



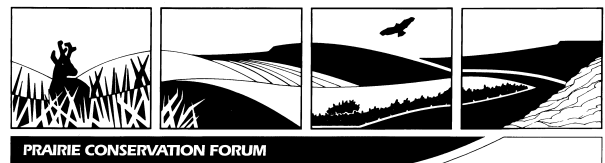
MULTISAR

A Multi-Species Conservation Strategy for Species at Risk in the Grassland Natural Region of Alberta

2015-2016 Report



Alberta Species at Risk Report No. 156



MULTISAR: A Multi-Species Conservation Strategy for Species at Risk in the Grassland Natural Region of Alberta

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TABLE OF CONTENTS

| | |
|--|------|
| LIST OF APPENDICES | vi |
| ACKNOWLEDGEMENTS | vii |
| EXECUTIVE SUMMARY | viii |
| 1.0 INTRODUCTION | 1 |
| 2.0 EDUCATION, OUTREACH & AWARENESS | 2 |
| 2.1 Introduction..... | 2 |
| 2.2 Landholder Awareness | 2 |
| 2.2.1 At Home on the Range, Grassland Gazette and other Information Brochures .. | 2 |
| 2.2.2 Southern Alberta Grazing School for Women..... | 2 |
| 2.2.3 Southern Alberta Youth Range Days..... | 2 |
| 2.2.4 Presentations/Training to Landholder Groups..... | 2 |
| 2.3 Youth Education | 3 |
| 2.4 Public Outreach..... | 4 |
| 2.4.1 Presentations, Demonstration Tours and Displays | 4 |
| 2.4.2 Web Site and Social Media..... | 5 |
| 2.4.3 Contacts, Extension and Outreach | 5 |
| 2.4.4 Media and other Publications..... | 6 |
| 3.0 HABITAT CONSERVATION STRATEGIES | 6 |
| 3.1 Introduction..... | 6 |
| 3.2 HCS Process | 6 |
| 3.3 HCS Achievements for the Fiscal Year 2015-2016..... | 7 |
| 3.3.1 Wildlife | 8 |
| 3.3.2 Range | 10 |
| 3.3.3 Riparian..... | 11 |
| 3.3.4 Wildlife and Range Health Inferences | 11 |
| 3.3.5 Implementation of HCS Habitat Enhancements | 11 |
| 3.4 Conclusion | 12 |
| 4.0 SPECIES AT RISK CONSERVATION PLANS..... | 13 |
| 4.1 Introduction..... | 13 |
| 4.2 SARC Plan/BMP Assessment Process | 13 |
| 4.3 Achievements..... | 13 |
| 4.4 Discussion..... | 14 |
| 4.5 Conclusion | 15 |
| 5.0 HABITAT CONSERVATION STRATEGY EVALUATION & MONITORING PROGRAM..... | 15 |
| 5.1 Introduction..... | 15 |
| 5.2 Evaluation of the HCS component of the MULTISAR Project | 15 |
| 5.2.1 HCS Evaluation Results for 2015 | 16 |
| 5.2.1.1 Range | 16 |
| 5.2.1.2 Riparian..... | 17 |
| 5.2.1.3 Wildlife | 18 |

| | |
|---|----|
| 5.2.1.4 Questionnaire | 20 |
| 5.2.2 Concluding Remarks..... | 21 |
| 5.3 Monitoring Habitat Enhancements on HCS Participants | 21 |
| 5.3.1 Restoration Projects | 21 |
| 5.3.2 Shrub Planting and Shelterbelt..... | 26 |
| 5.3.3 Artificial Nesting/Roosting Structures..... | 26 |
| 5.4 Future Direction | 28 |
| 6.0 MULTISAR & THE RECOVERY OF ALBERTA’S SPECIES AT RISK..... | 29 |
| 6.1 Introduction..... | 29 |
| 6.2 Burrowing Owl | 30 |
| 6.2.1 Recovery Strategy: Habitat Management and Protection..... | 30 |
| 6.2.2 Recovery Strategy: Population Conservation and Management | 32 |
| 6.2.3 Recovery Strategy: Population Monitoring | 32 |
| 6.2.4 Recovery Strategy: Information and Outreach | 33 |
| 6.2.5 Recovery Strategy: Research | 34 |
| 6.2.6 Recovery Strategy: Plan Management and Administration..... | 35 |
| 6.2.7 Burrowing Owl Summary..... | 35 |
| 6.3 Ferruginous Hawk..... | 36 |
| 6.3.1 Recovery Strategy: Habitat Management | 36 |
| 6.3.2 Recovery Strategy: Reduction of Human Disturbances | 37 |
| 6.3.3 Recovery Strategy: Reduction of Human-Caused Mortality | 37 |
| 6.3.4 Recovery Strategy: Population Monitoring and Research..... | 38 |
| 6.3.5 Recovery Strategy: Information and Outreach | 39 |
| 6.3.6 Ferruginous Hawk Summary | 39 |
| 6.4 Greater Sage Grouse | 40 |
| 6.4.1 Recovery Strategy: Habitat Conservation and Management | 40 |
| 6.4.2 Recovery Strategy: Population Management and Enhancement..... | 41 |
| 6.4.3 Recovery Strategy: Outreach and Information | 42 |
| 6.4.4 Recovery Strategy: Plan Management and Administration..... | 42 |
| 6.4.5 Greater Sage Grouse Summary..... | 42 |
| 6.5 Short-horned lizard | 43 |
| 6.5.1 Recovery Action: Population Conservation and Management..... | 43 |
| 6.5.2 Recovery Action: Habitat Conservation and Management | 44 |
| 6.5.3 Recovery Action: Information and Outreach..... | 44 |
| 6.6 Swift Fox..... | 45 |
| 6.6.1 Recovery Strategy: Enhance and Maintain Habitat | 45 |
| 6.6.2 Recovery Strategy: Communication of Information..... | 45 |
| 6.6.3 Swift Fox Summary | 46 |
| 6.7 Northern Leopard Frog | 47 |
| 6.7.1 Recovery Strategy: Population Conservation and Management | 47 |
| 6.7.2 Recovery Strategy: Habitat Conservation and Management | 47 |
| 6.7.4 Recovery Strategy: Research | 49 |
| 6.7.5 Recovery Strategy: Plan Management and Administration..... | 49 |
| 6.7.6 Northern Leopard Frog Summary..... | 49 |

| | |
|---|----|
| 6.8 Rocky Mountain Sculpin, Stonecat and Western Silvery Minnow | 50 |
| 6.8.1 Recovery Strategy: Education and Outreach | 50 |
| 6.8.2 Summary | 50 |
| 6.9 Soapweed, Small-flowered Sand-verbena, and Tiny Cryptantha | 51 |
| 6.9.1 Population Conservation and Management | 51 |
| 6.9.2 Habitat Conservation and Management | 52 |
| 6.9.3 Information and Education | 52 |
| 6.9.4 Summary | 52 |
| 6.10 Harlequin Duck | 53 |
| 6.10.1 Harlequin Duck Summary | 53 |
| 6.11 Long-billed Curlew | 53 |
| 6.11.1 Long-billed Curlew Summary | 54 |
| 6.12 Prairie Falcon | 54 |
| 6.12.1 Prairie Falcon Summary | 55 |
| 6.13 Sprague’s Pipit | 55 |
| 6.13.1 Sprague’s Pipit Summary | 56 |
| 6.14 Western Blue Flag | 57 |
| 6.15 Additional Species | 57 |
| 6.16 Program Summary | 57 |
| 7.0 FUTURE DIRECTION | 58 |
| 8.0 LITERATURE CITED | 60 |

LIST OF TABLES

| | |
|---|----|
| Table 1. Summary of activities by MULTISAR associated with landholder groups. | 3 |
| Table 2. Summary of activities by MULTISAR associated with youth education. | 3 |
| Table 3. Summary of public outreach activities by MULTISAR. | 4 |
| Table 4. MULTISAR contacts for 2015-2016. | 5 |
| Table 5. Media exposure MULTISAR received in 2014-2015. | 6 |
| Table 6. Habitat conservation strategy participant summary. | 7 |
| Table 7. Habitat conservation strategy reassessment summary. | 7 |
| Table 8. Species at risk recorded during the 2015 Habitat Conservation Strategy field season. | 8 |
| Table 9. Summary of range work completed by MULTISAR during the 2014 Habitat Conservation Strategy field season. | 10 |
| Table 10. Comparison of range health values between baseline surveys and reassessment surveys for cooperating MULTISAR participants. | 16 |
| Table 11. Riparian Health Reassessments for assessed HCS properties. | 18 |
| Table 12. Most abundant avian species from point count data for baseline and reassessment years. | 19 |
| Table 13. Range information collected for restoration project MP_7_RP_02. | 22 |
| Table 14. Range information collected for restoration project MP_18_RP_01 and RP_02. | 23 |
| Table 15. MP_7_RP_01 and RP_02 grassland bird trend. | 25 |
| Table 16. MP_18_RP_01 and RP_02 grassland bird trend. | 25 |
| Table 17. Shrub monitoring in 2015. | 26 |
| Table 18. Artificial nesting structure monitoring. | 27 |
| Table 19. Monitoring of enhancement projects in 2016. | 28 |
| Table 20. MULTISAR’s contribution to the implementation of Habitat Management and Protection actions identified in the Alberta Burrowing Owl Recovery Plan (AESRD 2012a). | 30 |
| Table 21. MULTISAR’s contribution to the implementation of the Population Conservation and Management actions identified in the Alberta Burrowing Owl Recovery Plan (AESRD 2012a). | 32 |
| Table 22. MULTISAR’s contribution to the implementation of Population Monitoring actions identified in the Alberta Burrowing Owl Recovery Plan (AESRD 2012a). | 32 |
| Table 23. MULTISAR’s contribution to the implementation of Information and Outreach actions identified in the Alberta Burrowing Owl Recovery Plan (AESRD 2012a). | 33 |
| Table 24. MULTISAR’s contribution to the implementation of Research actions identified in the Alberta Burrowing Owl Recovery Plan (AESRD 2012a). | 34 |
| Table 25. MULTISAR’s contribution to the implementation of Plan Management and Administration actions identified in the Alberta Burrowing Owl Recovery Plan (AESRD 2012a). | 35 |
| Table 26. MULTISAR’s contribution to the implementation of Habitat Management actions identified in the Ferruginous Hawk Recovery Plan (Ferruginous Hawk Recovery Team 2009). | 36 |

Table 27. MULTISAR’s contribution to the implementation of the Reduction of Human Disturbance actions identified in the Ferruginous Hawk Recovery Plan (Ferruginous Hawk Recovery Team 2009). 37

Table 28. MULTISAR’s contribution to the implementation of the Reduction of Human Caused Mortality actions identified in the Ferruginous Hawk Recovery Plan (Ferruginous Hawk Recovery Team 2009). 37

Table 29. MULTISAR’s contribution to the implementation of Population Monitoring and Research actions identified in the Ferruginous Hawk Recovery Plan (Ferruginous Hawk Recovery Team 2009). 38

Table 30. MULTISAR’s contribution to the implementation of the Reduction of Human Caused Mortality actions identified in the Ferruginous Hawk Recovery Plan (Ferruginous Hawk Recovery Team 2009). 39

Table 31. MULTISAR’s contribution to the implementation of Habitat Conservation and Management actions identified in the Greater Sage Grouse Recovery Plan (AESRD 2013a). 40

Table 32. MULTISAR’s contribution to the implementation of Population Management and Enhancement actions identified in the Greater Sage Grouse Recovery Plan (AESRD 2013a). 41

Table 33. MULTISAR’s contribution to the implementation of Outreach and Information actions identified in the Greater Sage Grouse Recovery Plan (AESRD 2013a)..... 42

