Table S1 Reynolds number (Re), estimated vortex shedding frequency (f), and wake wavelength (λ) downstream of each cylinder (d) used in an experimental study to investigate space use of brown trout, *Salmo trutta*, in a complex hydrodynamic environment.

d (mm)	Re	f (Hz)	λ (m)
10	2699	13.67	0.03
20	5398	6.83	0.06
30	9097	4.56	0.09
40	10797	3.42	0.12
50	13496	2.73	0.15
60	16195	2.28	0.18
70	18894	1.95	0.21
80	21593	1.71	0.24
90	24292	1.52	0.27

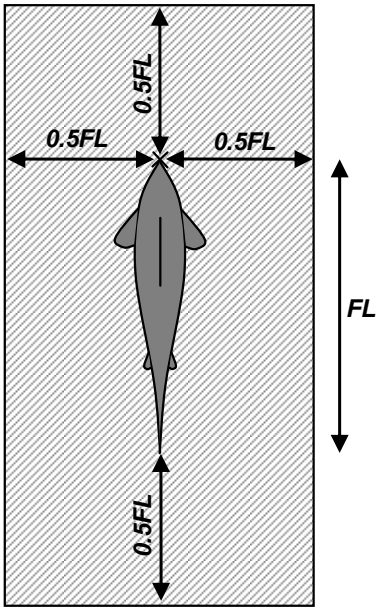

Figure S1 The mechanosensory field of detection (MFoD) allocated to each fish and used to assess the area it sampled during hydrodynamic space use experiments in a large open channel flume.

