

preface

The rise of the zebrafish as an experimental animal has been a truly dramatic one. In the relatively brief span of only a few decades, it has gone from being mainly a hobby fish to a mainstream model animal employed by scientists to study everything from stem cells to the basis of behavioral changes induced by drug addiction. This rapid advance has been fueled largely by numerous and impressive advances in technology, along with detailed characterization of the animal on a genetic and molecular level. These developments have allowed scientists to leverage the many advantages of the zebrafish system to address many important questions in biology and human genetics and disease.

Given all of this, it may come as a surprise to many individuals that there are few accepted and established standards for husbandry, management, and care for the fish in laboratory settings. Practices are variable and rudimentary across the community, and while a number of references concerning the management, care, and husbandry of zebrafish do exist, they are disparate in nature, and are not comprehensive in terms of subject content. This information gap represents a major challenge for the growing number of people charged with the care, regulatory oversight, biological model standardization, and health management of zebrafish in research facilities across the globe.

To this end, the goal of this handbook is to provide managers, veterinarians, investigators, technicians, and regulatory personnel with a concise but comprehensive reference on zebrafish biology, care, husbandry, and management. The aim of the book is not to set standards, but rather to arm those working with the fish with scientifically grounded principles and fundamental information that can be used to design sound fish care programs.

This handbook is organized into seven chapters: "Biology" (Chapter 1), "Husbandry" (Chapter 2), "Life Support" (Chapter 3), "Management" (Chapter 4), "Veterinary Care" (Chapter 5), "Experimental Methodology" (Chapter 6), and "Resources" (Chapter 7). The final chapter, "Resources," provides the zebrafish user with lists of sources of additional information on the zebrafish model, as well as key references, professional organizations, and suppliers of equipment and supplies used in zebrafish husbandry and care. These lists are not exhaustive, and do not imply endorsement of referenced vendors or organizations; rather, they are simply good starting points for those working with the fish, especially those who are new to the model.