

The Mathematics Behind Biological Invasions

Reference list

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We will try to make copies of the other articles for the Minicourse library.

References

Background on invasion models

- [1] Hastings, A. Models of spatial spread: is the theory complete? *Ecology* **77**, 1675–1680 (1996). (Have PDF)
- [2] Shigesada, N. and Kawasaki, K. *Biological Invasions: Theory and Practice*. Oxford University Press, New York, (1997).

Background on invasions

- [3] Elton, C. S. *The Ecology of Invasions by Animals and Plants*. University of Chicago Press, Chicago, (1958).
- [4] Sakai, A. K. and Others, M. The population biology invasive species. *Ann. Rev. Ecol. and Syst.* **32**, 305–332 (2001). (Have PDF)
- [5] Williamson, M. *Biological Invasions*. Chapman & Hall, New York, (1996).

Mathematical background

- [6] Kaplan, D. and Glass, L. *Understanding nonlinear dynamics*. Springer-Verlag, New York, (1995).
- [7] Braun, M. *Differential equations and their applications*. Springer-Verlag, New York, (1993).
- [8] Edelstein-Keshet, L. *Mathematical models in biology*. Random House, New York, (1988).

Background for problems and projects

- [9] D.A. Andow, P.M. Kareiva, S.A. Levin, and A. Okubo. Spread of invading organisms. *Landscape Ecology*, 4:177–188, 1990.
- [10] J. M. Bossenbroek, C. E. Kraft, and J. C. Nekola. Prediction of long-distance dispersal using gravity models: Zebra mussel invasion of inland lakes. *Ecological Applications*, 11:1778–1788, 2001.
- [11] M. A. Davis, J. P. Grime, and K. Thompson. Fluctuating resources in plant communities: a general theory of invasibility. *Journal of Ecology*, 88:528–536, 2000. (Have PDF)
- [12] M. A. Davis and M. Pelsor. Experimental support for a resource-based mechanistic model of invasibility. *Ecology Letters*, 4:421–428, 2001. (Have PDF)
- [13] M. Kot, M. A. Lewis, and P. van den Driessche. Dispersal data and the spread of invading organisms. *Ecology*, 77:2027–2042, 1996. (Have PDF)

- [14] M. A. Lewis and P. Kareiva. Allee dynamics and the spread of invading organisms. *Theoretical Population Biology*, 43:141–158, 1993.
- [15] M. A. Lewis, Li B., and Weinberger H.F. Spreading speed and linear determinacy for two-species competition models. *Journal of Mathematical Biology*, 45:219–233, 2002. (Have PDF)
- [16] J. Lubina and S.A. Levin. The spread of a reinvading organism: range expansion of the california sea otter. *American Naturalist*, 131:526–543, 1988. (Have PDF)
- [17] I. Milewski. Impacts of salmon aquaculture on the coastal environment: a review. In M.F. Tlusty, D.A. Bengston, H.O. Halvorson, S.D. Oktay, J.B. Pearce, and R.B. Rheault Jr., editors, *Marine aquaculture and the environment: a meeting for stakeholders in the Northeast*, pages 165–197. Cape Cod Press, 2001.
- [18] M. G. Neubert, M. Kot, and M. A. Lewis. Invasion speeds in fluctuating environments. *Proc. Roy. Soc. of London B*, 267:1603–1610, 2000.
- [19] R. A. J. Taylor. The relationship between density and disturbance of dispersing insects. *Ecological Entomology*, 3:63–70, 1978.
- [20] Veit, R. and Lewis, M. Dispersal, population growth, and the allee effect: dynamics of the house finch invasion of eastern north america. *American Naturalist* **148**, 255–274 (1996). (Have PDF)

Interesting recent papers

- [21] A. N. Cohen and J. T. Carlton. Accelerating invasion rate in a highly invaded estuary. *Science*, 279:555–558, 1998. (Have PDF)
- [22] C. J. Costello and A. R. Solow. On the pattern of discovery of introduced species. *Proc. Nat. Acad. Sci.*, 100:3321–3323, 2003. (Have PDF)
- [23] N. C. Ellstrand and K. A. Schierenbeck. Hybridization as a stimulus for the evolution of invasiveness in plants? *Proc. Nat. Acad. Sci.*, 97:7043–7050, 2000. (Have PDF)
- [24] G. Garcia-Ramos and D. Rodriguez. Evolutionary speed of species invasions. *Evolution*, 56:661–668, 2002. (Have PDF)
- [25] D. R. Gordon. Effects of invasive, non-indigenous plant species on ecosystem processes: Lessons from florida. *Ecological Applications*, 8:975–989, 1998. (Have PDF)
- [26] S. A. Gourley and Y. Kuang. Wavefronts and global stability in a time-delayed population model with stage structure. *Proceedings of the Rooyal Society of London A*, 2003. (Have PDF)
- [27] R. N. Mack and M. Others. Biotic invasions: Causes, epidemiology, global consequences, and control. *Ecological Applications*, 10:689–710, 2000. (Have PDF)