Supplementary Tab 1. Summary of texts on limnology, including texts specializing on lakes, ponds, streams and rivers, and wetlands but excluding texts on individual or particular systems. The goal of this survey was to test the idea that Forbes' use of a lake as a replicate microcosm (singular) carries through limnology. Alternatively, texts could seek to characterize the variation among lakes, in which case chapter headings would match that goal. Chapters were assigned to categories here and do not match precisely the actual chapter headings.

Author(s)	Year	Geological context, including origins and ontogeny	Physics, including states, movement, and thermal properties of water	Water chemistry	Microbes (bacteria, fungi, heterotrophic protists)	Phyto-plankton	Zoo-plankton	Macro-phytes	Benthic invertebrates	Fish and other vertebrates	Population biology, including adaptations and life history	Community ecology	Lentic habitats	Lotic habitats	Other habitats: swamps, bogs, fens, wetlands, fish ponds	Ecosystem ecology: production, nutrient cycling	Applied limnology
Welch	1952	x				x	x	x	x	x			x	x	x		
Coker	1954		x	x			x	x	x	x			x	x	x	x	x
Hutchinson, vol. 1	1957	x	x	x													
Reid	1961	x	x	x	x		x	x	x	x	x	x	x	x			
Ruttner	1963		x	x		x	x	x	x	x				x	x		
Hutchinson, vol. 2	1967				x	x	x										
Hynes	1970	x	x	x	x	x	x	x	x	x						x	x
Macan	1974		x	x		x	x		x			x	x	x	x		
Macan and Worthington	1974		x	x						x		x				x	x
Goldman and Horne	1983	x	x	x		x	x	x				x					x
Wetzel	1983	x	x	x	x	x	x	x	x	x			x			x	
Williams	1987		x	x		x	x		x		x						
Moss	1988	x	x	x			x	x	x	x			x	x			x
Jeffries and Mills	1990		x			x	x		x	x	x	x	x	x	x		x
Maitland	1990		x	x		x	x	x	x	x	x	x	x	x		x	
Tilzer and Serruya	1990		x	x		x	x					x					
Cole	1994	x	x	x		x	x	x	x	x			x	x		x	x
Allan	1995		x	x	x	x	x	x	x	x		x				x	x
Lampert and Sommer	1997		x			x	x				x	x				x	
Bronmark and Hansson	1998		x	x	x	x	x	x	x	x	x					x	x
Mitsch and Gosselink	2000		x	x						x	x				x	x	x
Wetzel	2001	x	x	x	x	x	x	x	x	x			x			x	x
Dodds	2002		x	x	x	x	x	x	x	x		x	x	x	x	x	x
Kalff	2002	x	x		x	x	x	x	x	x			x	x			x
McKinstry *et al.*	2004							x		x					x	x	x
O'Sullivan and Reynolds	2004	x	x	x	x	x	x	x	x	x	x	x		x		x	
Scheffer	2004		x	x		x		x				x					x
Dodson	2004	x	x	x	x	x	x	x	x	x	x	x					
Bronmark and Hansson	2005		x	x	x	x	x	x	x	x	x	x				x	
Batzer and Sharitz	2006	x	x		x	x	x	x	x	x					x	x	x
Dodds and Whiles	2010		x	x	x	x	x	x	x	x	x	x	x	x		x	x
Tundisi and Matsumura-Tundisi	2012	x	x	x		x	x	x		x			x	x	x	x	x
	Count	14	29	25	14	25	27	23	22	24	11	15	14	14	10	18	18

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Supplementary Tab. 2. Studies of distance decay in similarity, sorted as lentic, lotic, and terrestrial systems, sorted by citation. Distance decay shapes and accessory data used in analyses are also listed.

