

# **Planning for Biodiversity**

## **A Guide for BC Farmers and Ranchers**

Companion Document to the

**Canada - British Columbia Environmental Farm Plan (EFP)**

Funded by

**Agriculture and Agri-Food Canada  
BC Ministry of Agriculture and Lands  
BC Ministry of Environment  
British Columbia Conservation Foundation  
Ducks Unlimited Canada  
Fisheries and Oceans Canada  
Habitat Conservation Trust Foundation**

Published by

**BC Agricultural Research Development Corporation (ARDCorp) —  
BC Agriculture Council**

Prepared by

**The Canada – British Columbia EFP Biodiversity Steering Committee**

**March 2010 – FIRST EDITION**

# Acknowledgements

The Canada–BC Agricultural Policy Framework Environment Working Group and the British Columbia Agriculture Council gratefully acknowledge the many people and organizations that have contributed their time and effort to developing the second edition of *Planning for Biodiversity—A Guide for BC Farmers and Ranchers*. They include the following:

## The Canada – British Columbia EFP Biodiversity Steering Committee

Niels Holbek, BC Agriculture Council (Chair), P.Ag.  
Sylvia von Schuckmann, BC Ministry of Environment, P.Ag., R.P.Bio.  
Cindy Haddow, BC Ministry of Environment, P.Ag.  
Geoff Hughes-Games, BC Ministry of Agriculture and Lands, P.Ag.  
Dave Trotter, BC Ministry of Agriculture and Lands, P.Ag., R.P.Bio.  
Mark Wonneck, Agriculture and Agri-Food Canada  
Lavona Liggins, Agriculture and Agri-Food Canada, P.Ag.  
John Patterson, Fisheries and Oceans Canada, R.P.Bio.  
Laura Maclean, Environment Canada  
King Campbell, Ducks Unlimited Canada, P.Ag.

## Contributors

The Canada – British Columbia EFP Biodiversity Steering Committee wishes to acknowledge the work of Ramona Scott, Wanda Gorsuch and The Land Conservancy team for their initial work on this project, editing by Tracey Hooper, and formatting by Linda Hokanson.

The Committee also wants to thank the EFP Planning Advisors and producers who assisted with “ground proofing” the guide, and the many others who provided help along the way.

All photographs in the document that have not been credited are drawn from the BC Ministry of Agriculture and Lands image library. The Canada – British Columbia EFP Biodiversity Steering Committee wishes to acknowledge the Ministry’s significant contribution in providing many of the photographs contained in this document. On the cover, Salmon River Roundtable provided the photo of the bears and the BC Ministry of Forests and Range provided the photo of the cattle.

## Preface

The purpose of this supplemental Environmental Farm Plan (EFP) publication is to help farmers and ranchers increase their understanding of biodiversity and what it means to their operations. The guide provides a definition of biodiversity, highlights the importance of biodiversity locally and at landscape scales, lists the main principles of managing for biodiversity, and provides a template for developing a Biodiversity Management Plan for farms and ranches in British Columbia.

The idea for this publication emerged from a Biodiversity Workshop held in October 2005 in Kamloops, BC. EFP Planning Advisors and agency representatives who were interested in delivering the biodiversity component of the Agricultural Policy Framework to producers identified the need for this document.

The information in this guide applies primarily to privately owned farm and ranch lands in BC.

## Limits of Liability

Unlike the other EFP program publications, this guide is not specifically a risk assessment tool. It is intended primarily as a source of information and a management planning tool for farmers, ranchers, and EFP Planning Advisors.

The biodiversity assessment, planning, implementation, and monitoring steps presented in this guide are designed to be used by farmers and ranchers with or without the assistance of an EFP Planning Advisor.

Beneficial management practices (BMPs) for retaining and/or enhancing biodiversity are presented in this guide. It is important to be aware that approvals may be required before the BMPs are implemented. It is the producer's responsibility to determine the need for such approvals.

Every effort has been made to ensure the accuracy and completeness of this guide, but it should not be considered the final word on the areas of practice that it covers. You should seek the advice of appropriate professionals and experts because the specifics of your situation may differ from those set out in this guide.

All information in this guide is provided entirely "as is", and no representations, warranties, or conditions, either expressed or implied, are made in connection with your use of, or reliance upon, this information. This information is provided to you, as the user, entirely at your risk.

The Government of Canada, BC Ministry of Environment, BC Ministry of Agriculture and Lands, Ducks Unlimited Canada, Habitat Conservation Trust Foundation, and the BC Agriculture Council or its directors, agents, employees, or contractors will not be liable for any claims, damages, or losses of any kind whatsoever arising out of the use of, or reliance upon, this information.