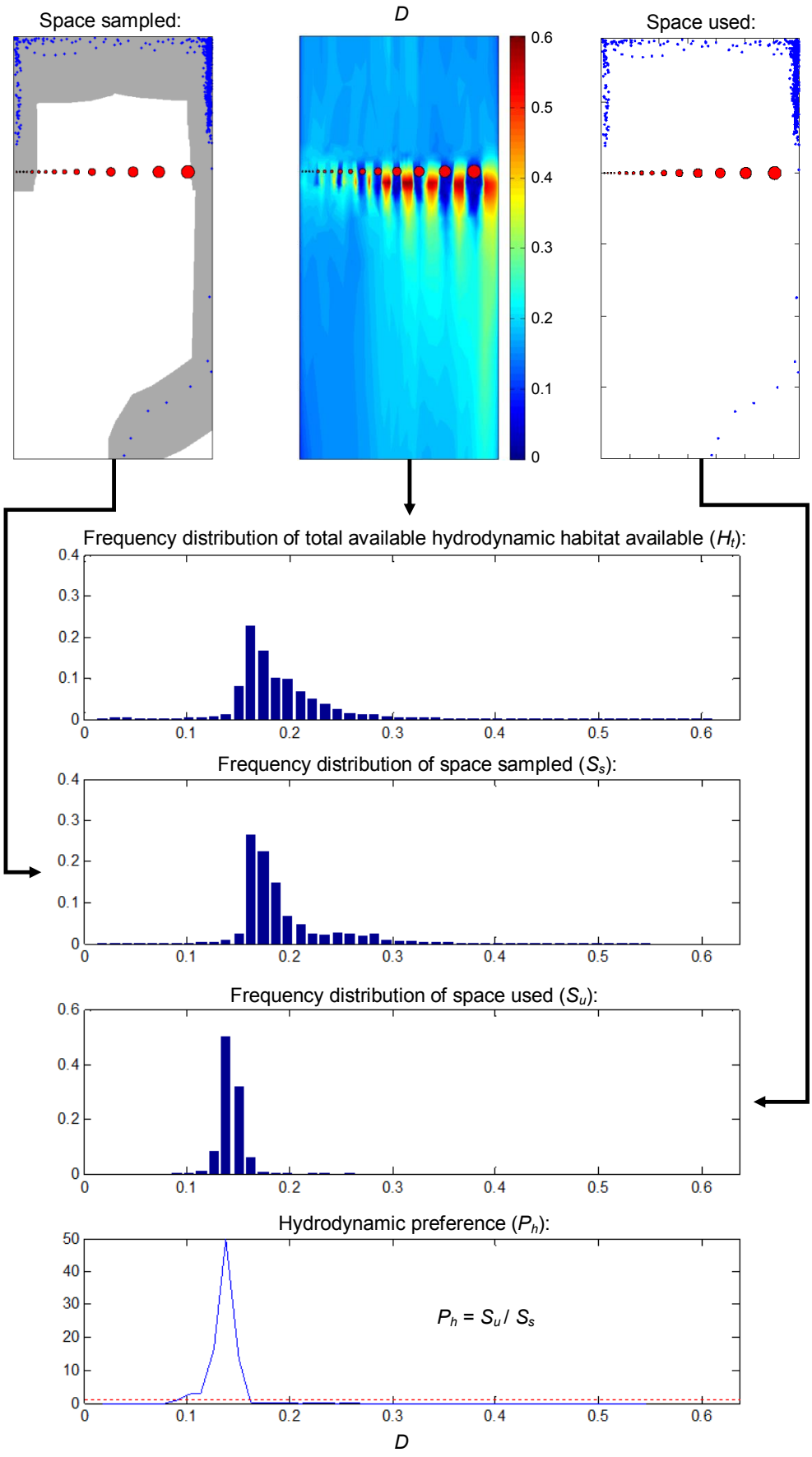

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Figure S2 Schematic representation of how preference was calculated. Example using data for a wild trout (FL: 223 mm) under treatment A (Trial 54, duration: 3600 seconds) for turbulent drag (*D*). Schematic shows plots of the hydrodynamic habitat available (colour intensity plot of *D*) (top middle), the area the fish sampled (grey area) (top left) and space used (blue dots – representing snout position each second) (top right) along with the corresponding frequency distributions of total available (H_t), sampled (S_s) and used (S_u) turbulent drag (*D*) during the trial. The resulting hydrodynamic preference (P_h) for turbulent drag, where $P_h = S_u/S_s$ (calculated for each bin of the S_u and S_s data), is shown in the bottom plot as a solid blue line. The red dashed line in the bottom plot is for reference purposes and represents an even distribution (i.e. preference = 1).