No.	Category	Study	System	Distance decay shape (see Fig. 3)	r^2	Relationship	Propagule size category	Active/ passive	Spatial extent (km)	No. taxa	No. sites
1	Lentic	Briers and Briggs (2005)	British pond macroinvertebrates	C	-	-	Mini	a	65	242	102
2	Lentic	Soininen *et al*. (2007)	Finland pond zooplankton	C	0.2372	-	Micro	p	21	65	25
3	Lentic	Soininen *et al*. (2007)	Finland pond phytoplankton	C	0.0484	-	Micro	p	21	152	25
4	Lentic	Shurin *et al*. (2009)	Northeastern US diatoms	D	0.4800	log(S) ~ 0.04D	Micro	p	1000	564	262
5	Lentic	Shurin *et al*. (2009)	Florida phytoplankton	A	0.1200	ns	Micro	p	500	566	40
6	Lentic	Shurin *et al*. (2009)	Northeastern US rotifers	D	0.2200	log(S) ~ 0.02D	Micro	p	1000	174	350
7	Lentic	Shurin *et al*. (2009)	Northeastern US crustacean zooplankton	D	0.5400	log(S) ~ 0.04D	Micro	p	1000	91	350
8	Lentic	Shurin *et al*. (2009)	Canad a crustacean zooplankton	D	0.6300	log(S) ~ 0.08D	Micro	p	5000	82	1604
9	Lentic	Shurin *et al*. (2009)	Sweden macroinvertebrates	D	0.4300	log(S) ~ 0.04D	Mini	a	1500	132	87
10	Lentic	Shurin *et al*. (2009)	British Columbia fish	D	0.8200	log(S) ~ 0.63D	Macro	a	1800	53	1893
11	Lentic	Shurin *et al*. (2009)	Northeastern US fish	D	0.2800	log(S) ~ 0.19D	Macro	a	1000	86	201
12	Lentic	Shurin *et al*. (2009)	Sweden fish	D	0.4900	log(S) ~ 0.23D	Macro	a	1500	43	1894
13	Lentic	Poulickova *et al*. (2009)	Czech pond epipelic diatoms	A	0.0001	ns	Micro	p	270	185	45
14	Lentic	Mazaris *et al*. (2010)	Greece lake phytoplankton	C	0.0150	-	Micro	p	342	310	7
15	Lentic	Mazaris *et al*. (2010)	Greece lake zooplankton	A	0.0390	ns	Micro	p	342	72	7
16	Lentic	Mazaris *et al*. (2010)	Greece lake fish	A	0.3700	ns	Macro	a	342	37	7
17	Lentic	Soininen *et al*. (2011)	Finland lake bacterioplankton	C	0.0210	S ~ -0.00009D	Micro	p	780	97	100
18	Lentic	Soininen *et al*. (2011)	Finland lake phytoplankton	C	0.0605	S ~ -0.0001D	Micro	p	780	238	100
19	Lentic	Soininen *et al*. (2011)	Finland lake zooplankton	C	0.0876	S ~ -0.0002D	Micro	p	780	64	100
20	Lentic	Mumladze *et al*. (2013)	Europe peat bog oribatid mites	C	0.4680	S ~ 1.045 D	Micro	p	4700	410	46
21	Lotic	Dynesius *et al*. (2004)	Sweden riparian plants	D	-	-	Mini	p	430	910	122
22	Lotic	Shurin *et al*. (2009)	Northeastern US periphyton	A	0.0700	ns	Micro	p	1000	621	370
23	Lotic	Shurin *et al*. (2009)	Midatlantic US diatoms	D	0.5000	log(S) ~ 0.04D	Micro	p	1000	725	296
24	Lotic	Shurin *et al*. (2009)	Midatlantic US macroinvertebrates	D	0.6000	log(S) ~ 0.02D	Mini	a	1000	1255	307
25	Lotic	Shurin *et al*. (2009)	Northeastern US macroinvertebrates	D	0.4600	log(S) ~ 0.05D	Mini	a	1000	1120	583
26	Lotic	Shurin *et al*. (2009)	Sweden macroinvertebrates	D	0.3800	log(S) ~ 0.01D	Mini	a	1500	84	34
27	Lotic	Shurin *et al*. (2009)	Northwestern US macroinvertebrates	D	0.5900	log(S) ~ 0.09D	Mini	a	700	470	132
28	Lotic	Shurin *et al*. (2009)	Northeastern US fish	A	0.0500	ns	Macro	a	900	143	319
29	Lotic	Shurin *et al*. (2009)	Midatlantic US fish	D	0.1500	log(S) ~ 0.1D	Macro	a	1000	211	297
30	Lotic	Shurin *et al*. (2009)	Northwestern US fish	D	0.4400	log(S) ~ 0.05D	Macro	a	700	31	131
31	Lotic	Brown and Swan (2010)	Headwater stream macroinvertebrates	A	0.0370	ns	Mini	a	2.5	-	22
32	Lotic	Brown and Swan (2010)	Mainstem stream macroinvertebrates	C	0.3200	S ~ -0.17(Std D)	Mini	a	2.5	-	30
33	Lotic	Karthick et al. (2011)	Indian stream diatoms	A	0.0025	ns	Micro	p	450	98	24
34	Lotic	Astorga *et al*. (2012)	Finland stream macroinvertebrates	D	0.1140	S ~ -0.048log(D)	Mini	a	1100	109	112
35	Lotic	Astorga *et al*. (2012)	Finland stream bryophytes	D	0.0790	S ~ -0.056log(D)	Micro	p	1100	83	112
36	Lotic	Astorga *et al*. (2012)	Finland stream diatoms	D	0.2060	S ~ -0.043log(D)	Micro	p	1100	391	112
37	Lotic	Lear *et al*. (2013)	New Zealand stream biofilm bacteria	D	-	-	Micro	p	970	850	244
38	Lotic	Warfe *et al*. (2013)	Australian intermittent stream fish	C	0.026	-	Macro	a	480	43	28
39	Lotic	Warfe *et al*. (2013)	Australian intermittent stream macroinvertebrates	C	0.037	-	Mini	a	480	30	28
40	Lotic	Warfe *et al*. (2013)	Australian intermittent stream vegetation	C	0.154	-	Mini	p	480	91	28
41	Terrestrial	Nekola and White (1999)	White spruce vascular plants	D	0.6700	log(S) ~ -0.37 D	Mini	p	6000	252	34
42	Terrestrial	Nekola and White (1999)	White spruce bryophytes	D	0.5300	log(S) ~ -0.25 D	Micro	p	6000	118	34
43	Terrestrial	Nekola and White (1999)	Black spruce vascular plants	D	0.5700	log(S) ~ -0.33 D	Mini	p	6000	195	26
44	Terrestrial	Nekola and White (1999)	Black spruce bryophytes	D	0.2400	log(S) ~ -0.17 D	Micro	p	6000	70	26
45	Terrestrial	Tuomisto *et al*. (2003)	W. Amazonian pteridophytes	D	0.3500	-	Micro	p	1500	269	163
46	Terrestrial	Tuomisto *et al*. (2003)	W. Amazonian Melastomatiaceae	D	0.4700	-	Mini	p	1500	249	163
47	Terrestrial	Green *et al*. (2004)	Australian ascomycetes	D	0.0051	log(S) ~ -0.147 log(D)	Micro	p	100	1536	
48	Terrestrial	Dahl *et al*. (2009)	Amazonian forest anurans	A	-	ns	Macro	a	400	70	15
49	Terrestrial	Dahl *et al*. (2009)	New Guinea forest anurans	D	0.6300	S ~ -0.1738 ln(D)	Macro	a	500	44	10
50	Terrestrial	Dahl *et al. (*2009)	European forest anurans	C	0.2300	S ~ 0.678 exp(-0.001D)	Macro	a	320	12	15
51	Terrestrial	Duque *et al*. (2009)	Colombian Amazonia trees	D	0.6800	S ~ 0.029 ln(D)	Macro	p	820	830	13
52	Terrestrial	Qian (2009)	US and Canada spermatophytes, zone A	C	0.7280	S ~ -0.754 log(D)	Micro	p	-	1977°	136
53	Terrestrial	Qian (2009)	US and Canada spermatophytes, zone B	C	0.7670	S ~ -0.675 log(D)	Micro	p	-	1977°	153
54	Terrestrial	Qian (2009)	US and Canada spermatophytes, zone C	C	0.7260	S ~ -0.492 log(D)	Micro	p	-	1977°	153
55	Terrestrial	Qian (2009)	US and Canada spermatophytes, zone D	C	0.5900	S ~ -0.406 log(D)	Micro	p	-	1977°	45
56	Terrestrial	Qian *et al*. (2009)	US and Canada mammals, zone A	D	0.8280	ln(S) ~ -0.681D	Macro	a	3800	288	50
57	Terrestrial	Qian *et al*. (2009)	US and Canada mammals, zone B	D	0.7960	ln(S) ~ -0.448D	Macro	a	4200	252	59
58	Terrestrial	Qian *et al*. (2009)	US and Canada mammals, zone C	D	0.6210	ln(S) ~ -0.224D	Macro	a	4500	162	58