**PLANNING FOR BIODIVERSITY  
A GUIDE FOR BC FARMERS AND RANCHERS**

First Edition

March 2010

ISBN 978-0-9738261-3-5

**For more information contact:**

The BC Agriculture Research and Development Corporation at 604-854-4483 or [www.ardcorp.ca](http://www.ardcorp.ca)

# Table of Contents

<b>ACKNOWLEDGEMENTS</b>	<b>ii</b>
<b>PREFACE</b>	<b>iii</b>
<b>LIMITS OF LIABILITY</b>	<b>iii</b>
<b>1 OVERVIEW</b>	<b>1</b>
<b>INTRODUCTION TO THIS GUIDE</b>	<b>1</b>
How does this guide fit with my Environmental Farm Plan?	1
What if I haven't developed an Environmental Farm Plan yet?	2
How do I use this guide?	2
<b>WHAT IS BIODIVERSITY?</b>	<b>5</b>
<b>WHY SHOULD I MANAGE FOR BIODIVERSITY ON MY LAND?</b>	<b>8</b>
<b>Benefits of biodiversity to agriculture</b>	<b>8</b>
Enhancing productivity	8
Stability in production	9
Flexibility in production	9
<b>Agricultural landscapes are important to biodiversity</b>	<b>11</b>
Habitat	11
Structurally diverse habitats	12
Connections between habitat patches	12
Healthy, functional habitats	13
Storehouses of genetic diversity	13
<b>Interactions between agriculture and biodiversity</b>	<b>15</b>
Impacts of agriculture on biodiversity	15
Impacts of wildlife on agriculture	18
<b>THINKING BEYOND THE FARM</b>	<b>19</b>
<b>Thinking regionally</b>	<b>19</b>
Building connections across landscapes	22
<b>Thinking globally</b>	<b>24</b>
What are the global benefits of maintaining biodiversity?	24
What are the broader threats to biodiversity?	25
What are the broader commitments to conserving biodiversity?	27
<b>WHERE CAN I LEARN MORE ABOUT BIODIVERSITY?</b>	<b>29</b>
<b>Government agencies</b>	<b>29</b>
<b>Specialists</b>	<b>29</b>
<b>Conservation initiatives and non-governmental agencies</b>	<b>29</b>

<b>2</b>	<b>BIODIVERSITY PRINCIPLES</b>	<b>33</b>
	<b>BIODIVERSITY PRINCIPLE 1</b>	<b>36</b>
	<b>BIODIVERSITY PRINCIPLE 2</b>	<b>37</b>
	<b>BIODIVERSITY PRINCIPLE 3</b>	<b>38</b>
	<b>BIODIVERSITY PRINCIPLE 4</b>	<b>39</b>
	<b>BIODIVERSITY PRINCIPLE 5</b>	<b>41</b>
	<b>BIODIVERSITY PRINCIPLE 6</b>	<b>42</b>
	<b>BIODIVERSITY PRINCIPLE 7</b>	<b>44</b>
	<b>BIODIVERSITY PRINCIPLE 8</b>	<b>45</b>
<b>3</b>	<b>DEVELOPING A BIODIVERSITY MANAGEMENT PLAN</b>	<b>47</b>
	<b>A FOUR-STEP ADAPTIVE MANAGEMENT PROCESS FOR DEVELOPING A PLAN</b>	<b>47</b>
	How does the process link to the Biodiversity Principles?	48
	Where can I use this process?	48
	<b>STEP 1: ASSESSING OPPORTUNITIES</b>	<b>49</b>
	Preparation	49
	Basic plan structure	49
	Assessment questions	52
	<b>STEP 2: PLANNING</b>	<b>84</b>
	Moving from assessment to planning—Completing the Action Plan Worksheet	84
	Setting priorities	84
	Selecting Beneficial Management Practices	84
	<b>STEP 3: IMPLEMENTATION</b>	<b>86</b>
	Getting agency approvals	86
	Securing funding	86
	Determining timing	86
	Accessing technical references	86
	Seeking professional advice	86
	Securing equipment, materials, and other resources	86
	Maintaining BMPs	87
	Documenting the project	87
	Linking to the Environmental Farm Plan and other planning processes	87
	<b>STEP 4: MONITORING</b>	<b>107</b>
	Identifying measures of success relative to goals	107
	Developing a photo record	107
	Making drawings	107
	Accessing monitoring information	107
	Linking to stewardship groups	108
	<b>ADAPTIVE MANAGEMENT</b>	<b>108</b>

## 4 SAMPLE PLANS

Plans follow page 108

## 5 GLOSSARY

109

## 6 APPENDICES

121

<b>APPENDIX 1</b>	<b>Biodiversity Resources for Farms and Ranches</b>	122
<b>APPENDIX 2</b>	<b>Agency Contacts for Biodiversity</b>	124
<b>APPENDIX 3</b>	<b>Legislation</b>	132
<b>APPENDIX 4</b>	<b>Other Sources of Information</b>	139

## LIST OF FIGURES

Figure 1	Biogeoclimatic Ecosystem Classification Zones in BC	6
Figure 2	Species Richness – Terrestrial Species in BC	20
Figure 3	Agricultural Land Reserve	21
Figure 4	Example of a Completed Biodiversity Map	51

## LIST OF TABLES

Table 1	Assessment Questions for Developing the Biodiversity Plan	52
Table 2	Example Action Plan Worksheet	84
Table 3	Action Plan Worksheet	88
Table 4	Biodiversity Beneficial Management Practices	90