Table 34. MULTISAR’s contribution to the implementation of Plan Management and Administration actions identified in the Greater Sage Grouse Recovery Plan (AESRD 2013a) 42

Table 35. MULTISAR’s contribution to the implementation of Population Conservation and Management actions identified in the Short Horned Lizard Recovery Action Summary 2012-2013 (ESRD 2013c). 43

Table 36. MULTISAR’s contribution to the implementation of Habitat Conservation and Management actions identified in the Short Horned Lizard Recovery Action Summary 2012-2013 (AESRD 2013c). 44

Table 37. MULTISAR’s contribution to the implementation of Information and Outreach actions identified in the Short Horned Lizard Recovery Action Summary 2012-2013 (AESRD 2013c). 44

Table 38. MULTISAR’s contribution to the implementation of the Enhancement and Maintenance of Habitat actions identified in the Swift Fox Recovery Plan (Alberta Swift Fox Recovery Team 2007). 45

Table 39. MULTISAR’s contribution to the implementation of Communication of Information actions identified in the Swift Fox Recovery Plan (Alberta Swift Fox Recovery Team 2007). 45

Table 40. MULTISAR’s contribution to the implementation of Population Conservation and Management actions identified in the Northern Leopard Frog Recovery Plan (AESRD 2012c). 47

Table 41. MULTISAR’s contribution to the implementation of Habitat Conservation and Management actions identified in the Northern Leopard Frog Recovery Plan (AESRD 2012c). 47

Table 42. MULTISAR’s contribution to the implementation of Information and Outreach actions identified in the Northern Leopard Frog Recovery Plan (AESRD 2012c). 48

Table 43. MULTISAR’s contribution to the implementation of Research actions identified in the Northern Leopard Frog Recovery Plan (AESRD 2012c). 49

Table 44. MULTISAR’s contribution to the implementation of Plan Management and Administration actions identified in the Northern Leopard Frog Recovery Plan (AESRD 2012c). 49

Table 45. MULTISAR’s contribution to the implementation of Education and Outreach actions identified in the three Recovery Plans, respectively (The Milk River Fish Species at Risk Recovery Team 2008, 2014; The Alberta Rocky Mountain Sculpin Recovery Team 2013). 50

Table 46. MULTISAR’s contribution to the implementation of Population Conservation and Management actions identified in the three Recovery Plans, respectively (Alberta Environment and Sustainable Resource Development 2013, Alberta Small-flowered Sand-verbena Recovery Team 2012, Alberta Tiny Cryptantha Recovery Team 2013)... 51

Table 47. MULTISAR’s contribution to the implementation of Habitat Conservation and Management actions identified in the three Recovery Plans, respectively (Alberta Environment and Sustainable Resource Development 2013, Alberta Small-flowered Sand-verbena Recovery Team 2012, Alberta Tiny Cryptantha Recovery Team 2013)... 52

Table 48. MULTISAR’s contribution to the implementation of Information and Education actions identified in the three Recovery Plans, respectively (Alberta Environment and Sustainable Resource Development 2013, Alberta Small-flowered Sand-verbena Recovery Team 2012, Alberta Tiny Cryptantha Recovery Team 2013)... 52

Table 49. MULTISAR’s contribution to the implementation of management actions identified in the Harlequin Duck Conservation Management Plan (ASRD 2010b)..... 53

Table 50. MULTISAR’s contribution to the implementation of management actions identified in the Long-billed Curlew Conservation Management Plan (ASRD 2010c)... 53

Table 51. MULTISAR’s contribution to the implementation of management actions identified in the Prairie Falcon Conservation Management Plan (ESRD 2012b). 54

Table 52. MULTISAR’s contribution to the implementation of management actions identified in the Sprague’s Pipit Conservation Management Plan (ASRD 2010d). 55

LIST OF FIGURES

Figure 1. Habitat enhancement projects completed, by category, since 2005..... 12

Figure 2. Number of SARC Plans completed since program inception. 14

LIST OF APPENDICES

APPENDIX A: PRELIMINARY & FOLLOW-UP SARC PLAN QUESTIONNAIRES 62

APPENDIX B: LIST OF ACRONYMS..... 66

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Many individuals, agencies, organizations, programs, and corporations allowed MULTISAR to successfully achieve its habitat stewardship mandate in the Grassland Natural Region in 2015-2016. We would like to convey our sincere appreciation to them.

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MULTISAR is very fortunate to be working with a ranching community that has embraced the project and the continued stewardship of rangeland and wildlife habitat. The working relationships established with landholders over the years provide the essential foundation for which the MULTISAR project can be successful.

EXECUTIVE SUMMARY

MULTISAR is a program focused on multi-species conservation at the landscape level that promotes stewardship through voluntary participation of landholders on both Crown and private lands. The program is a collaborative effort among landholders, the Alberta Conservation Association, Alberta Environment and Parks, and the Prairie Conservation Forum.

The Habitat Conservation Program includes the development of detailed Habitat Conservation Strategies (HCS) in the core project area of southern Alberta, as well as the more compact Species at Risk Conservation Plans (SARC Plans) delivered throughout the Grassland Natural Region. In 2015-2016, a new HCS was developed on two ranches totalling approximately 8,600 acres. Associated habitat enhancement projects were also developed to improve the habitat of key wildlife species. A number of habitat projects were developed on HCS properties. These varied from planting of native grass plugs, wildlife-friendly fencing, windbreaks, Japanese and smooth brome control, installation of a pasture pipeline, tree protection and portable watering unit use.

SARC Plans were delivered on a request only basis due to limited funds and staff available for the program. One SARC Plan was developed for Willow Creek Provincial Park (199 acres) while beneficial management recommendations for wildlife habitats were developed on two private ranches totalling approximately 320 acres.

The Education, Outreach and Awareness program was achieved primarily by MULTISAR staff that were able to give presentations and demonstration tours to landowners, wildlife and conservation groups, college students, and the general public. MULTISAR partnered with the Canadian Cattlemen's Association to man a booth during the Calgary Stampede that was viewed by over 100,000 people. Communication material included one issue of MULTISAR's newsletter. In total, MULTISAR made over 107 different contacts with more than 1,537 people (and an additional 100,000 people at the Calgary Stampede) including landholders, the general public, academia, industry, media, government and non-government organizations and other sectors.

Under the Research and Monitoring Program, MULTISAR continued implementing its monitoring and evaluation protocol to assess the directionality of habitat improvements and management changes and the effectiveness of its habitat conservation strategies. A subsample of range and riparian sites and wildlife points were revisited on four MULTISAR HCS ranches (10,188 acres), five years after their initial assessment, to determine if management recommendations had been implemented and their impact on species at risk habitat.

MULTISAR began compiling the wildlife observation and vegetation assessment data it has been accumulating since its first Habitat Conservation Strategy. It is hoped that inferences can be made between species at risk occurrences and habitat metrics and that Beneficial Management Practices recommendations can be improved to maximize habitat quality.

1.0 INTRODUCTION

Grasslands have evolved over thousands of years, yet over the last century we've managed to lose roughly 80% of our native grasslands in Canada (Bailey et al. 2010). It is therefore no surprise that grasslands are home to some of the most endangered and unique species in Canada. The MULTISAR Program was established in 2002 to help maintain and improve habitat for these unique species by collaborating with landowners and increasing awareness of species at risk.

MULTISAR is a program focused on multi-species conservation at the landscape level that promotes stewardship through voluntary participation of landholders on both Crown and private lands. The program is a collaborative effort among landholders, Alberta Conservation Association, Alberta Environment and Parks, and the Prairie Conservation Forum. The primary goals of MULTISAR are to implement collaborative strategies to manage multiple species on a defined working landscape and to assist with their implementation. These strategies are built as landholder-specific Habitat Conservation Strategies (HCS), leading to the implementation of habitat enhancement activities that benefit both the farm or ranch operation and wildlife. Through these relationships MULTISAR has implemented 121 habitat enhancement projects on over 328,000 acres of land.

MULTISAR consists of three primary components:

- 1) Habitat Conservation Strategies which are detailed plans developed with the landholder(s) that can be used as a tool for the management of their land.
- 2) Education, Outreach, and Awareness Program which involves developing Beneficial Management Practices for various species, development of the annual Grassland Gazette, development of presentations for the public, and completion of Species at Risk Conservation Plans, which are a condensed form of the HCS and completed for landholders outside the priority landscape of the Milk River Watershed and portions of the South Saskatchewan River Watershed.
- 3) Research, Monitoring, and Evaluation which involves the monitoring of habitat enhancements every one to two years and evaluation of the detailed plans (HCS) every 5 years to determine if they are having the desired effect or are in need of adjustments.

The MULTISAR Program is guided by the 2015-2020 Business Plan. The MULTISAR mission, vision, and goals are:

Vision: Multiple species of wildlife, including species at risk, are effectively conserved at the landscape level, through a process that integrates land-use management with fish and wildlife management principles, in a manner that may contribute to the species and habitat recovery and to the sustainability of the rural economy.

Mission: To develop and implement the MULTISAR process which directs conservation of multiple species at risk, associated fish and wildlife and their habitats, within the Grasslands Natural Region of Alberta.

Goal: To assist landowners and lessees to manage land to benefit provincial and federal species at risk, while maintaining an economically viable operation.

2.0 EDUCATION, OUTREACH & AWARENESS

2.1 Introduction

MULTISAR continued to deliver its Education, Outreach and Awareness program as time and resources permitted. Activities included everything from field training events, to presentations to school, community and landowner groups, to attendance at events with the MULTISAR display. Direct communication with landowners is ongoing, as is communication with other organizations and government agencies.

2.2 Landholder Awareness

2.2.1 At Home on the Range, Grassland Gazette and other Information Brochures

A total of 1,028 copies of MULTISAR's flagship booklet, *At Home on the Range: Living with Alberta's Prairie Species at Risk*, was distributed to landholder cooperators, mailed out to county and municipal district offices, provided to non-profit organizations for distribution, and given to interested members of the public at events such as the Calgary Stampede. The tenth issue of MULTISAR's newsletter, the *Grassland Gazette*, was produced in the winter of 2015-16 and sent to 613 landowner cooperators and other MULTISAR contacts. Over 828 species at risk BMP fact sheets and species flash cards were handed out.

2.2.2 Southern Alberta Grazing School for Women

The 12th Annual Southern Alberta Grazing School for Women was held on July 22-23, 2015 at Dinosaur Provincial Park. MULTISAR is one of the organizing partners of this event. The two day "school" included topics such as range and riparian health, grazing strategies, aquatic invasive species, pasture weeds, and animal welfare. Fifty-five women attended the grazing school. MULTISAR had its display set up and handed out various brochures and the *At Home on the Range* booklet. MULTISAR staff also assisted running field sessions on plant identification.

2.2.3 Southern Alberta Youth Range Days

Southern Alberta Youth Range Days was held on July 14-16, 2015 at Kimball, Alberta. MULTISAR is one of the organizing partners of this event, and youth from all backgrounds including farm and ranch, acreage or town, are welcome to attend. The three day event allowed 15 youth between the ages of 13-18, plus 10 parents, to learn about a variety of topics including plant identification, bear and wolf management in the area, native grasslands restoration, protection of amphibian habitat on working agricultural landscapes, and Nature Conservancy of Canada and Ducks Unlimited wetlands management.

2.2.4 Presentations/Training to Landholder Groups

MULTISAR had numerous conversations with individual landowners (at minimum 50) about topics such as species at risk, wildlife friendly fencing, hawk poles, herbicides for invasive weeds, habitat assessments, and so on. In addition to these conversations with landowners,

MULTISAR also gave presentations and/or training to landowner groups on several occasions. Table 1 summarizes presentations and training that were given to landowner groups.

