

Richard King, Ph.D.

Dept. of Biology, Clark University
Worcester, MA. USA 01610

rking@clarku.edu <http://goo.gl/HcsLjA>
508-254-7963

Education

Ph.D. Biology: Clark University, Worcester, MA.

Dissertation Title: 'The threespine stickleback adaptive radiation: salinity, plasticity, and the importance of ancestry.'

Professional Appointments

2000-2015: Ecologist and Project Manager, Lycott Environmental, Southbridge, MA.

-Designed and managed invasive species control programs for private, semi-public, and public clients (e.g., landowners, lake associations, town & state governments including MA DCR, Lake George Park Commission (NY), Adirondack Park Agency, NY DEC, etc.).

-Represented clients to numerous town and state regulatory boards on permitting and planning.

-Permitting, compliance, and year-end reporting and presentations to clients

-Constructed aquatic herbicide degradation/dilution models for downstream reaches of treated ponds for notification of intent, mapping impacted zones, and water-use restriction schedule.

-Water sampling for herbicide levels, TP/TN, pH, turbidity, & etc. (assays typically outsourced).

-Water sampling and algal species community assays.

-Conducted high-resolution bathymetry and vegetation mapping.

-SCUBA Dive Master with crew of ≤ 12 for 15+ years.

-Operated mechanical harvester, articulated front-end loader, backhoe, and boats up to 30' (~3000 hrs combined, logged primarily as boat captain & dive master).

1993-1998: Biologist, O'opu etc. LLC. Wailuku River Hydropower Project, Hilo, HI.

-EIS on endemic gobies and freshwater shrimp populations

Academic Appointments

2007, 2014-Current: Visiting Assistant Professor (Dept. of Biology, Clark University, Worcester, MA)

Courses taught: *Aquatic Invasion Biology*, *Biodiversity (non-majors)*, *Biology*, *Conservation Biology*, *Conservation Biogeography*, *Ecology*, *Evolution*, *Invasive Species-Monitoring & Management of Terrestrial Biomes (graduate student course)*, *Marine Biology*, *Topics in Marine Biology*, *Why Climate Change Matters (Geography Dept.)*, *Independent Study/Internships with numerous advanced students*.

2007-2010: Visiting Assistant Professor (Dept. of Ecology, Evolution, & Biology, University of

Connecticut, Storrs, CT) Courses taught: *Biology*, *Non-majors Biology*, *Current Topics in Biology (honors seminar)*, *Ecology*, *Field Methods in Ecology (graduate student course)*, *Writing Instructor for Evolution and Ecology courses*, *Independent Study/Internships with numerous advanced students*.

1998-2004: Teaching Assistant (Dept. of Biology, Clark University) Courses taught: *Biology*,

Developmental Biology, *Ecology*, *Ecological Systems*, *Evolution*.

Professional & Research Interests

Conservation Biology, Ecology, Endemic & Invasive Species, Ecosystem Impacts of Climate Change, Sustainable Fisheries, Habitat Restoration (aquatic & terrestrial), Marine Biology.

Certifications

NAUI diver since 1989 with cold-water experience in Alaska and New England marine waters, warm-water experience in Hawai'i, cave diving in Arkansas and hundreds of freshwater lakes in Alaska (fish work) and Northeastern US (invasive plant work). 1000+ dives (and counting).

Skills (short list)

- Ecological monitoring, biological surveys, mapping techniques, project management
- Grant & project proposal writing, budget planning & oversight, contracting with clients
- Surveying, identifying, and mapping invasive species (aquatic & terrestrial)
- Extensive experience working independently and leading crews in remote areas in British Columbia, Alaska, and Hawaii 18+ years.
- Recruiting, hiring, & crew management.
- Cultivate and oversight of paid summer internship program (Lycott) for academic credit/requirements (UConn & Clark U.)
- Tropical reforestation in Ecuador and temperate forest invasive species monitoring in New England.
- Familiarity with chemical control of invasive plants with ability to certify as applicator as needed.
- Oral and written communication to scientific and general audiences.
- MS Office products, Adobe products, and Google Earth Pro as well as creating, organizing, and maintaining large data sets. Working knowledge of Statistica and ArcGIS.

Co-Mentored Graduate Students

M.W. Anderson, M.S. 2015, Clark University

G.E. Hegeman, M.S. 2015, Clark University

N. Pagan, M.S. 2016 (anticipated), Clark University

Grants & Awards

NSF-Research Experience for Undergraduates, James A. Sealander Writing Award, Sigma Xi Grant-in-Aid-of-Research, American Museum of Natural History-Fund for Marine Research, Outstanding Teaching Assistant Award.

