

**INLAND FISHERIES DIVISION *PRYMNESIUM PARVUM*  
TASK FORCE**

**2001-2003 Members**

Aaron Barkoh (Chair), *Heart of the Hills Fisheries Science Center*  
Tom Dorzab, *Dundee State Fish Hatchery*  
Loraine T. Fries, *Fish Health and Genetics Lab., A. E. Wood Fish Hatchery*  
Jake Isaac, *Possum Kingdom State Fish Hatchery*  
Gerald Kurten, *A. E. Wood Fish Hatchery*  
John Paret, *Possum Kingdom State Fish Hatchery*  
Dennis G. Smith, *Dundee State Fish Hatchery*  
Gregory M. Southard, *Fish Health and Genetics Lab., A. E. Wood Fish Hatchery*  
Jason Vajnar, *Dundee State Fish Hatchery*  
H. Joe Warren, *Dundee State Fish Hatchery*

**2004-2005 Members**

Aaron Barkoh (Chair), *Heart of the Hills Fisheries Science Center*  
Drew Begley, *Dundee State Fish Hatchery*  
Loraine T. Fries, *Fish Health and Genetics Lab., A. E. Wood Fish Hatchery*  
Pamela Hamlett, *Environmental Chemistry Lab*  
David Klein, *Environmental Chemistry Lab*  
Gerald Kurten, *Texas Freshwater Fisheries Center*  
Dale Lyon, *Possum Kingdom State Fish Hatchery*  
John Paret, *Possum Kingdom State Fish Hatchery*  
Dennis G. Smith, *Dundee State Fish Hatchery*  
Gregory M. Southard, *Fish Health and Genetics Lab., A. E. Wood Fish Hatchery*  
Thomas A. Wyatt, *Dundee State Fish Hatchery*

## CONTRIBUTING AUTHORS

**Aaron Barkoh**

Heart of the Hills Fisheries Science Center  
5103 Junction Hwy  
Ingram, TX 78025

**Tom Dorzab**

Dundee State Fish Hatchery  
Route 1, Box 123A  
Electra, TX 76360

**Lorraine T. Fries**

A. E. Wood Fish Hatchery  
507 Staples Road  
San Marcos, TX 78666

**Steven Hamby**

A. E. Wood Fish Hatchery  
507 Staples Road  
San Marcos, TX 78666

**Jake Isaac**

A. E. Wood Fish Hatchery  
507 Staples Road  
San Marcos, TX 78666

**David Klein**

Inland Fisheries ECL  
506 Staples Road  
San Marcos, TX 78666

**Gerald Kurten**

Texas Freshwater Fisheries Center  
5550 Flat Creek Rd  
Athens, TX 75751

**Dale Lyon**

Possum Kingdom State Fish Hatchery  
600 S Highway 16  
Graford, TX 76449

**John Paret**

Possum Kingdom State Fish Hatchery  
600 S Highway 16  
Graford, TX 76449

**Dennis G. Smith**

Dundee State Fish Hatchery  
Route 1, Box 123A  
Electra, TX 76360

**Gregory M. Southard**

A. E. Wood Fish Hatchery  
507 Staples Road  
San Marcos, TX 78666

## PREFACE

Although golden alga *Prymnesium parvum* appears to have been in Texas for more than 20 years, it only became a public issue in 2001 when it caused massive fish kills at Dundee State Fish Hatchery and in major economically important reservoirs in north and central Texas. Following the devastating effects of *P. parvum* on fish at the Dundee State Fish Hatchery, a group of Inland Hatcheries biologists formed the *P. parvum* Task Force to develop strategies to control the alga and maintain the viability of the fish hatcheries – Dundee and Possum Kingdom State Fish Hatcheries – located in the affected region.

After months of synthesizing available information, group discussions and conducting various research studies, the task force developed strategies for controlling the alga to allow successful culture of fish at the affected hatcheries. This document contains some of the written reports prepared by members of the task force on research findings, review summaries and management plans; a few reports published in mainstream journals are not included here. The purpose of this document is to consolidate the reports for easy access and to share what strategies work at Texas hatcheries and how to implement them. Because of design shortfall (e.g., small sample sizes or inadequate replications) associated with some of the research studies, we caution readers to consider some of the results as preliminary. Efforts continue to revisit some of these studies, as resources become available, to confirm findings as well as to conduct new research to find more effective and efficient ways of dealing with the alga. As new strategies are developed, the management plans in this document will be updated. We invite interested persons to call the Dundee or Possum Kingdom State Fish Hatchery from time to time for any future updates.

Aaron Barkoh  
Loraine T. Fries

## ACKNOWLEDGMENTS

This document is the culmination of cooperation, assistance and efforts provided by several individuals willing to serve in whatever capacity possible to contribute to finding a solution to the *Prymnesium parvum* problem in Texas. We thank Gary Saul and Dick Luebke for approving the formation of the Inland Hatcheries *P. parvum* Task Force, members of the task force for their dedication to duty, Roger McCabe and Joan Glass for participating in some of the task force meetings, and Annette Sudyka for help with literature search.

We appreciate the zeal and commitment of the contributing authors for making publication of this document possible as well as all those who helped them with their research efforts particularly the Inland Fisheries staffs at Dundee State Fish Hatchery, Possum Kingdom Fish Hatchery, Fish Health and Genetic Lab, and Management District 1C. These individuals spent long hours collecting data or water for research, or provided analytical assistance.

Jerry Brand and Alexandra Holland of the University of Texas – UTEX Culture Collection of Algae in Austin, Texas donated a pure *P. parvum* culture for research, and Isaac Bejerano and Elizabeth Maor of the Central Fish Health Laboratory in Israel offered expertise and protocols for monitoring *P. parvum* ichthyotoxin and treating toxic blooms in fish culture ponds. We are indebted to them for their generosity and professionalism.

Funding for the studies published in this document was provided in part by Federal Aid in Sport Fish Restoration, Grants FFD95-PARVM and FFD96-PARVM to the Texas Parks and Wildlife Department.