anisoptera      | 64            | 33  | 31  | 1.9 | 120           | 70  | 50 | 1.7 |
| Chironomidae    | 15            | 7   | 8   | 2.1 | 14            | 10  | 4  | 1.4 |
| Ephemeroptera   | 102           | 41  | 61  | 2.5 | 78            | 38  | 40 | 2.1 |
| Gammaridae      | 192           | 204 | -12 | 0.9 | 237           | 190 | 47 | 1.2 |
| Trichoptera     | 11            | 7   | 4   | 1.6 | 89            | 35  | 54 | 2.5 |
| Zygoptera       | 31            | 20  | 11  | 1.6 | 159           | 61  | 98 | 2.6 |

Figure S1

Map of count data by taxonomic group and period (June: 06; September: 09).

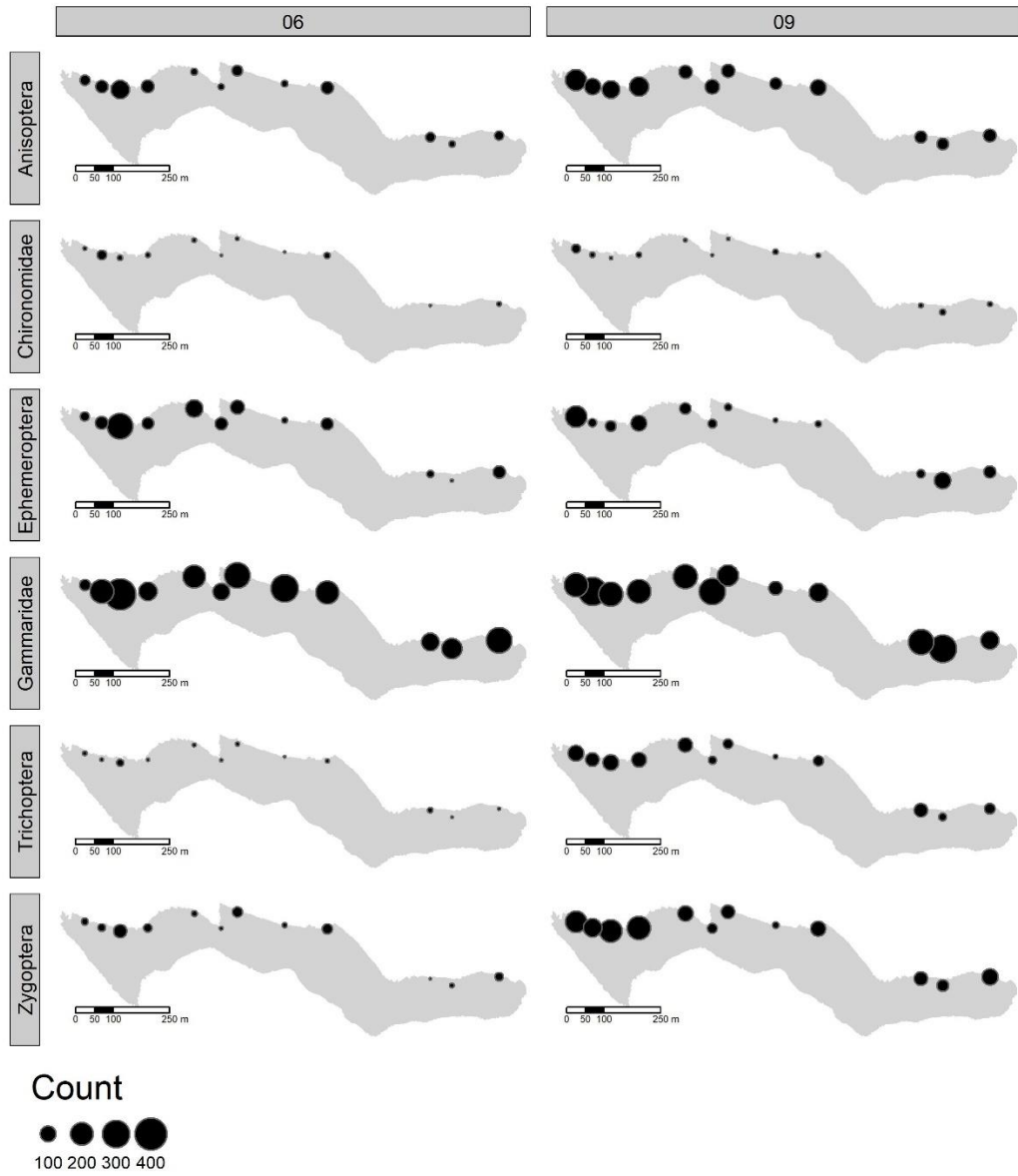


Figure S2

Fish positions for two consecutive seasons (i.e., summer 2016 [red] and winter 2017 [blue]). Only fish having at least one complete season are represented. (VR2 VEMCO Positioning System data only).

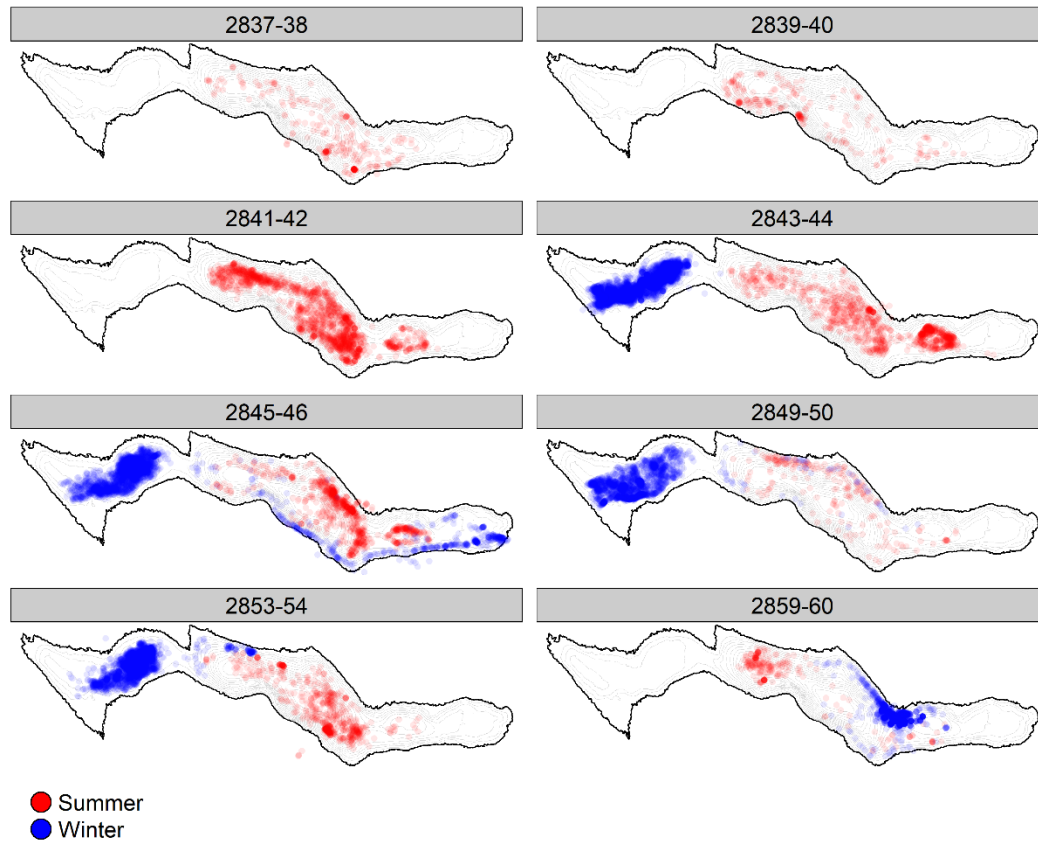


Figure S3

Home range estimates as a function of sample size at three isopleth levels (i.e., 0.5, 0.9, and 0.95). Horizontal dashed line refers to lake area. Vertical dashed line refers to 40,000 positions.

