List of Tables

- **Tab. 1.1:** A framework for vector science and its quantification. —— 25
- **Tab. 3.1:** Species of freshwater invasive plants recorded in the USGS NAS database that comprise 80% of the database records. —— 64
- **Tab. 3.2:** Categories of dispersal of freshwater aquatic plants in the USGS NAS database. —— **65**
- **Tab. 4.1:** Mechanisms, pathways and activities associated with terrestrial arthropod invasions following the invasion classification of Hulme *et al.* (2008). —— **76**
- **Tab. 7.1:** The 61 study systems (40 unique species) included in this review of genetic and parasite diversity data in marine invertebrate species from native and non-native regions worldwide. —— 144
- Tab. 8.1: Genotypes of Aphanomyces astaci. —— 196
- Tab. 10.1: Summary of occurrence data and environmental parameters (including their range) used for modelling, as well as statistical output of 12 spatio-temporal projections for *Crassostrea gigas*; n = number of environmental unique points, MD = mean depth, DL = distance to land, SIC = sea ice cover, SSS = sea surface salinity, SST = sea surface temperature. Asterisks indicate environmental factors used for modelling. —— 238
- Tab. 11.1: Impact (positive or negative) of the alien seaweeds *Codium fragile*, *Gracilaria vermiculophylla* and *Undaria pinnatifida* on biodiversity, structure and function of ecosystems or economic. O = observed; E = experimental; S = supposed. —— 255
- Tab. 14.1: Invasive Pinaceae species registered as naturalized and/or invasive in different biomes of South America (modified from Simberloff *et al.*, 2010 based on current literature and records). "?" indicates there is no sufficient information to assess the invasive status. —— 320
- Tab. 15.1: Number of overseas arrivals by the nine ship types to the continental US and the percentage of those arrivals reporting discharge as reported to the NBIC for 2011–2013 (NBIC, 2014). 346
- Tab. 15.2: Descriptions of the various ship types. 346
- Tab. 17.1: Comparison of the different spatio-temporal methodologies to model species invasions. —— 403
- **Tab. 18.1:** Overview of popular molecular approaches and tools with their most relevant applications (*, **, *** stand for low to high relevancy) in the study of biological invasions. —— **414**
- **Tab. 19.1:** Some proposed rules for biotic invasions into freshwater and estuarine systems during two major stages of invasion, initial establishment and long-term integration into the existing fish community (from Moyle & Light, 1996a). —— 437
- Tab. 19.2: Association of non-native species richness of watersheds with various measures of human activity and disturbance, as well as features of the natural environment, including native richness. + indicates a positive relationship, a negative relationship, ns a non-significant relationship, and blank cells indicate the variable was not tested in that study. NPP = Net Primary Productivity, precip = precipitation. —— 439
- **Tab. 19.3:** Top ten fish species caught in otter trawls in monthly samples in Suisun Marsh in the first ten years of study (1980-89) and ten-year period, 2004–2013. In 2004–2013, longfin smelt dropped from the top 10, reflecting an estuary-wide drop in abundance, while white catfish and black crappie became more abundant because a series of wetter years reduced overall salinities in the marsh. Species with asterisk (*) are non-native species. For scientific names see Matern *et al.* (2002). Moyle, unpublished data. —— **447**
- **Tab. 19.4:** Number of sites (of 200 sampled streams) occupied by the most widespread non-native fishes and widespread native fishes showing the greatest declines in distribution in three drainage basins in Pennsylvania, USA (Argent, 2000; Argent & Carline, 2004). Many fish that are native in the Ohio River drainage, which is part of the Mississippi basin, are non-native in

the Atlantic-coastal Susquehanna and Delaware River drainages. No native, non-stocked fishes increased their distributions by more than 26%. Basins: Del = Delaware, Sus = Susquehanna. Trophic and tolerance designations are for the Northeastern U.S., following Barbour *et al.* (1999): P = piscivore, G = generalist, H = herbivore, I = insectivore; tolerance (to sedimentation and other water quality reductions): I = intolerant, M = moderately tolerant, T = tolerant. For scientific names see Barbour *et al.* (1999). Time 1 = 1950-74, Time 2 = 1975-95. —— **450**

Tab. 19.5: Fit to 'rules' (Moyle & Light, 1996a) for integration for fish assemblages in the case studies discussed above. "Yes" indicates a good fit. "No" indicates a poor fit. —— **451**