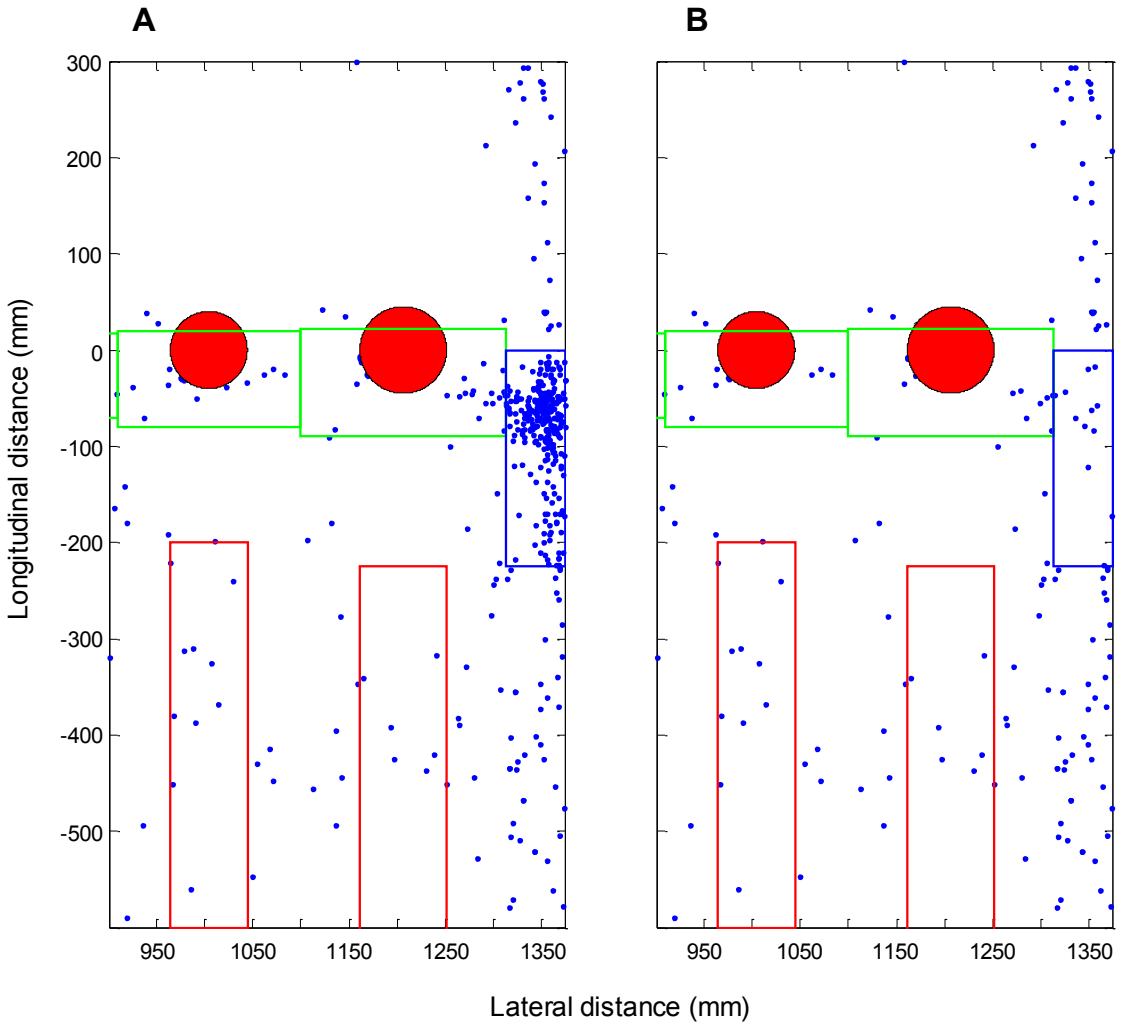

Figure S3 Schematic representation of how excessive use of specialised behavioural zones (SBZs) was accounted for in the data. Example using data for a large hatchery trout (FL: 323 mm) under treatment A (Trial 4, duration: 3600 seconds) with a specific focus on the wall holding SBZ adjacent to the 90 mm cylinder (blue rectangle). A) Raw space use data – 272 instances of the trout being present in the wall holding zone. B) Modified space use data – If distribution had been even then the trout would have only used the zone 12 times. Hence 260 points (272 – 12) from within the SBZ were randomly removed. This was repeated for each SBZ and, therefore, the influence of fish preference for SBZ was removed from the final preference curves.

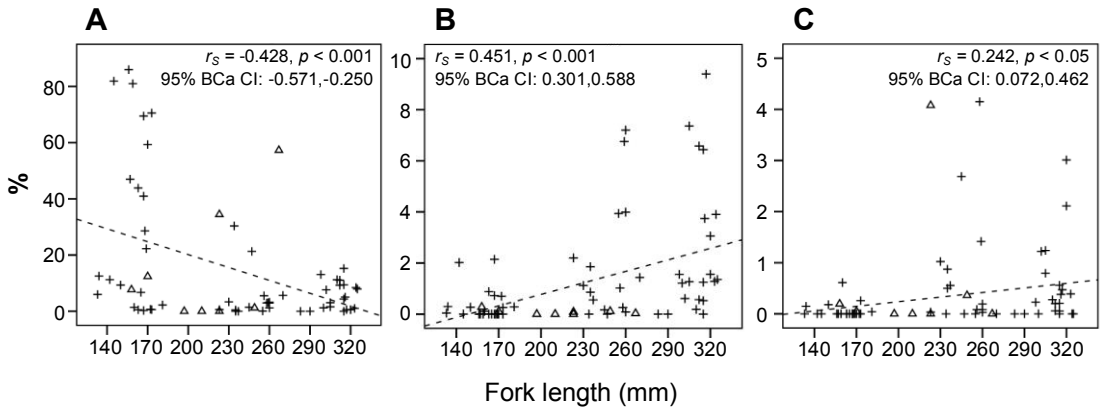

Figure S4. Relationship between percentage of a trial that hatchery (crosses, *n* = 58) and wild (triangles, *n* = 8) trout spent in the tail holding (A), Kármán gaiting (B) and bow riding (C) zones and fork length (FL) (mm) in treatment A and B combined. Dashed line represents the linear correlation. Text is the Pearson's correlation coefficient (r_S) and significance level (p) and the bootstrapped (n=2000) bias corrected and accelerated (BCa) 95% confidence intervals (CI) of r_S.

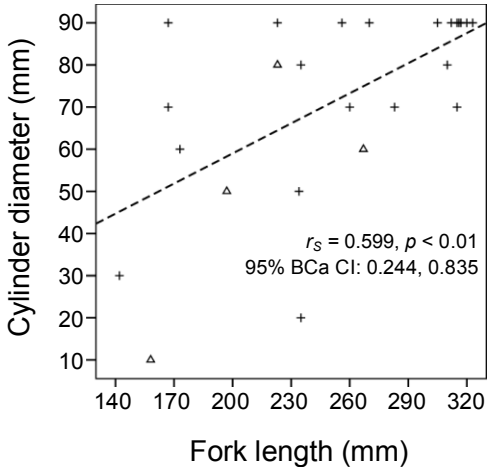

Figure S5. The relationship between trout fork length (mm) and the cylinder diameter (mm) of the entraining zone that hatchery (crosses, n = 21) and wild (triangles, *n* = 4) trout preferentially choose to utilise in treatment A and B combined. Dashed line represents the linear correlation. Text is the Pearson's correlation coefficient (r_S) and significance level (p) and the bootstrapped (n=2000) bias corrected and accelerated (BCa) 95% confidence intervals (CI) of r_S.