

# World Aquaculture Society

## Financial Report

For the year ended March 31, 2003, The World Aquaculture Society experienced a decrease in net assets (total assets minus total liabilities) from the previous year. However, the financial situation over the past several fiscal years reflects well upon the overall health of the society in a stable membership, very successful conferences and production and distribution of high quality publications including substantial increases in sales of books on the on-line book store.

The outstanding accounting services

by the WAS Home Office provide a solid fiscal foundation for our society. Our financial statements were audited by the independent accounting firm of T. A. Harris, Inc. in Baton Rouge, Louisiana. These cash basis statements reflect account balances based on cash receipts and disbursements, and are considered "modified" cash basis statements due to the recording of cash disbursed for equipment as assets and the provision for depreciation on the equipment over their estimated useful lives. WAS undertakes a number

of ongoing and future joint efforts in the organisation of our annual conference with other associations. While the responsibility for conference-related assets and liabilities is shared among the partners, the revenues and expenses are mostly handled by WAS and the statements reflect the overall assets and liabilities related to our conferences, rather than just the proportional assets and liabilities for WAS. A comparative summary from the audited financial statements of the past four fiscal years is shown below.

### Summarized Statement (Modified Cash Basis) Assets, liabilities and net assets for fiscal years ending of March 31

Fiscal Year	2003	2002	2001	2000
Cash and investments	\$423,738	\$666,472	\$412,384	\$454,538
Net fixed assets after depreciation	\$7,671	\$8,684	\$6,709	\$8,131
Total assets	\$431,409	\$675,156	\$419,093	\$462,669
Liabilities	(\$58,089)	(\$222,760)	(\$12,831)	(\$21,930)
Net assets	\$373,320	\$452,396	\$406,262	\$440,739

### Revenues collected, expenses paid and changes in net revenues for fiscal years ending March 31

Fiscal Year	2003	2002	2001	2000
Revenue collected	\$527,907	\$636,982	\$594,327	\$684,670
Expenses paid	(\$606,983)	(\$590,848)	(\$628,804)	(\$593,309)
Change in net revenues	(\$79,076)	\$46,134	(\$34,477)	\$91,361

### Components of revenues and expenses for fiscal years ending March 31

Fiscal Year	2003	2002	2001	2000
<b>Revenues</b>				
Dues and home office	24%	22%	23%	22%
Conferences	43%	48%	47%	51%
Publications	26%	22%	23%	20%
Other	7%	8%	7%	7%
Total	100%	100%	100%	100%
<b>Expenses (as a percent of total revenues)</b>				
Dues and home office	31%	24%	25%	23%
Conferences	30%	24%	34%	33%
Publications	35%	37%	29%	24%
Other	17%	7%	18%	7%
Total	115%	93%	106%	87%
Excess	(15%)	7%	(6%)	13%

The WAS financial report includes data from the past four years. Due to the nature of the timing of our Society's con-

ferences and meetings, cash basis revenues and expenses for any one period may vary significantly from other single

periods. For example, our 2003 annual conference (WAS'03 in Salvador, Brazil)

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# Book Reviews

Støttrup, J. G., and L. A. McEvoy (editors). 2003. **Live Feeds in Marine Aquaculture**. Blackwell Publishing, Oxford, United Kingdom (also available through Iowa State University Press, Ames, Iowa USA). 318 p. US\$134.99.

A comprehensive publication on the culture and use of live feeds in marine aquaculture is quite timely. The marine aquaculture industry is faced with the challenge of feeding extremely small, barely motile individuals of many species thought to have a significant role to play as the industry develops. In many cases, success has only been obtained through the use of live food organisms. Where culturists once depended primarily on brine shrimp nauplii and rotifers as first foods, many marine species are too small to accept even those types of zooplankton, so the search for new food items continues. *Live Feeds in Marine Aquaculture* not only provides an excellent summary of the use of traditional live food organisms, it also presents a considerable amount of information on organisms that have more recently come into prominence.