Table 1. Summary of activities by MULTISAR associated with landholder groups.

| Date | Event | Location | Type | Attendance |
|------------------|---|-----------------------------|---|-------------------|
| June 9, 2015 | Rangeland Contractors Field Exercise | Sandstone Ranch, AB | Presentation: <i>MULTISAR rangeland survey protocols</i> | 4 attendees |
| June 24, 2015 | Rancher Range Management Course | Manyberries and Onefour, AB | Presentation and helped with field exercises | 45 attendees |
| July 14-16, 2015 | Southern Alberta Youth Range Days | Kimball, AB | Part of organizing committee and aided with field exercises | 25 attendees |
| July 22-23, 2015 | Southern Alberta Grazing School for Women | Dinosaur Provincial Park | Part of organizing committee and aided with field exercises | 55 attendees |
| October 8, 2015 | Sustainable Canada Landowner Group | Manyberries, AB | Meeting | 11 attendees |

2.3 Youth Education

MULTISAR was involved in youth education activities on eight occasions, reaching a total of 290 individuals. Table 2 summarizes these activities.

Table 2. Summary of activities by MULTISAR associated with youth education.

| Date | Event | Location | Type | Attendance |
|-----------------|---|-----------------|--|---------------------------|
| April 2, 2015 | University of Lethbridge | Lethbridge, AB | Presentation: <i>Grassland Restoration and Species at Risk</i> | 30 University Students |
| May 26, 2015 | Blackie School | Blackie, AB | Presentation: <i>Bat box building</i> | 30 grade 1 and 2 students |
| June 1, 2015 | Blackie School | Blackie, AB | Presentation and activities: <i>bats, ferruginous hawks, Amazing Race game.</i> | 100 youths |
| June 24, 2015 | Lethbridge School | Lethbridge, AB | Riparian walk, discussing habitat and wildlife | 19 youths |
| July 15, 2015 | Youth Range Days | Kimball, AB | Presentations: <i>Range health and Bats and surveying for bats</i> | 25 youths |
| August 26, 2015 | Jenny Emery School Summer Youth Program | Coaldale, AB | Presentation: <i>What does a biologist do, and tools of the trade Identification</i> | 50 youths |
| November 16, | Lethbridge | Lethbridge, | Presentation: <i>Bats</i> | 8 college |

| | | | | |
|-------------------|--------------------|----------------|--|----------------------------|
| 2015 | College | AB | <i>and surveying for bats by acoustic monitoring</i> | students |
| November 20, 2015 | Lethbridge College | Lethbridge, AB | Presentation: <i>Multi-species and species specific wildlife survey techniques for habitat conservation strategies</i> | 8 college students |
| March 3, 2016 | Hutterite school | Lomond, AB | Presentation: <i>Bats and bat boxes</i> | 6 students and 1 teacher |
| March 3, 2016 | Hutterite school | Enchant, AB | Presentation: <i>Bats and bat boxes</i> | 19 students and 2 teachers |

2.4 Public Outreach

2.4.1 Presentations, Demonstration Tours and Displays

In addition to MULTISAR’s involvement with landowners and youth, MULTISAR delivers presentations and tours to other groups working on the landscape (such as non-government organizations, not-for-profit organizations, and government agencies), as well as participates in their events. MULTISAR also gives presentations and takes the display to public events. In 2015-2016, MULTISAR gave live presentations and set up displays for the above mentioned groups on five occasions. Presentations and tours were also given to individuals of groups to inform them about MULTISAR and MULTISAR processes. The presentations and display allowed MULTISAR to directly reach over 200 individuals, and received direct and indirect exposure from at least 100,000 people who visited the Calgary Stampede Cattle Trail over the 10 days that it was running (Western Event Centre). MULTISAR, as well as various other environmental organizations working towards engaging people in grasslands related issues, were invited to set up displays and help man the Environmental Booth by the Canadian Cattlemen’s Association. Table 3 summarizes these public outreach activities.

Table 3. Summary of public outreach activities by MULTISAR.

| Date | Event | Location | Type | Attendance |
|-------------------|--|-----------------|---------------------------------|---|
| April 16, 2015 | Milk River Watershed Council Canada Annual General Meeting | Milk River, AB | MULTISAR display | 108 landowners and individuals from various interest groups |
| July 2 – 11, 2015 | Calgary Stampede; Canadian Cattlemen’s Association | Calgary, AB | MULTISAR display | Over 100,000 visitors from all over the world |
| August 5, 2015 | Bat Walk at Henderson Lake | Lethbridge, AB | Presentation about bats | 18 members of the public |
| November 4, 2015 | Lethbridge Naturalist Society | Lethbridge, AB | Presentation about bat research | 26 members of Lethbridge Naturalists and general public |
| November 18, 2015 | Foothills Restoration Forum Fall Information Session | Claresholm, AB | Presentation about MULTISAR | 50 members of Foothills Restoration Forum |
| February | Prairie Conservation and | Saskatoon, SK | Presentation | 50 conference |

| Date | Event | Location | Type | Attendance |
|------------------------|--|------------------|------------------------|---|
| 16 - 18, 2015 | Endangered Species Conference | | about Sprague's Pipits | attendees |
| February 16 - 18, 2015 | Prairie Conservation and Endangered Species Conference | Saskatoon, SK | MULTISAR display | Over 300 participants at the conference |
| March 10, 2016 | Holding the Reigns Conference | Fort Macleod, AB | MULTISAR Display | Approximately 150 participants |

2.4.2 Web Site and Social Media

The MULTISAR website (www.multisar.ca) continues to be the key portal where up-to-date information about the project, beneficial management practices (BMPs) for species at risk, as well as related documents, news events, and producer stories can be accessed. This year, MULTISAR has updated the content of its web site and improved the look to reflect its brand. It continues to get direct feeds from both the MULTISAR Twitter and Facebook accounts, which provide current news. The number of original tweets/facebook posts from this past year was 41.

2.4.3 Contacts, Extension and Outreach

Through the course of any fiscal year MULTISAR staff interacts on a daily basis with landholders and other individuals representative of a broad spectrum of sectors. Between April 2015 and March 2016, a total of 109 contacts were made with 1,537 people, plus over 100,000 people that visited the Calgary Stampede Cattle Trail and either stopped to talk with staff or walked by and saw the MULTISAR display. Contacts were made through direct visits (18%), phone calls (4%), e-mails (1%, although ongoing communications through email would be much higher), mail (45%), tours, presentations and attendance at events with the MULTISAR booth (32%). Table 4 shows a breakdown of the different individuals/groups that MULTISAR reached out to, as well as how many people were involved with MULTISAR in some way.

Table 4. MULTISAR contacts for 2015-2016

| Contact Type | # Contacts | # People Reached |
|-----------------------------|-------------------|---|
| Academic | 3 | 46 |
| Company | 1 | 1 |
| Consultant | 3 | 4 |
| Contractor | 2 | 558 (mail out of newsletter to MULTISAR contacts) |
| Government | 7 | 9 |
| Individual (non-landholder) | 5 | 22 (plus over 100,000 at the Calgary Stampede) |
| Industry | 1 | 2 |
| Landholder | 54 | 71 |
| Landowner Group | 5 | 140 |
| Media | 3 | 4 |
| NGO | 9 | 394 |
| School | 7 | 252 |
| Other | 9 | 34 |
| Total: | 109 | 1,537 |

2.4.4 Media and other Publications

In addition to the MULTISAR newsletter, the *Grassland Gazette*, that was produced and sent to 613 contacts, MULTISAR received attention in three other publications (Table 5).

Table 5. Media exposure MULTISAR received in 2014-2015.

| Media Name | Topic of Story | Date |
|---|--|-------------------|
| Canadian Cattlemen’s Association | <i>CCA attends FPT Ministers Meeting on the Environment</i> | February 16, 2015 |
| Conservation Magazine, Alberta Conservation Association | <i>Ranch Like a Ross</i> | Fall/Winter 2015 |
| Canadian Cattlemen, The Beef Magazine | <i>The Prairie Calls, And this Swiss couple found a new home</i> | December 16, 2015 |

3.0 HABITAT CONSERVATION STRATEGIES

3.1 Introduction

Conservation efforts to maintain and enhance wildlife habitat and rangelands for both species at risk and cattle production are the primary objectives of MULTISAR and the Habitat Conservation Strategy (HCS). The majority of the province’s remaining native prairie is found in the Grassland Natural Region, where 75% of Alberta’s species at risk can be found. Most of these native habitats still exist thanks to livestock production. Efforts to maintain and enhance wildlife habitat for species at risk and rangeland sustainability can be achieved through a voluntary and collaborative approach with landowners and lease holders. The HCS team works together to balance the needs for healthy rangelands and quality fish and wildlife habitats through grazing recommendations and habitat improvement projects. The strategy is a result of detailed range, wildlife and riparian inventories and assessments, from which management goals and objectives can be made.

3.2 HCS Process

The foundation of a HCS is its team members. Landholders, as well as both government and non-government agencies, make up the team and include members from Alberta Environment and Sustainable Resource Development, Alberta Conservation Association, Prairie Conservation Forum and any other organizations that are stakeholders in the property.

Management objectives and strategies for the implementation of conservation efforts are developed by the entire MULTISAR HCS team and address wildlife, habitat, range, riparian and land management objectives identified for a particular land base. Management and habitat enhancement recommendations are based largely on the recovery actions for species identified as a priority on the land and from MULTISAR’s Beneficial Management Practices document (RCS Ltd. 2004).

For a complete and detailed description of the entire HCS process, refer to MULTISAR’s 2010-2011 progress report (Rumbolt et al. 2011). Information regarding the detailed survey methodologies used in HCSs can be found in MULTISAR’s 2011-2012 progress report (MULTISAR 2012).

3.3 HCS Achievements for the Fiscal Year 2015-2016

To date, MULTISAR has completed 30 HCSs on 317,765 acres of land within the Milk River, Pakowki and St. Mary’s Basins (Table 6). In 2015, MULTISAR completed an HCS for two new properties in the Milk River Basin, totaling 8,600 acres. Work on these properties included detailed wildlife, range and riparian inventories.

Table 6. Habitat conservation strategy participant summary.

| Year* | # Landholder Participants | Acres Surveyed |
|--------------|----------------------------------|-----------------------|
| 2004 | 1 | 60,228 |
| 2005 | 1 | 160 |
| 2006 | 2 [^] | 31,453 |
| 2007 | 3 | 85,676 |
| 2008 | 2 | 6,336 |
| 2009 | 3 | 38,550 |
| 2010 | 5 | 4,656 |
| 2011 | 5 | 17,909 |
| 2012 | 3 | 12,947 |
| 2013 | 1 | 8,000 |
| 2014 | 2 | 43,250 |
| 2015 | 2 | 8,600 |
| Total | 30 | 317,765 |

* HCS were counted in the year in which field work was initiated, however, some surveys continued for more than one year.

[^] In 2006, MULTISAR absorbed the Western Blueflag Program and its 8 participating landholders. These properties did not have a HCS completed and therefore they are not included in this total.

To date, fourteen HCSs that have been implemented for at least five years were reassessed (Table 7). These reassessments entailed a resurvey of a subsample of the original range and wildlife inventories, as well as a complete reassessment of riparian health. More details on these reassessments can be found in Section 5.0.

Table 7. Habitat conservation strategy reassessment summary.

| Year of HCS Reassessment | MULTISAR Participant | Size of Property (ac) |
|---------------------------------|-----------------------------|------------------------------|
| 2011 | MP_1 | 60,228 |
| 2012 | MP_4 | 27,371 |
| 2013 | MP_7 | 41,836 |
| 2013 | MP_8 | 3,478 |
| 2013 | MP_9 | 4,143 |

| Year of HCS Reassessment | MULTISAR Participant | Size of Property (ac) |
|---------------------------------|-----------------------------|------------------------------|
| 2014 | MP_2 | 160 |
| 2014 | MP_3 | 4,092 |
| 2014 | MP_6 | 39,386 |
| 2015 | MP_5 | 3,840 |
| 2015 | MP_10 | 2,312 |
| 2015 | MP_11 | 3,075 |
| 2015 | MP_16 | 961 |

3.3.1 Wildlife

To date, approximately 49,497 wildlife observations have been submitted to the Fish and Wildlife Management Information System (FWMIS) since 2004, including 1872 in 2015. In 2015, 41 different species at risk were recorded on HCS properties. Table 8 summarizes the species at risk observed on all HCS properties assessed (or reassessed) during the 2015 field season.