59	Terrestrial	Qian *et al.* (2009)	US and Canada mammals, zone D	D	0.7550	ln(S) ~ 0.169D	Macro	a	6000	108	78
60	Terrestrial	Qian *et al.* (2009)	US and Canada mammals, zone E	D	0.4980	ln(S) ~ -0.165D	Macro	a	5700	81	68
61	Terrestrial	Baselga (2010)	N. European cerambycid beetles	C	0.4200	S ~ -5.7 x 10-5 D	Mini	a	2800	-	19
62	Terrestrial	Baselga (2010)	S. European cerambycid beetles	C	0.6600	S ~ -1.14 x 10-4 D	Mini	a	2800	-	15
63	Terrestrial	Keil *et al.* (2012)	European butterflies	C	-	S ~ -0.23D	Macro	a	4000	-	49[#]
64	Terrestrial	Keil *et al.* (2012)	European birds	C	-	S ~ -0.44D	Macro	a	4000	-	49[#]
65	Terrestrial	Keil *et al.* (2012)	European plants	C	-	S ~ -0.275D	Mini	a	4000	-	49[#]
66	Terrestrial	Keil *et al.* (2012)	European herptiles	C	-	S ~ -0.125D	Macro	a	4000	-	49[#]

[°]Average values were reported. [#]The coarsest scale tested in grids across Europe: finer grids comprised 198 and 819 cells but lead to the same conclusion for this purpose.

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