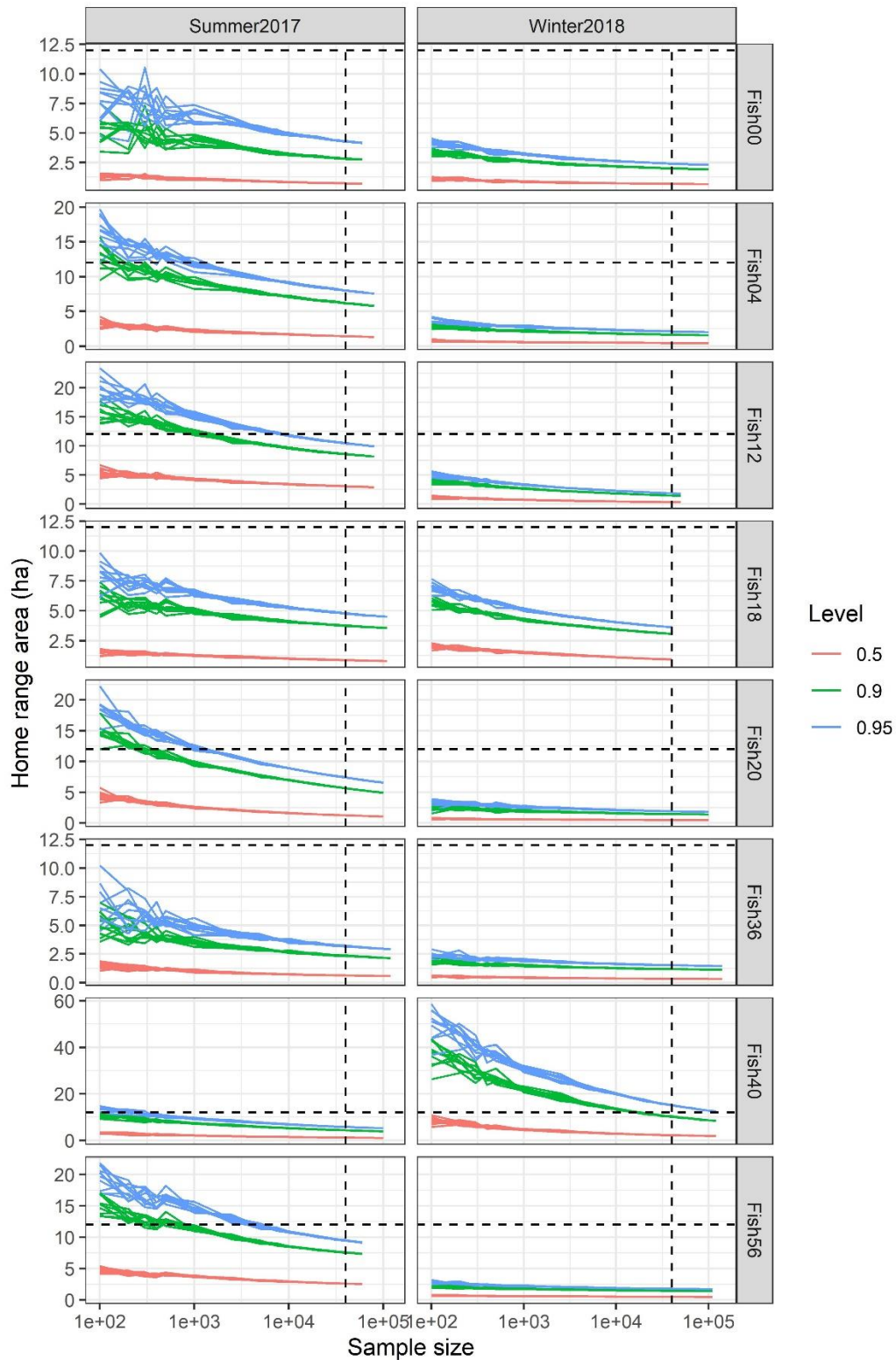


Figure S4

Visualization of home-range areas at three isopleth levels (i.e., 0.5, 0.9, 0.95). Home range is calculated based on 40,000 random positions for each season. Only fish having at least two complete seasons are shown (HR2 VEMCO Positioning System data only).