Table 8. Species at risk recorded during the 2015 Habitat Conservation Strategy field season.

| Species | General Status¹ | Legislative Status² | # of Observations | Feature | Significance |
|----------------------------|-----------------------------------|---------------------------------------|--------------------------|----------------|-----------------------|
| Ferruginous Hawk | At Risk | Endangered | 40 | 12 nests | |
| Northern Leopard Frog | At Risk | Special Concern | 50+ | | Breeding area present |
| Bank Swallow | Secure | Threatened | 13 | | |
| Barn Swallow | Sensitive | Threatened | 18 | | |
| Chestnut-collared Longspur | Sensitive | Threatened | 174 | | |
| Common Nighthawk | Sensitive | Threatened | 4 | | |
| Loggerhead Shrike | Sensitive | Threatened | 3 | | |
| Sprague's Pipit | Sensitive | Threatened | 49 | | |
| Long-tailed weasel | May be At Risk | N/A | 3 | | |
| Prairie Rattlesnake | May be At Risk | N/A | 1 | | |
| American Badger | Sensitive | Special Concern | 3 | | |

¹ Alberta General Status (ASRD 2010a)

² Legislative Status for Canada's Species at Risk Act (EC 2012) or Alberta Wildlife Act (GOA 2012)

N/A = Not Assessed

MULTISAR 2015-2016 Annual Summary Report

| Species | General Status ¹ | Legislative Status ² | # of Observations | Feature | Significance |
|---------------------------|-----------------------------|---------------------------------|-------------------|---------|---------------------------|
| American bittern | Sensitive | N/A | 1 | | |
| American Kestrel | Sensitive | N/A | 2 | | |
| Baird's Sparrow | Sensitive | N/A | 34 | | |
| Baltimore Oriole | Sensitive | N/A | 1 | | |
| Black-crowned night heron | Sensitive | N/A | 1 | | |
| Black tern | Sensitive | N/A | 26 | | |
| Brewer's Sparrow | Sensitive | N/A | 31 | | |
| Common Yellowthroat | Sensitive | N/A | 16 | | |
| Golden Eagle | Sensitive | Not at Risk | 3 | | |
| Grasshopper Sparrow | Sensitive | N/A | 13 | | |
| Great-blue Heron | Sensitive | N/A | 1 | | |
| Green-winged Teal | Sensitive | N/A | 7 | | |
| Horned Grebe | Sensitive | N/A | 4 | | |
| Least Flycatcher | Sensitive | N/A | 2 | | |
| Lesser Scaup | Sensitive | N/A | 18 | | |
| Long-billed Curlew | Sensitive | Special Concern | 14 | | |
| McCown's Longspur | Sensitive | Special Concern | 1 | | |
| Northern Harrier | Sensitive | Not at Risk | 14 | | |
| Northern Pintail | Sensitive | N/A | 23 | | |
| Plains Garter Snake | Sensitive | N/A | 1 | | |
| Plains Spadefoot | Sensitive | N/A | 20 | | |
| Prairie Falcon | Sensitive | Special Concern | 4 | | |
| Pronghorn | Sensitive | N/A | 21 | | |
| Sandhill Crane | Sensitive | N/A | 1 | | |
| Sharp-tailed Grouse | Sensitive | N/A | 281 | 9 leks | 7 historic and 2 new leks |

| Species | General Status ¹ | Legislative Status ² | # of Observations | Feature | Significance |
|--------------------|-----------------------------|---------------------------------|-------------------|---------|--------------|
| Sora | Sensitive | N/A | 13 | | |
| Swainson's Hawk | Sensitive | N/A | 29 | 6 nests | |
| Tiger Salamander | Sensitive | N/A | 11 | | |
| Upland Sandpiper | Sensitive | N/A | 14 | | |
| Western wood-pewee | Sensitive | N/A | 2 | | |

3.3.2 Range

The HCS properties assessed (and reassessed) in 2015 displayed a wide range of diversity in the plant communities and range health found. MULTISAR conducted a total of 75 detailed range transects (vegetation inventories), 162 range health assessments, 21 tame pasture assessments, and 60 visual reconnaissance surveys during the 2015 field season (Table 9). During these inventories, eight species of rare plants and one rare plant community were observed on the properties, which are listed in Table 8.

Table 9. Summary of range work completed by MULTISAR during the 2014 Habitat Conservation Strategy field season.

| Property | Acres | Sites Assessed | # Plant Communities | Rare Plants |
|----------|-------|---|---------------------------|---|
| MP_5 | 3,670 | 15 range health assessments and 14 tame pasture assessments | 20 | Macoun's cryptanthus |
| MP_10 | 2,312 | 22 including 28 visual reconnaissance surveys | 28 | Western blue flag |
| MP_11 | 3,145 | 20 range health assessments and 5 tame pasture assessments | 15 | None |
| MP_16 | 961 | 12 range health assessments | 6 | Cock's-comb cryptantha |
| MP_29 | 7,800 | 69 detailed transects, 83 range health assessments, and 2 tame pasture assessments. | 6 coded 69 conditional | None |
| MP_30 | 800 | 6 detailed transects 10 range health assessments 32 visual reconnaissance | 16 coded 9 conditional | Cock's-comb cryptantha Fremont's goosefoot Moquin's sea-blite Spatulate bladderpod American pellitory Velvety goldenrod Rare Plant Community Greasewood/Nuttall's atriplex |

3.3.3 Riparian

The Alberta Riparian Habitat Management Society – Cows and Fish was contracted to complete riparian health assessments at 13 sites in 2015. Six transects were assessed on the Milk River, one on the North Milk River, three on tributaries, and three on lentic sites. All nine sites that were completed on reassessment properties were sites that were assessed during the original HCS, which gives MULTISAR excellent comparison data over the years.

3.3.4 Wildlife and Range Health Inferences

Compiling the data gathered from the wildlife, range and riparian health assessments on each property allows MULTISAR to make inferences regarding the range and riparian health of a site and the corresponding wildlife and habitat features observed. Using this information, management plans were created for each property, incorporating beneficial management practises for each management unit that promote sustainable ranching and habitat for species at risk.

3.3.5 Implementation of HCS Habitat Enhancements

In 2015, MULTISAR completed ten new habitat enhancements in 2015 and continued on with another eight enhancements initiated in previous years, including planting 2,000 needle and thread plugs and controlling Canada thistle on native grass restoration sites. MULTISAR installed 800 m of new wildlife friendly fence, and two landowners installed smooth wire on the bottom of their fences for a total of 15 km. MULTISAR continued work on test plots using @Simplicity to control Japanese and downy brome grass at two sites. A pasture pipeline was developed on one property and is using two solar fencers to protect sensitive riparian areas, and another producer fenced off trees and shrubs to protect them from cattle. MULTISAR also partnered with a landowner on a portable watering unit to be used around dugouts and wetlands and set up windbreaks on the upland to provide shelter for cattle to improve riparian habitat. MULTISAR also removed 4 miles of fence with page wire sections and installed 4 miles of wildlife friendly fencing (reflectors, perch deterrents, and smooth bottom wire) near a known active sage grouse lek via sage grouse funds received from Environment Canada. This brings the total number of direct on the ground enhancement projects completed by MULTISAR participants since 2005 to 117 (Figure 1).

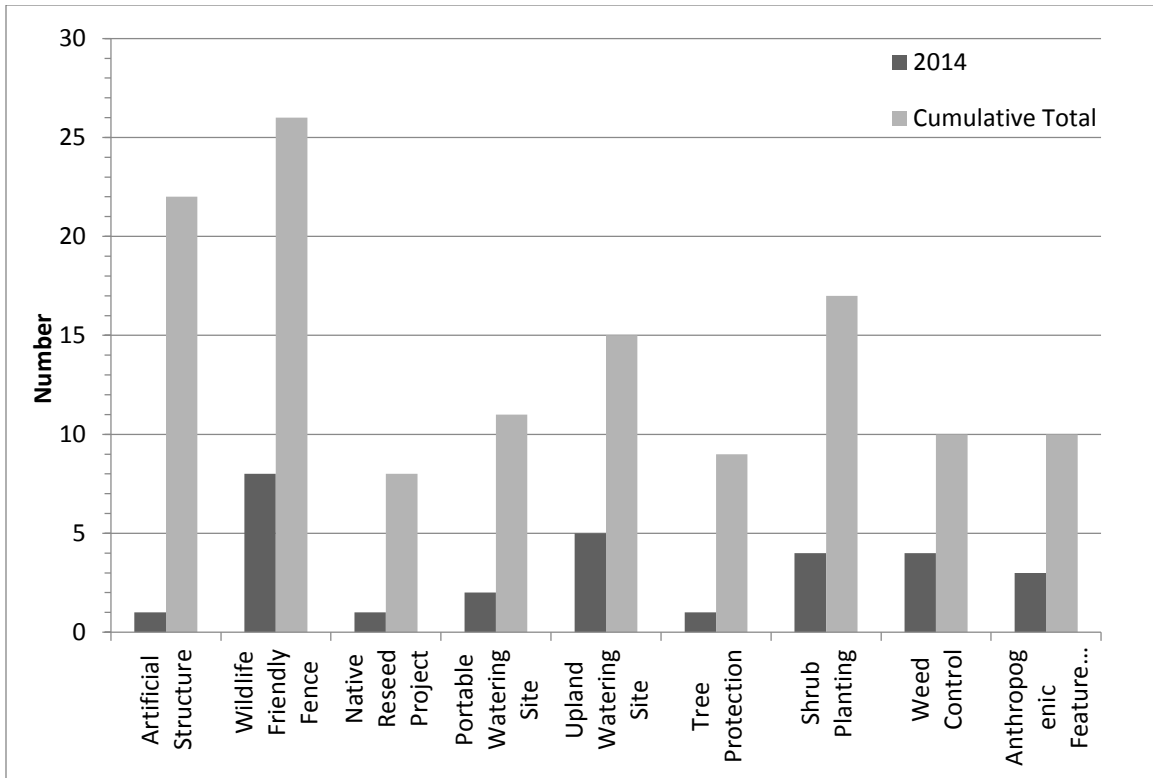


Figure 1. Habitat enhancement projects completed, by category, since 2005.

Habitat enhancement projects continue to be monitored through MULTISAR’s monitoring and evaluation protocol to ensure that the enhancements are having the desired positive impact on specific habitat and wildlife. Section 5.0 discusses in more detail, MULTISAR’s monitoring and evaluation process and the positive results that are being seen on the landscape as a result of these enhancement projects.

3.4 Conclusion

Over the last 14 years, MULTISAR has become increasingly more recognized and its HCS work has grown tremendously throughout the St Mary’s River, Pakowki Lake and Milk River basins. MULTISAR has developed plans for approximately 317,765 acres of land, of which a large portion is interconnected, allowing for landscape planning versus single property initiatives. MULTISAR will continue to make efforts to increase the land base worked on within priority areas and seek to “connect” additional properties adjacent to participating HCS landholders. MULTISAR has and will continue to provide open communication, information and awareness, team based wildlife habitat planning, and will continue to build long-term relationships with landholders, government, non-government organizations, and industry.