Peer-Reviewed Publications

16. **King, R.W.**, A.M. Ayugan, and Z. Lafrance-Armstrong. (in prep). Selection vs gene flow variation by watershed in threespine stickleback (*Gasterosteus aculeatus*).
15. **King, R.W.**, Z. Lafrance-Armstrong, and A.M. Ayugan. (in prep). Population genetic structure in oceanic threespine stickleback (*Gasterosteus aculeatus* L.) around Vancouver Island, Canada in relation to salinity. To be submitted to *Am. Nat.*
14. **King, R.W.**, and E.M. Miller. (in prep). Comparison of twenty-five years of physical control methods of Eurasian watermilfoil (*Myriophyllum spicatum*) in Lake George, NY. To be submitted to *Hydrobiologia*
13. **King, R.W.**, J.A. Baker, and S.A. Foster (in prep.) Evolution of life histories in oceanic threespine stickleback. To be submitted to *Evolution*
12. **King, R.W.**, & J.A. Baker, (in prep.) Life history variation in marine and anadromous threespine stickleback in Alaska. To be submitted to *Can. J. of Fish. & Aqua. Sci.*
11. **King, R.W.**, S.A. Foster, M.A. Wund and J.A. Baker. (in prep) Dual ancestral flexible stems in an adaptive radiation? To be submitted to *J. Evol. Bio.*
10. Baker, J.A. and **R.W. King**. (in prep.) The Native Ichthyofauna of Hawaii's Largest River, the Wailuku River, Hawaii Island, with comments on distributional limitations. To be submitted to *Pacific Science*.
9. Baker, J.A., K.R. O'Brien, D.C. Heins and **R.W. King**. (in prep) Multivariate patterns of life-history variation in Alaskan threespine stickleback.
8. Baker, J.A., D. Navon and **R.W. King**. (submitted) Life-history diversification in threespine stickleback from coastal southern British Columbia.
7. Baker, J.A., M.A. Wund, D.C. Heins, **R.W. King**, M.L. Reyes & S.A. Foster. 2015. Life history plasticity in female threespine stickleback. *Heredity*. 115: 322-334.
6. Baker, J.A., L.A. Ackein, D.C. Heins, **R.W. King** and S.A. Foster. 2013. The implications of pelvic reduction in threespine stickleback for long-term persistence of populations. In: A.P. Hendry and C.L. Peichel (eds.), *Stickleback Behaviour and Evolution: Contributions from the Seventh International Conference*. *Evol. Eco. Res.* 15:313-330.
5. Baker, J.A., D.C. Heins, **R.W. King** and S.A. Foster. 2011. Rapid shifts in multiple life history traits in

- a population of threespine stickleback. *J. of Evol Biol.* 23:863-870.
4. Baker, J.A., D.C. Heins, S.A. Foster and **R.W. King**. 2008 An overview of life-history variation in female threespine stickleback. *Behaviour.* 145, 579-602.
 3. Baker, J.A., S.A. Foster, D.C. Heins, M.A. Bell & **R.W. King**. 1998. Variation in female life history traits among Alaskan populations of the threespine stickleback, *Gasterosteus aculeatus* L. (Pisces: Gasterosteidae). *Biol. J. of Linn. Soc.*, 63: 141-159.
 2. Cameron, S.A., J.B. Whitfield, C.L. Huslander, W.A. Cresko, S.B. Isenberg, **R.W. King**. 1996. Nesting Biology and Foraging Patterns of the Solitary Bee *Melissodes rustica* (Hymenoptera: Apidae) in Northwest Arkansas. *Kan. J. of Ento.* 69,3
 1. Heins, D.C., J.A. Baker, **R.W. King**, K. Lahti. 1995. Evaluation of ovum fixation and storage in three-spined stickleback. *J. of Fish Biology* 47, 923-925.

Technical Research Papers (primary author only)