The book begins with an overview of how live foods have been employed by marine culturists by David Bengtson. He provides a historical overview followed by a look at the current situation and his view of the future. He sees major research efforts as being in three broad categories: 1) improving the production reliability of existing live foods, 2) developing culture methods for new species and 3) maximizing the survival potential for cultured animals used in stock enhancement.

Bengtson considers the most pressing issue facing marine aquaculture is developing the activity in a sustainable manner. The discussion focuses on the roller coaster ride that has occurred with respect to the availability of brine shrimp cysts in recent years, then appears to turn away from live foods and gets into use of fish meal in aquaculture feeds. Bengtson mentions that if lack of fish meal in the future inhibits the growth of the industry with respect to species that require fish meal

in their diets, species that can thrive on other protein sources will need to be cultured, and that may mean development of new types of live food.

The remainder of Chapter 1 provides a summary of the status of using live feeds in the culture of larvae in various parts of the world. Following that discussion is a word on why live food continues to be required for the rearing of various species and mentions the problems that are often associated with alternatives to live foods.

Esther Lubzens and Odi Zmora tackle the production and nutritional value of rotifers in Chapter 2. They discuss the general biology of rotifers, the taxonomy of the genus *Brachionus*, morphology and physiology, reproduction, culture methodology, and preservation among other topics. One interesting section of the chapter focuses on things to monitor in rotifer cultures as a means of predicting when cultures begin to decline. Having advanced warning is critical because the species being fed cannot tolerate having its food supply cut off. The six things the authors recommend for monitoring in rotifer cultures are egg production, swimming velocity, ingestion rate of food by the rotifers, viscosity of the culture medium, enzyme activity and the presence of diseases.

Chapter 3 follows the same pattern in terms of subject areas with respect to brine shrimp as was the case with rotifers in Chapter 2. Jean Dhont and Gilbert Van Stappen are the authors and they are able to condense the incredible amount of knowledge that has been gained on brine shrimp biology and culture into under 45 pages. The life cycle of brine shrimp is more complicated than that of rotifers, since the former produce a diapause (cyst) stage. That complication serves as a major advantage, of course, since dried cysts can be stored in vacuum packed cans for extended periods and hatched as needed.

Whereas Chapter 3 focuses on production of brine shrimp in the hatchery, Chapter 4 by Gilbert Van Stappen describes production, harvesting and processing of *Artemia* from natural water bodies. In-

cluded are sections that describe site selection and adaptation of ponds for brine shrimp production, preparation of the ponds for culture through predator control and fertilization, inoculation of brine shrimp and managing the pond system. Once harvested, the cysts need to be processed, dried, packaged and properly stored. Each of those topics is covered.

Josianne Støttrup discusses the production and nutritional value of copepods in Chapter 5. First described are the characteristics of three types of copepod: calanoid, cyclopoid and harpacticoid. That is followed by sections on morphology, reproduction, diapause egg production, life cycle, feeding and production methods (both extensive and intensive). In many cases the details vary significantly depending on the type of copepod being produced. As was true in Chapters

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was held after the end of the fiscal year (March 31, 2003). Hence, no meeting proceeds we reported in the 2002-2003 fiscal year, which resulted in a net decrease in assets. But the 2003-2004 fiscal year will encompass revenues from two annual conferences (WAS'03 and Aqua'04 in Hawaii in March 2004). To facilitate fiscal stability and long term planning, the WAS Board of Directors considers at least a three-year planning horizon. The current net assets of \$373,320 provides an important buffer that allows for the continued emphasis on internationalization of the society in terms of meeting venues, support for chapter development and promotion of novel opportunities for information and knowledge exchange. In summary, WAS maintains a stable financial position with continued long-term positive monetary results of our activities to date.

Respectfully submitted to the WAS membership,

—G. Jay Parsons,  
WAS Treasurer