4.0 SPECIES AT RISK CONSERVATION PLANS

4.1 Introduction

In 2015-2016, MULTISAR continued the use of its extension program to influence rangeland management and benefit prairie wildlife habitats. Species at Risk Conservation (SARC) Plans were introduced in 2007 as an extension of the MULTISAR Habitat Conservation Strategy (HCS). They are a more condensed version of the HCS applied at the ranch level and delivered throughout the entire Grassland Natural Region (GNR) and the adjacent Rocky Mountain and Parkland Natural Regions.

Following a large demand for species specific or habitat specific management tools, MULTISAR introduced its Beneficial Management Practices (BMP) assessments in 2012-2013. Over the years, MULTISAR staff have been approached by landowners wanting to complete specific habitat improvements on their properties (e.g., installation of hawk nesting poles, water developments, etc.), but were not interested in having their entire property assessed through a traditional SARC Plan. They were focused on one aspect of their operation or one species or group of species and wanted guidance on that specific topic. For this reason, BMP specific assessments were developed that focused solely on the proposed habitat improvements or on the habitat requirement of species of interest.

4.2 SARC Plan/BMP Assessment Process

The MULTISAR SARC Plan process is divided into six steps: 1) identification of priority lands, 2) landholder contact, 3) preliminary background research, 4) on-site habitat assessment, 5) SARC Plan development and delivery, and 6) follow up. For a complete account of the SARC Plan process, please refer to the 2010-2011 MULTISAR Progress Report (Rumbolt *et al.* 2011).

Of the six steps noted above, the BMP assessment follows the same process as the SARC Plan, except for step one. These assessments are normally completed in response to a landowner's request as opposed to the active solicitation involved with the SARC Plan program.

4.3 Achievements

Since the inception of the SARC Plan program in 2007, 80 assessments (one in 2015-2016) have been completed throughout the GNR covering a total area of 155,374 acres. The SARC that was completed in 2015 was located on Willow Creek Provincial Park. This SARC was done in conjunction with range and riparian assessments that were completed by Alberta Parks and Cows and Fish, respectively. A joint report was created by Alberta Parks using information gathered through these assessments, which will help to guide the vegetative management on the park moving forward.

This was the fourth year that BMP specific assessments were completed. Two BMP assessments (on 320 acres) were completed this year for landowners who wanted to install artificial hawk nesting platforms, with interest in controlling Richardson's ground squirrels on their property in an ecological manner. Since beginning these assessments in 2012, MULTISAR has completed 16 BMP assessments for a total of 14,265 acres.

Several habitat improvements have been developed as demonstration sites on SARC Plan co-operator properties throughout the years and are periodically monitored to ensure that they are achieving their objectives. Habitat improvements include a nesting platform erected for ferruginous hawks, several wetland and riparian fencing projects, shelterbelt fencing, and portable watering unit development.

4.4 Discussion

Since their inception in 2007, SARC Plans initially were popular with landowners. This was due to the fact that the first ‘wave’ of SARC Plans were completed for people who were somewhat aware of the MULTISAR program and/or familiar with the MULTISAR staff. These established relationships led to many willing participants in the SARC Plan program.

Due to reduced funding, MULTISAR lost its Education and Outreach Coordinator in 2010. This position was key to promoting SARC Plans and aided in ultimately engaging participants in the program.

The following few years saw the number of SARC Plans slowly begin to taper off despite various attempts at garnering interest in the program (presentations, mail-outs, etc.). Figure 2 summarises the number of participating SARC Plan landowners/properties per year over the eight years of the program.

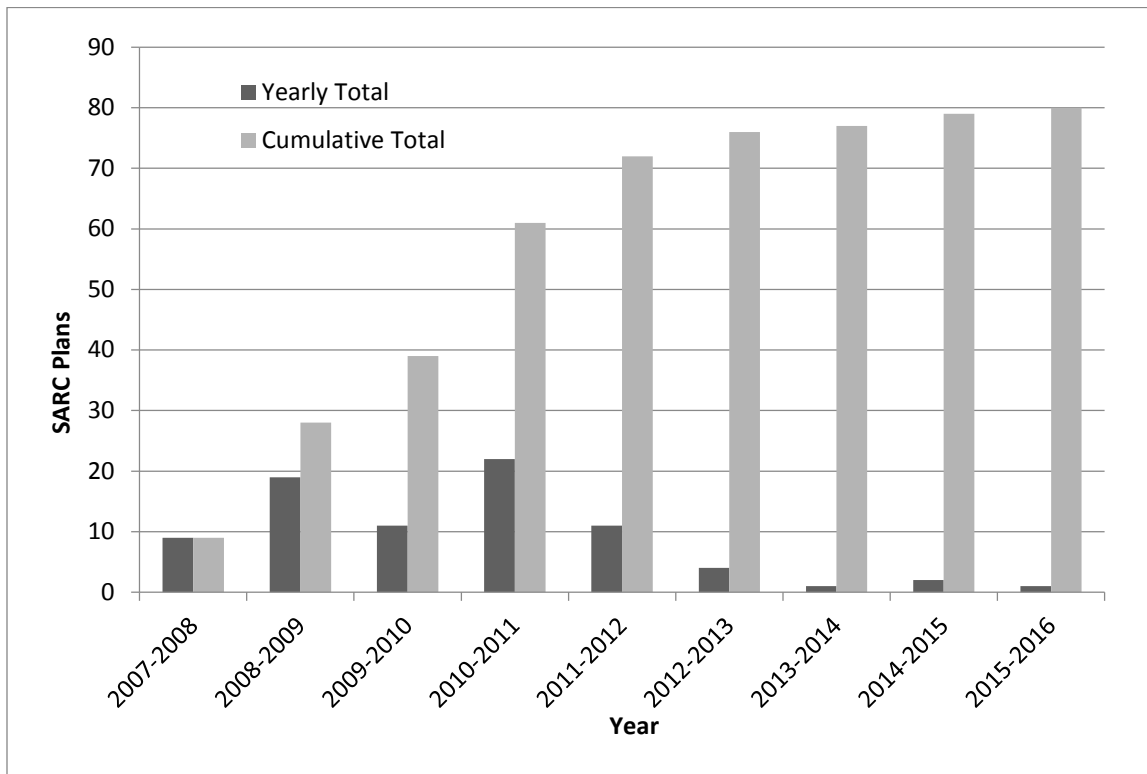


Figure 2. Number of SARC Plans completed since program inception.

In 2013, an evaluation of the SARC Plan program was completed. The results of this evaluation indicated that landowners who actively sought out MULTISAR and requested a SARC Plan were interested in the information MULTISAR provided and in making management changes to benefit wildlife habitat. Conversely, landowners who were first approached by MULTISAR were

often not as interested in the information provided and were not as likely to engage in implementing management changes that will benefit species at risk. Therefore, it was decided that SARC Plans would target those landowners who approached (or were referred to) MULTISAR and requested a plan. This scenario gives MULTISAR the best “bang for their buck”, as time and resources can focus on properties and landowners where the information passed on to them will be most useful.

This past year, all three plans that were completed were for landowners who were referred to MULTISAR and were subsequently contacted. The initial contact or knowledge of the program is typically from interactions of MULTISAR staff with landowners or other conservation organizations during various conferences, training days, tradeshow, etc.

4.5 Conclusion

Species at Risk Conservation Plans are ever evolving and are still seen as an important way for MULTISAR to reach out to a large number of landowners throughout the Grassland Natural Region and increase awareness of species at risk beneficial management practices. Without an Education and Outreach Coordinator, MULTISAR will continue to provide SARC and BMP plans on a responsive basis and promote them at various landowner events.

5.0 HABITAT CONSERVATION STRATEGY EVALUATION & MONITORING PROGRAM

5.1 Introduction

The year 2015-2016 marks the sixth year of MULTISAR’s evaluation and monitoring program. The process of monitoring and evaluating occurs on two levels: Re-assessment of Habitat Conservation Strategies (HCS) and monitoring of completed enhancements on properties that have an HCS. The following sections will provide a brief summary of MULTISAR’s evaluation and monitoring accomplishments for the year 2015-2016.

5.2 Evaluation of the HCS component of the MULTISAR Project

An evaluation of each HCS completed for the MULTISAR project can occur five years after its implementation. The main focus of this assessment is to measure the effectiveness of the HCS plan in influencing habitat management decisions, improving/maintaining habitat for species at risk, and improving the landholders’ perceptions of species at risk and their associated habitat. In 2015-2016, MULTISAR evaluated four HCSs; hereafter referred to as MP_5, MP_10, MP_11, and MP_16. Please refer to MULTISAR (2014), sections 5.2 – 5.2.2.2 for methodologies including survey requirements and statistical procedures for evaluating the HCS process.

5.2.1 HCS Evaluation Results for 2015

5.2.1.1 Range

MP_5 was initially assessed over several years from 2005 to 2007. From the 29 plots revisited in 2015 the overall health changed from $\bar{x} = 77.0\% \pm 15$ to $73.0\% \pm 15$ (n=29). Tame pastures have on average decreased slightly in health from $\bar{x} = 83.4\% \pm 10.5$ to $82.8\% \pm 13$ (n=14) and native sites have also decreased in health from $71.1\% \pm 16.6$ to $63.8\% \pm 10.6$ (n =15). Native areas desired to “increase” in range health (>10%) from baseline years did achieve this goal. However, native sites desired to “maintain” (were within $\pm 10\%$) range health did not achieve this goal. This result is not surprising as parts of this property were affected by a wild fire and grazing rotations had to be adjusted to let some areas rest. Tame sites desired to “maintain” range health on average achieved this goal increasing on average from 81.4% to 83.9% (Table 10).

When first assessed, across all sites revisited for MP_10, overall health changed from $51.9\% \pm 17$ in 2009 to $59.5\% \pm 17$ in 2015 (n=22). All areas assessed were either native or modified native pastures. Areas desired to “maintain” range health as well as areas desired to “increase” in range health on average achieved this goal.

On MP_11, we reassessed 25 range health locations, 20 sites were native or modified native areas, five were tame or modified tame. Overall health changed from $70\% \pm 20$ to $66\% \pm 17$ (n = 25). Native sites with an “increase” in health goal did increase but not significantly and sites with a “maintain” goal did succeed maintaining health within 10% (Table 10). The sample size for tame areas reassessed was very small (n=5) with trends harder to report on, yet on average, desired “maintain” and “increase” in health areas are actually decreasing in range health (Table 10).

In 2015, we reassessed 12 range health locations on MP_16. Due to time constraints, range data for MP_16 was not able to be analyzed prior to printing and will be included in next year’s annual report.

Table 10. Comparison of range health values between baseline surveys and reassessment surveys for cooperating MULTISAR participants.

| Desired Outcome | MP_5 | | | MP_10 | | | MP_11 | | |
|------------------------------|----------|----------|--|---------|---------|------------------------------------|---------|---------|--|
| | *Base RH | *Eval RH | Desired trend occurring | Base RH | Eval RH | Desired trend occurring | Base RH | Eval RH | Desired trend occurring |
| Native “Maintain” $\pm 10\%$ | 79.6% | 66.3% | No n= 10 t= -5.02 p<0.005 | 68.8% | 70.2% | Yes n= 5 t= 0.16 p= 0.88 | 81.2% | 75.9% | Yes n= 9 t= -1.79 p= 0.11 |
| Native “Increase” > +10% | 48.8% | 60.3% | Yes n= 4 Increasing, but sample size small | 46.9% | 56.4% | Yes n= 17 t= 3.45 p<0.005 | 54.8% | 58.9% | Not But improving n= 11 t= 1.27 p= 0.23 |
| Native “Decrease” > -10% | 75% | 53% | n= 1 Decreasing, but sample size small | N/A | N/A | N/A | N/A | N/A | N/A |

| Desired Outcome | MP_5 | | | MP_10 | | | MP_11 | | |
|----------------------------------|----------|----------|--|---------|---------|-------------------------|---------|---------|---|
| | *Base RH | *Eval RH | Desired trend occurring | Base RH | Eval RH | Desired trend occurring | Base RH | Eval RH | Desired trend occurring |
| Tame "Maintain" ±10% | 81.4% | 83.9% | Yes n= 10 t= 0.62 p= 0.55 | N/A | N/A | N/A | 88.3% | 64.5% | No n= 4 Decreasing, but sample size small |
| Tame "Increase" > +10% | N/A | N/A | N/A | N/A | N/A | N/A | 65% | 60% | No n= 1 Decreasing, but sample size small |
| Tame "Decrease" > -10% | 88.5% | 80% | n= 4 Maintaining, but sample size small | N/A | N/A | N/A | N/A | N/A | N/A |

N/A = was not a recommendation for this property * = all baseline and evaluation range health scores here are averages

5.2.1.2 Riparian

In 2015 all 4 properties had riparian assessments completed (Table 11). MP_5 had riparian health inventories reassessed on four sites by Cows and Fish, with all sites assessed using Large River Health Assessment protocols. All sites have seen health improvements. On MP_10 one lotic and one lentic site were assessed, with the lentic site improving out of an "unhealthy" category and into "healthy but with problems". For MP_11, two sites were re-assessed, one large river site and one lotic site. Both sites saw little to no change in health scores. The MP_16 property had one lentic and one lotic site revisited and found that the health of both of these sites are improving.