85. King, R.W. 2015. Loon Lake Eurasian watermilfoil management year-end report. Lycott Environmental Inc. Loon Lake Park District Association & Town of Chester, NY.
84. King, R.W. & R. E. Backer. 2015. Hadlock Pond Eurasian watermilfoil management program year-end report. Lycott Environmental Inc., Town of Fort Ann, NY.
83. King, R.W. 2015. Lily Pond pump house intake aquatic vegetation management program. Lycott Environmental Inc., Cohasset, MA.
82. King, R.W. 2015. Eurasian watermilfoil removal summary. Lycott Environmental Inc. Chestnut Hill Reservoir, Brighton, MA. MA Dept. of Conservation & Recreation.
81. King, R.W. 2014. Loon Lake Eurasian watermilfoil management year-end report. Lycott Environmental Inc. Loon Lake Park District Association & Town of Chester, NY.
80. King, R.W. 2014. Eurasian watermilfoil removal summary. Lycott Environmental Inc. Chestnut Hill Reservoir, Brighton, MA. MA Dept. of Conservation & Recreation.
79. King, R.W. 2014. Lake George Integrated Aquatic Plant Management Program. Lycott Environmental Inc. Year-end report to Lake George Park Commission.
78. King, R.W. 2014. Lily Pond pump house intake aquatic vegetation management program. Lycott Environmental Inc., Cohasset, MA.
77. King, R.W. 2014. Mapping and management of Eurasian watermilfoil in Fairlee Lake, VT. Lycott Environmental Inc. Fairlee Lake Association.
76. King, R.W. 2014. Summary of Loon Lake herbicide degradation model and results from treatment with Triclopyr by Lycott Environmental. Loon Lake Park District Association & Town of Chester, NY.
75. King, R.W. 2014. Eurasian watermilfoil removal summary. Lycott Environmental Inc. Chestnut Hill Reservoir, Brighton, MA. MA Dept. of Conservation & Recreation.
74. King, R.W., and B. Laginhas. 2014. Brae Burn Country Club aquatic vegetation management program report. Lycott Environmental Inc., Brae Burn Country Club, Newton, MA.
73. King, R.W., and B. Laginhas. 2014. Silver Lake aquatic plant management program. Lycott Environmental Inc., Town of Grafton, MA.
72. King, R. W. 2013. Aquatic vegetation survey and management of Aaron River Reservoir. Lycott Environmental Inc., Cohasset Water Dept. Cohasset-Hingham, MA.
71. King, R.W. 2013. Eurasian watermilfoil management in Cochituate Reservoir, Natick, MA. Lycott Environmental Inc. MA Dept. of Conservation & Recreation.
70. King, R.W. 2013. Eurasian watermilfoil removal summary. Lycott Environmental Inc. Chestnut Hill Reservoir, Brighton, MA. MA Dept. of Conservation & Recreation.
69. King, R.W. 2013. Lake George Integrated Aquatic Plant Management Program. Lycott Environmental Inc. Year-end report to Lake George Park Commission.
68. King, R.W. 2013. Lily Pond pump house intake aquatic vegetation management program. Lycott Environmental Inc., Cohasset, MA.
67. King, R.W. 2013. Loon Lake Eurasian Watermilfoil Management Plan. Lycott Environmental Inc. Loon Lake Park District Association & Town of Chester, NY.