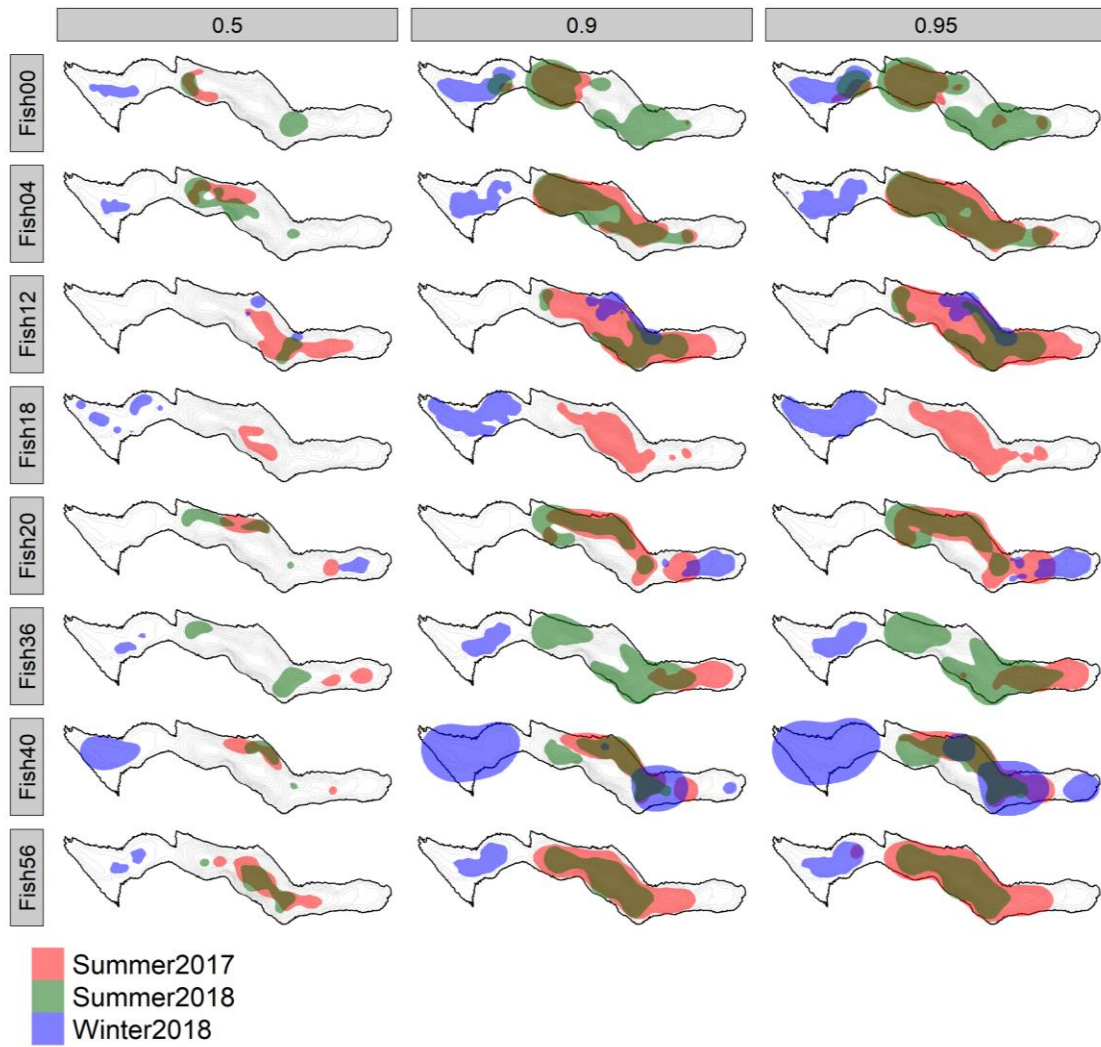


Figure S5

Boxplot of within-individual home-range overlap across seasons. The utilization distribution overlap index (UDOI) was calculated at the 0.9 isopleth level for seven (summer2017–summer2018) or eight (summer2017–winter2018) individuals.