Table 11. Riparian Health Reassessments for assessed HCS properties

| Property | Inventory* | Baseline Year | Reassessment Year | Trend |
|----------|-------------------------|---------------|-------------------|------------------------------------|
| MP_5 | Lotic: large river 1 | 49% | 55% | Improving |
| | Lotic: large river 2 | 53% | 62% | Improving |
| | Lotic: large river 3 | 44% | 47% | No Change/Slight Improvement |
| | Lotic: large river 4 | 54% | 63% | Improving |
| MP_10 | Lotic 1 | 63% | 65% | No Change/Slight Improvement |
| | Lentic 1 | 57% | 62% | Improving |
| MP_11 | Lotic: large river 1 | 72% | 69% | No Change/Slight Decline |
| | Lotic 2 | 53% | 53% | No Change |
| MP_16 | Lotic | 68% | 75% | Improving |
| | Lentic | 71% | 75% | Improving |

* Name changed for landowner privacy

5.2.1.3 Wildlife

Several wildlife surveys from the baseline years on MP_5, MP_10, MP_11, and MP_16 were repeated in 2015. For this report we will focus on multi-species point count surveys with comparisons on species richness and species diversity between baseline year to assessment year. Fifteen multi-species survey point counts were resurveyed on MP_5. Species richness and diversity were only evaluated based on avian species due to the more arbitrary encounters with other wildlife such as mammals. Species richness has increased slightly from 4.5 ± 2 to 5.4 ± 2.5 ($t = -1.078$, $p = 0.299$) and species diversity decreased slightly from 1.23 ± 0.43 to 1.22 ± 0.53 ($t = -0.04$, $p = 0.97$) per point count location. Based on all birds encountered in the baseline year and the reassessment year for MP_5, species seen the most frequently included chestnut-collared longspur (*Calcarius ornatus*), horned lark (*Eremophila alpestris*), and savannah sparrow (*Passerculus sandwichensis*) (Table 12). Of special note, this property did see a large increase in Richardson’s ground squirrels (*Urocitellus richardsonii*).

Twenty-five point counts were compared on MP_10 and species richness has significantly decreased from 4.92 ± 2.5 in 2009 to 2.88 ± 1.6 ($t = 4.15$, $p = 0.0004$) in 2015 ($n = 25$). In addition, species diversity has changed from 1.33 ± 0.52 to 0.9 ± 0.48 ($t = 3.92$, $p = 0.0006$). General observations included a decline in some of the grassland bird species and doubling of Richardson’s ground squirrels.

Thirty-seven point counts were completed on MP_11. Avian species richness has decreased from 5.2 ± 1.4 ($n = 37$) to 3.2 ± 1.5 on the property since 2009. General observations from the surveys included a decrease in most of the grassland bird species including horned larks, savannah and vesper sparrows (*Pooecetes gramineus*), and western meadowlark (*Sturnella neglecta*), with the most drastic losses seen with chestnut-collared longspur (from 19 to 1) and

Sprague’s pipit (*Anthus spragueii*, from 16 to 0). This property did see a large increase in Richardson’s ground squirrels.

For MP_16, twelve point counts were completed. Avian richness has gone from 4.5 ± 1.57 to 4.25 ± 1.42 ($t= 1$, $p= 0.34$). Species diversity has decreased slightly from 1.32 ± 0.36 to 1.22 ± 0.35 ($t= 1.40$, $p= 0.19$). Some species have gone up in numbers and some have gone down.

Table 12 compares the top ten avian species seen in each of the properties baseline year to their reassessment year.

Table 12. Most abundant avian species from point count data for baseline and reassessment years.

| Property | Baseline year | | Reassessment year | |
|--|----------------------------|----------------|--|------------------|
| | Species | Count | Species | Count |
| MP_5 | Chestnut-collared longspur | 48 | Chestnut-collared Longspur | 36 |
| | Horned Lark | 18 | Horned Lark | 28 |
| | Savannah Sparrow | 15 | Savannah Sparrow | 24 |
| | Western Meadow Lark | 14 | Western Meadowlark | 19 |
| | Vesper Sparrow | 7 | Vesper Sparrow | 12 |
| | Sprague's Pipit | 6 | Brewer's Sparrow | 7 |
| | Barn Swallow | 5 | Clay-Colored Sparrow | 6 |
| | Brown-Headed Cowbird | 5 | Sprague's Pipit | 4 |
| | McCown's Longspur | 5 | Baird's Sparrow | 3 |
| | Baird's Sparrow | 3 | Lark Bunting | 3 |
| | MP_10 | Vesper Sparrow | 49 | Savannah Sparrow |
| Savannah Sparrow | | 38 | Vesper Sparrow | 14 |
| Clay-Colored Sparrow | | 24 | Clay-Colored Sparrow | 13 |
| Canada Goose | | 22 | Brewer’s Blackbird | 11 |
| Western Meadowlark | | 13 | Red-winged Blackbird | 8 |
| Yellow-headed Blackbird | | 12 | Black-billed Magpie | 6 |
| Red-winged Blackbird | | 10 | Western Meadowlark/ American Wigeon | 5 |
| Brewer’s Blackbird | | 10 | Common Raven | 3 |
| Black-billed Magpie | | 8 | Black Tern/Common Grackle/Common Snipe/Ferruginous Hawk/Sora | 2 each |
| Mallard/Eastern Kingbird/Common Snipe | | 6 each | Gadwall/Killdeer/Mallard/ Swainson’s Hawk/Willet | 1 each |

| Property | Baseline year | | Reassessment year | |
|----------|--|--------|---|--------|
| MP_11 | Horned Lark | 76 | Horned Lark | 47 |
| | Savannah Sparrow | 59 | Vesper Sparrow | 38 |
| | Vesper Sparrow | 46 | Savannah Sparrow | 35 |
| | Western Meadowlark | 42 | Clay-colored Sparrow | 28 |
| | Ring-billed Gull | 29 | Western Meadowlark | 11 |
| | Clay-colored Sparrow | 20 | Brewer's Blackbird | 8 |
| | Chestnut-collared Longspur | 19 | Mallard | 5 |
| | Sprague's Pipit | 16 | Barn Swallow | 3 |
| | Brown-headed Cowbird | 9 | Common Snipe | 3 |
| | Brewer's Blackbird | 7 | Northern Harrier | 3 |
| MP_16 | Brewer's Blackbird | 30 | Savannah Sparrow | 40 |
| | Savannah Sparrow | 30 | Clay-colored Sparrow | 30 |
| | Clay-colored Sparrow | 22 | American Goldfinch | 6 |
| | Vesper Sparrow | 13 | Brown-headed Cowbird | 6 |
| | Western Meadowlark | 10 | Common Yellowthroat | 6 |
| | American Widgeon | 4 | Brewer's Sparrow | 4 |
| | Northern Shoveler | 3 | Brewer's Blackbird | 3 |
| | Brown-headed Cowbird | 2 | Vesper Sparrow | 3 |
| | Mallard | 2 | Western Meadowlark | 3 |
| | Black-billed Magpie/ Brewer's Sparrow/Northern Harrier | 1 each | Barn Swallow/Common Snipe/Eastern Kingbird | 2 each |

5.2.1.4 Questionnaire

Overall, the results of the questionnaires completed were very positive. The landholders valued the friendly and collaborative work that MULTISAR has provided and appreciates MULTISAR's multi-partner, multi-species and grassroots approach.

Prior to working with MULTISAR, the participants had reservations about species at risk because of their impressions of the federal government's authority on these species. After having worked with MULTISAR for a minimum of five years, most participants have increased their appreciation for species at risk and view them more as an asset and not a liability.

All four participants are still willing to complete projects that help benefit their cattle operations as well as wildlife and have agreed to voluntarily work with MULTISAR for another 5 years.

5.2.2 Concluding Remarks

For the three HCS properties that were reassessed and range data was analyzed, it was determined that range health objectives were more often met than were not for each property. Continuing to strive for a varied landscape will benefit both the livestock producer's cattle and wild species' habitat.

When looking at the wildlife, we get more mixed results. The top five bird species recorded for the baseline year for MP_5 were also the top five in 2015 with numbers increasing in all instances except for chestnut-collared longspur. For MP_10 we are seeing a large decline in vesper and clay-colored sparrows. MP_11 has seen a drastic change in species composition with large decreases in grassland bird numbers. This property is at the western extent of many of our grassland species' distribution and we may be witnessing a range contraction for many of these birds at our western properties. MP_16 is also considered a western property, with varied results showing some species increasing and others decreasing. Little is known about the factors surrounding and causing declines of grassland birds in our area, however, MULTISAR will be looking into this with further years of monitoring and study.

In forthcoming years, based on knowledge acquired through the HCS re-evaluation process, modifications may be made to recommendations and desired outcomes for each property. In addition, adjustments may also be made to allow for improved assessments and monitoring for each HCS. In 2016, it is expected that MP_1, MP_13/18, MP_17, MP_15 and, MP_20 will be reassessed.

5.3 Monitoring Habitat Enhancements on HCS Participants

Monitoring is the periodic collection of data to determine if activities are accomplishing the project goals and objectives. Monitoring enhancements can help aid in the evaluation process (Margoluis and Salafsky 1998). Problems and corrective actions identified during monitoring can help direct future enhancements and/or monitoring protocols. However, determining the success of an enhancement can be a complex question since the habitat manipulation (enhancement) can cause varied effects and effects may not be linked to the manipulation (Fletcher et al. 2007). Twenty-three enhancements, which were implemented on several different properties as a result of HCS recommendations, were monitored in 2015. The following will be a summary of the findings for this year.

5.3.1 Restoration Projects

Conversion of cropland back to native grasses can benefit a suite of species. Monitoring of enhancement projects that involve native grass restoration is completed every year for several consecutive years. For detailed objectives and desired measures of success for MULTISAR restoration projects see Downey et al. (2011; Section 5.3.1). Monitoring at three MULTISAR restoration sites were conducted in 2015. MP_7 has two reseeding projects (RP); RP_01, implemented in 2008 and RP_02 implemented in 2011 of which we only looked at RP_02. MP_18 has two different reseeded projects RP_01 (fall 2011) and RP_02 (spring 2012).

MP_7 RP_02 has seen an increase in litter amounts, an increase in desired species, as well as an increase in range health (Table 13). Additional growing seasons and monitoring are still needed to determine any trends for this site.

For the fall reseed on MP_18, only 2 range health areas were assessed as one spot was sprayed for weeds at the time of evaluation. Both the fall and spring reseed have seen a large increase in range health and in particular the spring reseed jumped from an “unhealthy” category to a “healthy with problems” category (Table 14).