66. King, R.W. 2013. Post treatment vegetation mapping of Fairlee Lake, VT. Lycott Environmental Inc. Fairlee Lake Association, Fairlee, VT.
65. King, R.W., and B. Laginhas. 2013. Brae Burn Country Club aquatic vegetation management program report. Lycott Environmental Inc., Brae Burn Country Club, Newton, MA.
64. King, R.W., and B. Laginhas. 2013. Silver Lake aquatic plant management program. Lycott Environmental Inc., Town of Grafton, MA.
63. King, R. W. 2012. Aquatic vegetation survey and management of Aaron River Reservoir. Lycott Environmental Inc., Cohasset Water Dept. Cohasset-Hingham, MA.
62. King, R.W. 2012. Eurasian watermilfoil management at boat launch, Cochituate Reservoir, Natick, MA. Lycott Environmental Inc. MA Dept. of Conservation & Recreation.
61. King, R.W. 2012. Eurasian watermilfoil management in Cochituate Reservoir, Natick, MA. Lycott Environmental Inc. MA Dept. of Conservation & Recreation.
60. King, R.W. 2012. Eurasian watermilfoil removal summary. Lycott Environmental Inc. Chestnut Hill Reservoir, Brighton, MA. MA Dept. of Conservation & Recreation.
59. King, R.W. 2012. High-resolution bathymetry mapping of Loon Lake, Chester, NY. Lycott Environmental Inc. Loon Lake Park District Association & Town of Chester, NY.
58. King, R.W. 2012. Lake George Integrated Aquatic Plant Management Program. Lycott Environmental Inc. Year-end report to Lake George Park Commission.
57. King, R.W. 2012. Large Eurasian watermilfoil beds of Fairlee Lake, VT. Lycott Environmental Inc. Fairlee Lake Association, Fairlee, VT.
56. King, R.W. 2012. Lily Pond pump house intake aquatic vegetation management program. Lycott Environmental Inc., Cohasset, MA.
55. King, R.W. 2012. Loon Lake Eurasian Watermilfoil Management Plan. Lycott Environmental Inc. Loon Lake Park District Association & Town of Chester, NY.
54. King, R.W. 2012. Loon Lake, Chester Creek, and Schroon River herbicide degradation and distribution model.
53. King, R.W. 2012. Silver Lake aquatic plant management program. Lycott Environmental Inc., Town of Grafton, MA.
52. King, R.W., and B. Laginhas. 2012. Brae Burn Country Club aquatic vegetation management program report. Lycott Environmental Inc., Brae Burn Country Club, Newton, MA.
51. King, R. W. 2011. Aquatic vegetation survey and management of Aaron River Reservoir. Lycott Environmental Inc., Cohasset Water Dept. Cohasset-Hingham, MA.
50. King, R.W. 2011. Brae Burn Country Club aquatic vegetation management program report. Lycott Environmental Inc., Brae Burn Country Club, Newton, MA.
49. King, R.W. 2011. Eurasian watermilfoil management in Cochituate Reservoir, Natick, MA. Lycott Environmental Inc. MA Dept. of Conservation & Recreation.
48. King, R.W. 2011. Loon Lake Eurasian Watermilfoil Management Plan. Lycott Environmental Inc. Loon Lake Park District Association & Town of Chester, NY.
47. King, R.W. 2011. North basin Cochituate Reservoir aquatic vegetation survey, Natick, MA. Lycott Environmental Inc. MA Dept. of Conservation & Recreation.
46. King, R.W. 2011. Silver Lake aquatic plant management program. Lycott Environmental Inc., Town of Grafton, MA.
45. King, R.W. and B. Laginhas. 2011. Lake George Integrated Aquatic Plant Management Program. Lycott Environmental Inc. Year-end report to Lake George Park Commission, Lake George, NY.
44. King, R. W. 2010. Aquatic vegetation survey and management of Aaron River Reservoir. Lycott Environmental Inc., Cohasset Water Dept. Cohasset-Hingham, MA.
43. King, R.W. 2010. Lake Boon plant replacement study report. Lycott Environmental Inc. Lake Boon Association.
42. King, R.W. 2010. Lake George Integrated Aquatic Plant Management Program. Lycott Environmental Inc. Year-end report to Lake George Park Commission. Lake George, NY.

41. King, R.W. 2010. Lake Luzerne aquatic plant management year-end report. Wailuku Environmental. Town of Luzerne, NY.
40. King, R.W. 2010. Loon Lake Eurasian Watermilfoil Management Plan. Lycott Environmental Inc. Loon Lake Park District Association & Town of Chester, NY.
39. King, R.W. 2010. Silver Lake aquatic plant management program. Lycott Environmental Inc., Town of Grafton, MA.
38. King, R.W. 2010. Massapaog Lake aquatic vegetation survey, Sharon MA. Lycott Environmental Inc. Town of Sharon, MA.
37. King, R. W. 2009. Aquatic vegetation survey and management of Aaron River Reservoir. Lycott Environmental Inc., Cohasset Water Dept. Cohasset-Hingham, MA..
36. King, R.W. 2009. Fish Cove aquatic vegetation mapping of Lake Winnepesaukee, Meredith, NH. Lycott Environmental Inc. Town of Meredith, NH.
35. King, R.W. 2009. Lake Boon aquatic vegetation survey. Lycott Environmental Inc. Lake Boon Association.
34. King, R.W. 2009. Lake George Integrated Aquatic Plant Management Program. Lycott Environmental Inc. Year-end report to Lake George Park Commission. Lake George, NY.
33. King, R.W. 2009. Lake Luzerne aquatic plant management year-end report. Wailuku Environmental. Town of Luzerne, NY.
32. King, R.W. 2009. Silver Lake aquatic plant management program. Lycott Environmental Inc., Town of Grafton, MA.
31. King, R.W. 2009. 2008-2009 benthic barrier experimental management of fanwort, *Cabomba caroliniana*, in Belmont Lake. Lycott Environmental Inc. Belmont Lake State Park, West Babylon, NY. New York State Parks.
30. King, R.W. 2008. Indian Lake Pond aquatic vegetation and algae survey. Lycott Environmental Inc. Indian Lake Watershed Association. Worcester, MA.
29. King, R.W. 2008. Lake George Integrated Aquatic Plant Management Program. Lycott Environmental Inc. Year-end report to Lake George Park Commission. Lake George, NY.
28. King, R.W. 2008. Lake Luzerne aquatic plant management year-end report. Wailuku Environmental. Town of Luzerne, NY.
27. King, R.W. 2008. Wachusett Reservoir aquatic vegetation survey and monitoring program. Lycott Environmental Inc. MA Dept. of Conservation and Recreation.
26. King, R.W. 2008. Quacumquasit Pond aquatic vegetation survey and mapping. Lycott Environmental Inc. MA. Dept. of Conservation and Recreation.
25. King, R.W. & J.M. Jaramillo. 2008. Total Maximum Daily Loading (TMDL) of phosphorus in Leesville Pond, Lycott Environmental Inc. Auburn-Worcester, MA.
24. King, R. W. 2007. Lake Chaubungagungamaug Eurasian Watermilfoil Survey. Lycott Environmental Inc. 'Lake Webster', Webster, MA.
23. King, R.W. 2007. Lake George Integrated Aquatic Plant Management Program. Lycott Environmental Inc. Year-end report to Lake George Park Commission. Lake George, NY.
22. King, R.W. 2007. Lake Luzerne aquatic plant survey and mapping. Wailuku Environmental. Town of Luzerne, NY.
21. King, R.W. 2007. Yokum Pond biological survey and beaver dam inspection. Lycott Environmental Inc. Town of Becket, MA.
20. King, R.W. 2007. Vegetation distribution survey and mapping for Leesville Pond, Auburn-Worcester, MA. Lycott Environmental Inc.
19. King, R.W. 2006. Lake George Integrated Aquatic Plant Management Program. Lycott Environmental Inc. Year-end report to Lake George Park Commission. Lake George, NY.
18. King, R.W. 2006. Wequaquet Lake fanwort (*Cabomba caroliniana*) survey in Bearnse Cove (aka Bearnse Pond). Lycott Environmental Inc. MA Dept. of Conservation and Recreation.
17. King, R.W. 2006. Wequaquet Lake fanwort (*Cabomba caroliniana*) experimental management with benthic barrier in Bearnse Cove (aka Bearnse Pond). Lycott Environmental Inc. MA Dept. of Conservation and Recreation.
16. King, R.W. 2005. Lake George Integrated Aquatic Plant Management Program. Lycott Environmental Inc. Year-end report to Lake George Park Commission. Lake George, NY.

