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Ecosphere

Eutrophication homogenizes shallow lake macrophyte assemblages over space and time

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Appendix S3

Connectivity predictors

Figure S1. Asymmetric Eigen Model (AEM) construction from a Binary connectivity diagram based on major watercourse features (e.g. river, stream and ditches) of the system, denoting the presence/absence of links (edges) between given sites. The AEM model was constructed by incorporating the longitudinal water flow through the Upper Lough Erne system (i.e. from southeast to northwest) in addition to lateral flows (west-to-east and east-to-west) via streams, rivers or ditches from the associated satellite lakes into the main Lough. Three “imaginary sites” denoted by open circles, were created to represent water flow directions in the binary connectivity matrix.

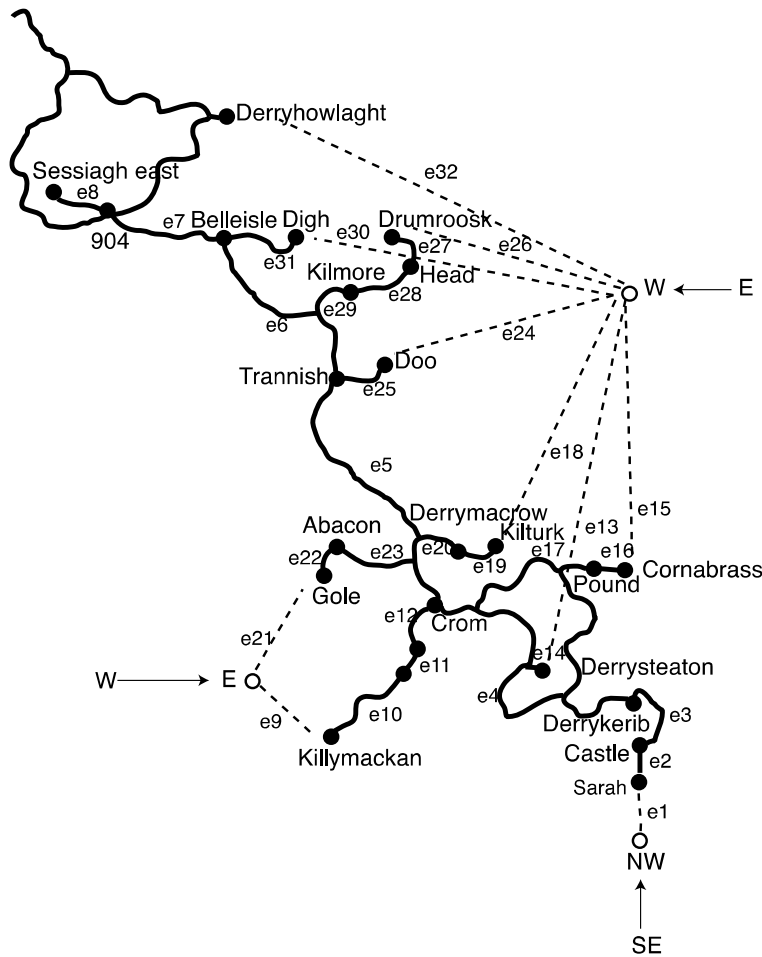


Table S1. Directional sites-by-edges (e) matrix constructed manually following Blanchet et al. (2011) for 22 sampled sites (19 satellite lakes and in three basins in the main Lake (ML)–Upper Lough Erne).

Lake	e1	e2	e3	e4	e5	e6	e7	e8	e9	e12	e13	e14	e15	e16	e17	e18	e19
Sarah	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Castle	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Derrykerrib	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Derrysteaton	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Cornabrass	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Pound	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
Crom (ML)	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	0	0
Killymackan	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Derrymacrow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Kilturk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Abacon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gole	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trannish (ML)	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1
Doo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kilmore	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lough Head	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Drumroosk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Digh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Belleisle (ML)	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1
Lough 904	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
Sessiagh East	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Derryhowlaght	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Continuation Table S1. Directional sites-by-edges (e) matrix constructed manually following Blanchet et al. (2011) for 22 sampled sites (19 satellite lakes and in three basins in the main Lake (ML)–Upper Lough

Lake	e20	e21	e22	e23	e24	e25	e26	e27	e28	e29	e30	e31	e32
Sarah	0	0	0	0	0	0	0	0	0	0	0	0	0
Castle	0	0	0	0	0	0	0	0	0	0	0	0	0
Derrykerrib	0	0	0	0	0	0	0	0	0	0	0	0	0
Derrysteaton	0	0	0	0	0	0	0	0	0	0	0	0	0
Cornabrass	0	0	0	0	0	0	0	0	0	0	0	0	0
Pound	0	0	0	0	0	0	0	0	0	0	0	0	0
Crom (ML)	0	0	1	1	0	0	0	0	0	0	0	0	0
Killymackan	0	0	0	0	0	0	0	0	0	0	0	0	0
Derrymacrow	0	0	0	0	0	0	0	0	0	0	0	0	0
Kilturk	0	0	0	0	0	0	0	0	0	0	0	0	0
Abacon	0	1	1	0	0	0	0	0	0	0	0	0	0
Gole	0	1	0	0	0	0	0	0	0	0	0	0	0
Trannish (ML)	1	1	1	1	1	1	1	1	1	1	0	0	0
Doo	0	0	0	0	1	0	0	0	0	0	0	0	0
Kilmore	0	0	0	0	0	0	1	1	1	0	0	0	0
Lough Head	0	0	0	0	0	0	1	1	0	0	0	0	0
Drumroosk	0	0	0	0	0	0	1	0	0	0	0	0	0
Digh	0	0	0	0	0	0	0	0	0	0	1	0	0
Belleisle (ML)	1	1	1	1	1	1	1	1	1	1	1	1	0
Lough 904	1	1	1	1	1	1	1	1	1	1	1	1	0
Sessiagh East	1	1	1	1	1	1	1	1	1	1	1	1	0
Derryhowlaght	0	0	0	0	0	0	0	0	0	0	0	0	1

LITERATURE CITED

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