Table 13. Range information collected for restoration project MP_7_RP_02.

| Total of 2 transects/range health assessments | 2012 | 2013 | 2014 | 2015 |
|--|-------------|-------------|-------------|-------------|
| Range Health % Average | 45 | 40 | 42 | 72.5 |
| Total Vegetative Cover % Average | 59.2 | 74.1 | 77.2 | 77.4 |
| Litter Average (lbs) | 172 | 175 | 255 | 425 |
| Needle and Thread Grass% Average | 0.1 | 0.15 | 0.1 | 0.5 |
| June Grass % Average | 4.5 | 4.95 | 4.55 | 6.4 |
| Blue Grama Grass % Average | 3.8 | 2.6 | 2.3 | 2.8 |
| Northern Wheatgrass % Average | N/A | 8.9 | 4.55 | 7.1 |
| Western Wheatgrass % Average | N/A | 3.7 | 3.3 | 4.9 |
| Silver Sagebrush % Average | <1 | 1.5 | <1 | <1 |
| Average Wheatgrasses species %* | 5.5 | N/A | N/A | N/A |

N/A: not recorded; *combined when they were not discerned to individual species

Table 14. Range information collected for restoration project MP_18_RP_01 and RP_02.

| Total of 3 transects/range health assessments in each RP | RP_01 2012 | RP_01 2013 | RP_01 2014 | **RP_01 2015 | RP_02 2012 | RP_02 2013 | RP_02 2014 | RP_02 2015 |
|---|-------------------|-------------------|-------------------|---------------------|-------------------|-------------------|-------------------|-------------------|
| Range Health % Average | 40 | 36 | 37 | 45.5 | 42 | 37 | 43 | 71.6 |
| Litter Average (lbs) | 483 | 467 | 433 | 475 | 371 | 225 | 308 | 683 |
| Total Vegetative Cover % Average | 60 | 86 | 93 | 91 | 69 | 80 | 87 | 86 |
| Needle and Thread Grass% Average | 0.17 | 0.23 | 0.23 | 0.1 | 0.4 | 0.5 | 0.9 | 0.07 |
| June Grass % Average | 0.1 | 2.2 | 4.5 | 7.95 | 1.2 | 3.9 | 5.6 | 5.1 |
| Blue Grama Grass % Average | 0.6 | 1.9 | 2.3 | 2.6 | 1.3 | 4.1 | 3.3 | 5.7 |
| Northern Wheatgrass% Average | N/A | 2.6 | 4 | 7.4 | N/A | 4.2 | 5.4 | 10 |
| Western Wheatgrass% Average | N/A | 1.3 | 1.4 | 3.6 | N/A | 5 | 4.3 | 7.1 |
| Silver Sagebrush% Average | 0 | 0 | 0 | <1 | 0 | 0 | 0 | <1 |
| Average Wheatgrasses species%* | 2.1 | N/A | N/A | N/A | 2.5 | N/A | N/A | N/A |

*combined when they were not discerned to individual species

**only 2 range health areas were evaluated in 2015 due to weed spraying.

The wildlife component of the reseeded projects was determined by completing wildlife point counts at historic point count locations (control and reference sites were also monitored but not discussed here). The following tables look at the trends for five different grassland bird species: Baird's sparrow (*Ammodramus bairdii*), grasshopper sparrow (*Ammodramus savannarum*), Sprague's pipit, chestnut-collared longspur, and McCown's longspur (*Rhynchophanes mccownii*). The tables look at total numbers of each species per reseed treatment location comparing baseline data (year of treatment or year prior to treatment) with data collected in 2015, and only compares point count data, omitting any incidental sightings (Tables 15 and 16).

MP_7 RP_01 has seen a gradual increase in the number of desirable species while RP_02 has dramatically increased in desirable species from survey results from 2014. Further monitoring will be conducted every year as grazing of the sites has been incorporated

In both treatment sites for MP_18, we see a decline in grasshopper sparrows, and for RP_02 we are seeing the establishment of other species such as Sprague's pipit and McCown's longspur. Additional years of monitoring are recommended at these sites to assess trends.

Table 15. MP_7_RP_01 and RP_02 grassland bird trend.

| MP_7 Species | RP_01 2009 | RP_01 2010 | RP_01 2011 | RP_01 2012 | RP_01 2013 | RP_01 2014 | RP_01 2015 | RP_02 2012 | RP_02 2013 | RP_02 2014 | RP_02 2015 |
|----------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Sprague's Pipit | 0 | 3 | 1 | 6 | 6 | 3 | 5 | 0 | 0 | 0 | 6 |
| Grasshopper Sparrow | 0 | 11 | 1 | 3 | 4 | 1 | 3 | 0 | 0 | 2 | 5 |
| Baird's Sparrow | 1 | 5 | 2 | 4 | 2 | 2 | 6 | 0 | 3 | 0 | 1 |
| Chestnut-collared Longspur | 0 | 4 | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 1 | 0 |
| McCown's Longspur | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 16. MP_18_RP_01 and RP_02 grassland bird trend.

| MP_18 Species | RP_01 2011 | RP_01 | RP_01 | RP_01 | RP_01 | RP_02 2011 | RP_02 | RP_02 | RP_02 | RP_02 |
|----------------------------|-----------------|-------|-------|-------|-------|-----------------|-------|-------|-------|-------|
| | (pre-treatment) | 2012 | 2013 | 2014 | 2015 | (pre-treatment) | 2012 | 2013 | 2014 | 2015 |
| Sprague's Pipit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Grasshopper Sparrow | 0 | 0 | 3 | 17 | 9 | 0 | 0 | 3 | 13 | 2 |
| Baird's Sparrow | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 4 |
| Chestnut-collared Longspur | 2 | 2 | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| McCown's Longspur | 6 | 5 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 1 |

5.3.2 Shrub Planting and Shelterbelt

Shelterbelts and shrub planting can increase nesting habitat for a variety of wildlife species such as ferruginous hawks (*Buteo regalis*) and loggerhead shrikes (*Lanius ludovicianus*), and increase forage/winter habitat for greater sage-grouse (*Centrocercus urophasianus*), sharp-tailed grouse (*Tympanuchus phasianellus*) and pronghorn (*Antilocapra americana*). Shrubs will be monitored yearly for the first five years (unless deemed to be thriving or not successful at all), to determine establishment and growth. See Downey et al. (2011; Section 5.3.2) for more detailed objectives and desired measures of success for shelterbelt and shrub planting.

Five previously planted sites were monitored to record shrub and forb presence (Table 17). It may take multiple years for newly planted species to establish substantially as they must compete with other vegetative species, adjust to local moisture levels, and are at risk of being browsed considerably by wildlife.

In 2014, MULTISAR planted silver sagebrush plugs at MP_13 and American vetch (*Vicia americana ssp*), golden bean (*Thermopsis rhombifolia*) and silver sagebrush plugs at MP_18. Two hundred plugs of one species were planted in 15x15 foot marked plots. This new methodology made monitoring easier in 2015. Since survival has been determined low for the last several monitoring years, 2014 may mark the last year of planting of shrubs and forbs. Continuing portions of this enhancement type will be based on results found during monitoring of those sites planted in 2014. In a different attempt, needle and thread grass (*Stipa comata*) plugs were planted in the summer of 2015 which will be monitored in 2016.

Table 17. Shrub monitoring in 2015.

| Property | Year planted | Species | Number of plots | Percent survivorship |
|--------------|--------------|------------------------|-----------------|----------------------|
| MP_18_SSP_06 | 2014 | Silver Sagebrush plugs | 1 | 48% |
| MP_18_SSP_07 | 2014 | Golden bean plugs | 1 | 0% |
| MP_18_SSP_08 | 2014 | Vetch plugs | 1 | 0% |
| MP_13_SSP_02 | 2014 | Silver Sagebrush plugs | 2 | 7.8% |

5.3.3 Artificial Nesting/Roosting Structures

Artificial structures are used by MULTISAR in areas which have potential to support a species at risk without negatively impacting other species in the area. Artificial structures include raptor nest poles, bat boxes, and burrowing owl (*Athene cunicularia*) burrows. Refer to Section 5.3.3 of Downey et al. (2011) for objectives and desired measures of success for all of MULTISAR’s artificial structures.

Artificial nesting structures monitored in 2015 included 10 nest poles installed for ferruginous hawks. The nest poles are monitored for raptor use and Richardson’s ground squirrels are surveyed as an indicator of prey availability in the area (Table 18).

Table 18. Artificial nesting structure monitoring.

| Participant | Enhancement | Year Implemented | Desired Species | 2015 Desired Effect/Trend Occurring | 2013 Richardson's Ground Squirrels (adults only) | 2014 Richardson's Ground Squirrels (adults only) | 2015 Richardson's Ground Squirrels (adults only) |
|--------------------|--------------------|-------------------------|------------------------|--|---|---|---|
| MP_8 | 4 Nest Poles | 2012 and 2014 | Ferruginous Hawk | Yes: Three nests active with Ferruginous hawks | Within 3.4km ² 288 ground squirrels were counted | Within 3.6km ² 258 ground squirrels were counted | Within 3.8km ² 210 ground squirrels were counted |
| MP_26 | 2 Nest Poles | 2013 | Ferruginous Hawk | 1 of 2 nest poles in use by Ferruginous hawk | Within 3.4km ² 71 ground squirrels were counted | Within 3.8km ² 84 ground squirrels were counted | Within 3.8km ² 177 ground squirrels were counted |
| MP_6 | 3 Nest Poles | 2013 | Ferruginous Hawk | 1 of 3 poles being used by Ferruginous hawk and the others have had raptor perching but no nesting | N/A | Within 3.0km ² 138 ground squirrels were counted | Within 2.4km ² 142 ground squirrels were counted |
| MP_25 | 1 Nest Pole | 2013 | Ferruginous Hawk | Yes: nest active with Ferruginous hawk | N/A | Within 4.0km ² 32 ground squirrels were counted | Within 4.0km ² 59 ground squirrels were counted |

5.4 Future Direction

In 2016 MULTISAR will continue to monitor a sub-sample of enhancement projects to determine if desired effects are occurring. Before-After-Control-Impact design (BACI) will continue to be utilized to build habitat representations before and after treatments as well as look at control sites. In 2016, 73 enhancement sites are scheduled for monitoring (Table 19).