15. King, R.W. 2005. Wequaquet Lake fanwort (*Cabomba caroliniana*) survey in Bearse Cove (aka Bearse Pond). Lycott Environmental Inc. MA Dept. of Conservation and Recreation.
14. King, R.W. 2005. Haggert's Pond biological survey. Lycott Environmental Inc.
13. King, R.W. 2004. Lake George Integrated Aquatic Plant Management Program. Lycott Environmental Inc. Year-end report to Lake George Park Commission. Lake George, NY.
12. King, R.W. 2004. Alum Pond aquatic vegetation and bank erosion survey. Lycott Environmental Inc. MA Dept. of Conservation and Recreation.
11. King, R.W. 2003. Beaver dam mitigation project at Richmond Pond outlet. Lycott Environmental Inc. Town of Pittsfield, MA.
10. King, R.W. 2003. Beebe Pond post-treatment aquatic vegetation survey. Lycott Environmental Inc., Beebe Pond Property Owners Association. Hubbardton, VT.
9. King, R.W. 2003. Echo lake bathymetry mapping. Lycott Environmental Inc. Beebe Pond Property Owners Association, Hubbardton, VT.
8. King, R.W. 2003. Flint Pond aquatic vegetation survey and mapping. Lycott Environmental Inc. Town of Grafton, MA.
7. King, R.W. 2003. Lake George Integrated Aquatic Plant Management Program. Lycott Environmental. Year-end report to Lake George Park Commission. Lake George, NY.
6. King, R.W. 2003. Richmond Pond aquatic vegetation survey and management. Lycott Environmental Inc. Town of Pittsfield, MA.
5. King, R.W. 2002. Beebe Pond pre-treatment aquatic vegetation survey. Lycott Environmental Inc., Beebe Pond Property Owners Association. Hubbardton, VT.
4. King, R.W. 2002. Lake George Integrated Aquatic Plant Management Program. Lycott Environmental Inc. Year-end report to Lake George Park Commission. Lake George, NY.
3. King, R.W. 2002. Richmond Pond aquatic vegetation survey. Lycott Environmental Inc. Town of Pittsfield, MA.
2. King, R.W. 2001. Beaver Brook floating vegetation management, Wethersfield, CT. Lycott Environmental Inc. Town of Wethersfield, CT.
1. King, R.W. 2001. Water chestnut harvesting operations report. Lycott Environmental Inc., Hardy Pond, Waltham, MA. MA Dept. of Conservation & Recreation.