THE WEED WORKERS' HANDBOOK

A Guide to Techniques for Removing Bay Area Invasive Plants

*

The Watershed Project California Invasive Plant Council

Authors

Pete Holloran (chapters 1-5) Anouk Mackenzie (chapter 6 and resources) Sharon Farrell Doug Johnson

Editing and Proofreading

Cynthia Harrington Anne Hayes

Design and Production

Melanie Haage

Illustrations

Ryan Jones

© 2004 by The Watershed Project and California Invasive Plant Council All rights reserved. First edition published May 2004.



1327 South 46th Street, Building 155 Richmond, CA 94804 www.thewatershedproject.org (510) 231-5655



California Invasive Plant Council 1442-A Walnut Street #462 Berkeley, CA 94709 www.cal-ipc.org (510) 843-3902 "It's an amazing feeling of accomplishment when I visit some of our old sites. What had been a monoculture of an invasive species is being transformed by native plants taking the site back over, making it look like we had never been there." *Ken Moore, Wildlands Restoration Team, Santa Cruz*

de de de

"When environmental restoration is most successful, it also improves our hearts, and cultivates an enduring relationship with Nature. . . . Done properly, environmental restoration restores far more than just the land." *Richard Nilsen, from* Helping Nature Heal

with I theory, from Thorping I tacare i

0,0 0,0 0,0

"While we bemoan the lack of funding for our restoration work, it has an undeniable positive side: it forces us to rely on volunteers. How many of us have made exciting discoveries, gained insights into the world and into ourselves—learned things we didn't even know existed until they came into our consciousness? We who work in the difficult environment of fragmented, highly impacted natural systems in urban areas develop insights which may prove invaluable as the human societal and environmental crisis deepens. The knowledge gained from our experience may become in demand as awareness of the connection between human welfare and the natural world increases. Such knowledge cannot be found in our traditional repositories and disciplines. And, most surprising of all, we discover that when we understand how the world works we come to understand ourselves."

Jake Sigg, California Native Plant Society, Yerba Buena Chapter

CONTENTS 🚓

Preface	vii
CHAPTER 1 Background: Putting Weed Work in Context	1
CHAPTER 2 Strategy: Planning for Effectiveness	7
CHAPTER 3 Communication: Talking about Wildland Weeds	13
CHAPTER 4 Coordination: Organizing Volunteer Weed Projects	19
CHAPTER 5 Tools and Techniques: Manually Controlling Wildland Weeds Integrated Pest Management Key Control Techniques Tool Safety, Care, and Selection Weed Workers' Tools Explained Weed Workers' Tools Illustrated	29 30 34 44 46 50
CHAPTER 6: The Plants: How to Remove Bay Area Weeds	53
Vines	
Cape ivy (Delairea odorata)	56
Ivy species (<i>Hedera helix</i> and <i>H. canariensis</i>)	58
Himalayan blackberry (<i>Rubus discolor</i>)	60
Periwinkle <i>(Vinca major)</i> Shrubs	62
Broom species (<i>Genista monspessulana</i> , <i>Cytisus scoparius</i> , and <i>Spartium junceum</i>)	64
Cotoneaster species (<i>Cotoneaster franchetii</i> , <i>C. pannosa</i> , and <i>C. lactea</i>)	
Sticky eupatorium (<i>Ageratina adenophora</i>)	70
Perennials and Biennials	70
Artichoke thistle (Cynara cardunculus)	72
Bull thistle (<i>Cirsium vulgare</i>)	74
Fennel (<i>Foeniculum vulgare</i>)	76
Perennial pepperweed (<i>Lepidium latifolium</i>)	78
Poison hemlock (<i>Conium maculatum</i>)	80
Annuals	
Italian thistle (Carduus pycnocephalus)	82
Mustard species (Brassica nigra and B. rapa)	84
Wild radish species (Raphanus sativus and R. raphanistrum)	85
Yellow starthistle (Centaurea solstitialis)	87

Perennial Grasses	
Ehrharta (Ehrharta erecta)	90
Giant reed (Arundo donax)	92
Harding grass (Phalaris aquatica)	94
Pampas grass and Jubata grass (Cortaderia selloana and C. jubata)	96
Perennial ryegrass (Lolium perenne)	99
Purple velvet grass (Holcus lanatus)	100
Annual Grasses	
Annual ryegrass (Lolium multiflorum)	102
Ripgut brome (Bromus diandrus)	104
Trees	
Acacia species (Acacia melanoxylon and A. decurrens)	106
Blue gum eucalyptus (Eucalyptus globulus)	108
Tree of heaven (Ailanthus altissima)	110
Resources	112
Glossary	115
Bibliography	119
Acknowledgments	120

PREFACE 🛹 🗧

elcome! The handbook you're holding contains vital information for restoring Bay Area wildlands. We hope it becomes a valuable tool for guiding your efforts in protecting local natural areas from the impacts of invasive plant species.

Most likely, you know from first-hand experience that invasive weeds are a serious ecological problem in the Bay Area. You may have witnessed grasslands overrun by yellow starthistle, or walked through an ivy-choked woodland. And, like many others, you are working to do something about it.

This handbook distills the collective knowledge of Bay Area individuals and organizations that have been involved in weed control and wildland restoration projects for over a decade. It provides background on the strategic planning that needs to happen before you actually remove any weeds, and offers detailed information on specific weeds and the techniques and tools best suited to working on them. The information in this handbook is intended to help us all conduct our weed control efforts more effectively.

Countless Bay Area volunteers and park managers have helped us learn about invasive plant control over the last decade. Many of them also contributed their time and expertise to this handbook—thanks to all.

If you have comments or suggestions for future editions, please let us know at www.cal-ipc.org.

We look forward to seeing you in the field!

Sharon Farrell, The Watershed Project Doug Johnson, California Invasive Plant Council