Table 19. Monitoring of enhancement projects in 2016.

| Enhancement Type and associated items to monitor | Number |
|---|--|
| Artificial Structures: <ul style="list-style-type: none"> • Nest poles (12) • Richardson’s ground squirrel transects (4) • Bat boxes (1) • Burrowing owl tunnels (2) | 19 |
| Restoration Projects: <ul style="list-style-type: none"> • Range health transects • Wildlife point counts | 6 Sites (3 properties) |
| Shrub/Forb and Shelterbelt planting: <ul style="list-style-type: none"> • 15x15 plots monitored for shrubs/forbs (5) • Monitoring of grass plugs (2) • Willow planting (1) | 8 sites |
| Weed Control <ul style="list-style-type: none"> • Includes 2 spraying trails | Discussions with 5 property owners on control success |
| Portable Watering Sites: <ul style="list-style-type: none"> • Wildlife point count • Emergent vegetation recorded • Photos | 12 |
| Upland Watering Sites: <ul style="list-style-type: none"> • Wildlife point counts • Range health transects • Photos taken | 12 |
| Tree and Shrub protection: <ul style="list-style-type: none"> • Wildlife point count • Vegetation regrowth recorded • Photos taken | 7 |
| Anthropogenic Feature Mitigation | 1 |
| Riparian Enhancement: <ul style="list-style-type: none"> • Portable wind breaks (2) | 3 |
| Fencing projects | 4 |

6.0 MULTISAR & THE RECOVERY OF ALBERTA'S SPECIES AT RISK

6.1 Introduction

The MULTISAR project provides conservation of multiple species at risk (SAR), and associated fish and wildlife, within the Grassland Natural Region (GNR) of Alberta. A key component of the MULTISAR project is to implement recovery actions for *Endangered* and *Threatened* species in the GNR. To better understand how MULTISAR is addressing the recovery of species at risk, a review of existing Provincial and National Recovery Plans was completed. This review included:

- Burrowing owl (*Athene cunicularia*) (Alberta Environment and Sustainable Resource Development 2012a)
- Ferruginous hawk (*Buteo regalis*) (Alberta Ferruginous Hawk Recovery Team 2009)
- Greater sage grouse (*Centrocercus urophasianus*) (Alberta Environment and Sustainable Resource Development 2013)
- Short-horned lizard (*Phrynosoma douglasii*) (2012-13 Recovery Action Summary 2013c)
- Swift fox (*Vulpus vulpus*) (Alberta Swift Fox Recovery Team 2007)
- Northern leopard frog (*Lithobates pipiens*) (Alberta Environment and Sustainable Resource Development 2012)
- St. Mary's/Rocky Mountain sculpin (*Cottus bairdi*) (The Alberta Rocky Mountain Sculpin Recovery Team 2013)
- Stonecat (*Noturus flavus*) (The Milk River Species at Risk Recovery Team 2014)
- Western silvery minnow (*Hybognathus argyritis*) (The Milk River Fish Species at Risk Recovery Team 2008)
- Soapweed (*Yucca glauca*) and yucca moth (*Tegeticula yuccasella*) (Alberta Environment and Sustainable Resource Development 2013)
- Small-flowered sand-verbena (*Tripterocalyx micranthus*) (Alberta Small-flowered Sand-verbena Recovery Team 2012)
- Tiny Cryptantha (*Cryptantha minima*) (Alberta Tiny Cryptantha Recovery Team 2012)

Additionally, provincial *Sensitive* and *Species of Special Concern* Management Plans were also reviewed.

- Harlequin duck (*Histrionicus histrionicus*) (Alberta Sustainable Resource Development 2010b)
- Long-billed curlew (*Numenius americanus*) (Alberta Sustainable Resource Development 2010c)
- Prairie falcon (*Falco mexicanus*) (Alberta Environment and Sustainable Resource Development 2012b)
- Sprague's pipit (*Anthus spragueii*) (Alberta Sustainable Resource Development 2010d)
- Western blueflag (*Iris missouriensis*) (Canada Western Blueflag Maintenance/Recovery Team 2002)

For each species, a review of the recovery and management actions that have been addressed by MULTISAR since the program's inception in 2002 or will be addressed by MULTISAR in the future was conducted. The following details how MULTISAR addresses the recovery actions and provides measures of success.

6.2 Burrowing Owl

6.2.1 Recovery Strategy: Habitat Management and Protection

Determine beneficial management practices (BMPs) and encourage stewardship using the best available knowledge to enhance the quality of burrowing owl habitat and increase burrowing owl densities.

Table 20. MULTISAR’s contribution to the implementation of Habitat Management and Protection actions identified in the Alberta Burrowing Owl Recovery Plan (AESRD 2012a).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|--|---|---|
| 1. Stewardship: Promote habitat conservation programs to private landholders. | <ul style="list-style-type: none"> • MULTISAR is a conservation program designed for landholders with SAR on their land. • MULTISAR works cooperatively with other non-government organizations to support private landholders. | <ul style="list-style-type: none"> • 30 HCSs and 79 SARC Plans have been completed as of March 2016. • MULTISAR has directly contacted over 300 landholders about the species. |
| 2. Implementation of Beneficial Management Practices | <ul style="list-style-type: none"> • Developed BMPs for the species in 2004. • Implements BMPs in the Milk River Basin through the HCS program. • Implements BMPs throughout the GNR through the SARC Plan program. | <ul style="list-style-type: none"> • Developed BMPs for the species which were adopted by the Alberta Recovery Team as the Burrowing Owl BMPs. • Distributed Burrowing Animals BMP information via brochures or within reports to approximately 55 landholders throughout the GNR. • Recommended burrowing owl BMPs on approximately 107,642 acres on HCS properties and 16,500 acres on SARC Plan properties. |
| 3. Management of fossorial mammals: Encourage land managers to maintain management systems that sustain availability of fossorial animal burrows for burrowing owls. 4. Manage control of | <ul style="list-style-type: none"> • Developed BMPs for keystone species. • Monitored ground squirrel populations throughout the GNR and through the HCS program. • Encourages landholders to provide habitat for keystone species through the HCS and SARC Plan programs. | <ul style="list-style-type: none"> • Provided management recommendations specifically for keystone species on 118,858 acres. • MULTISAR team has helped influence landholders to maintain over 259,981 acres of native prairie habitat for use by keystone species. • Created 2 artificial nest burrows for burrowing owls to compensate for the lack of keystone species in these areas. |

| Actions as Identified in the Recovery Plan | MULTISAR's Contribution | Measure of Success |
|--|---|--|
| fossorial animals | | <ul style="list-style-type: none"> • Distributed 55 burrowing animals BMPs via brochures or within reports. |
| <p>6. Enhance Habitat Quality: Increase the area and enhance the quality of burrowing owl habitat through increasing habitat patch sizes and reducing habitat fragmentation.</p> | <ul style="list-style-type: none"> • The MULTISAR project promotes a mosaic of range regimes and grass heights through: <ol style="list-style-type: none"> 1. MULTISAR BMPs 2. HCSs 3. SARC Plans 4. MULTISAR's Education Outreach and Awareness Program • HCS program identifies key habitat for conservation of burrowing owls and other species at risk and develops an integrated plan balancing the needs of the species with the other land users, including the rancher. • Works on both private and public land. • Uses the concept of "natural variation" in range management. • Promotes habitat connectivity. • Promotes re-seeding projects in marginal areas surrounded by native prairie. • Incentives are provided to landholders as free assessments through the HCS and SARC Plan program, and the implementation and cost sharing of habitat improvement projects for rangelands. | <ul style="list-style-type: none"> • 30 HCSs have been completed as of March 2016. • By March 2016, the HCS program has been active on 317,252 acres and 155,175 acres respectively through the HCS and SARC Plan program. • 107,642 of acres conserved for burrowing owls through the HCS program and 16,500 acres conserved through SARC Plans. • More than 28 habitat improvements developed through the MULTISAR project using incentives from other NGOs and existing government programs. • 1,400 acres have been re-seeded to native cover. • Over 259,981 acres are currently being maintained as native prairie habitats by MULTISAR. |
| <p>7. Minimize impacts of industrial development</p> | <ul style="list-style-type: none"> • Information on the effects of industrial developments is included in all HCSs and SARC Plans. • Developed and updated an Industrial Guidelines brochure for landholders. | <ul style="list-style-type: none"> • Over 312 landholders have been given information on minimizing the impact of industrial developments. Recommended setbacks and timing conditions match the GOA/AER recommendations. |
| <p>9. Integrated Management</p> | <ul style="list-style-type: none"> • Developed Habitat model for the burrowing owl. | <ul style="list-style-type: none"> • MULTISAR developed the HSI model to identify habitat |

| Actions as Identified in the Recovery Plan | MULTISAR's Contribution | Measure of Success |
|---|---|---|
| Planning: Provide burrowing owl conservation input in to land management planning processes. | <ul style="list-style-type: none"> Assisted in developing a user friendly tool to identify areas of high priority for the burrowing owl. | <p>for the species on the landscape. Currently developing a Grassland Vegetation Inventory-based Resource Selection Function (RSF) model.</p> <ul style="list-style-type: none"> HSI tool available for use by all prairie region biologists and is available for download by industry and the public on the ESRD website. |

6.2.2 Recovery Strategy: Population Conservation and Management

Implementation of policies and programs that maintain or increase the burrowing owl population in Alberta.

Table 21. MULTISAR's contribution to the implementation of the Population Conservation and Management actions identified in the Alberta Burrowing Owl Recovery Plan (AESRD 2012a)

| Actions as Identified in the Recovery Plan | MULTISAR's Contribution | Measure of Success |
|---|--|--|
| <p>1. Reduce Avian Predation: Implement BMP's to reduce mortality arising from avian predation.</p> <p>3. Limit negative impacts of pesticides.</p> | <ul style="list-style-type: none"> Developed BMPs for the species in 2004, which discussed reducing perch locations for avian predators. BMPs also discussed their sensitivity to pesticides and the need to leave a 500m setback distance around burrows when applying pesticides. Performed pre-development surveys prior to installation of hawk nesting platforms and fences to reduce conflicts between avian predators and burrowing owls. | <ul style="list-style-type: none"> Distributed burrowing animal BMPs to 55 landowners throughout the GNR. |

6.2.3 Recovery Strategy: Population Monitoring

Monitor populations of burrowing owls.

Table 22. MULTISAR's contribution to the implementation of Population Monitoring actions identified in the Alberta Burrowing Owl Recovery Plan (AESRD 2012a).

| Actions as Identified in the Recovery Plan | MULTISAR's Contribution | Measure of Success |
|---|---|---|
| 1. Systematic Monitoring: Implement long-term | <ul style="list-style-type: none"> Aids in the completion of trend block surveys. Developed an in-house | <ul style="list-style-type: none"> 130 individual sightings entered into FWMIS since 2002 by MULTISAR. |

| Actions as Identified in the Recovery Plan | MULTISAR's Contribution | Measure of Success |
|--|---|--|
| systematic monitoring approach using trend blocks. 3. Monitor productivity: Continue to record productivity in specific nesting areas and develop a consistent method to do so. | monitoring system which includes revisiting known burrowing owl nesting locations on MULTISAR cooperator's properties. | <ul style="list-style-type: none"> MULTISAR has taken part in ESRD trend surveys for burrowing owls since 2005. |
| 2. Public Reporting and Data Management: promote public reporting systems to identify occupied sites throughout the burrowing owls range. 3. Refine databases | <ul style="list-style-type: none"> All information collected through the HCS and SARC Plan programs has been entered into FWMIS. | |

6.2.4 Recovery Strategy: Information and Outreach

Increase support of the burrowing owl and prairie conservation through public education and awareness programs.

Table 23. MULTISAR's contribution to the implementation of Information and Outreach actions identified in the Alberta Burrowing Owl Recovery Plan (AESRD 2012a).

| Actions as Identified in the Recovery Plan | MULTISAR's Contribution | Measure of Success |
|--|---|--|
| 1. Public Education Opportunities: Increase general public awareness of grassland conservation, the burrowing owl, and related prairie conservation issues. 2. Landholder Awareness: Make direct contact with landholders to explain the status of burrowing owls, BMPs, and potential mitigation measures. | <ul style="list-style-type: none"> Provides management information to landholders through the HCS and SARC Plan programs. Develops educational materials and presentations, including the <u>At Home on the Range</u> brochure for living with Alberta's species at risk. Developed a youth education program with the PCF and Alberta Parks. Presents to landholders, youth groups, and the general public about grassland conservation and prairie conservation issues. | <ul style="list-style-type: none"> 55 BMPs via brochures or within reports distributed to private landholders. Have distributed over 9,526 copies of the <u>At Home on the Range</u> guide. 91 presentations/public meetings held for private landholders, government agencies, watershed groups and school groups by MULTISAR. 30 HCSs and 79 SARC Plans completed. |

| | | |
|---|--|--|
| <p>4. Incentives: Inform landholders about existing incentive programs and conservation partnerships available to help conserve burrowing owls.</p> | <ul style="list-style-type: none"> • Incentives are provided to landholders as free assessments through the HCS and SARC Plan program and the implementation and cost sharing of habitat improvement projects for rangelands. • Informs landholders of incentive programs through the biannual <i>Grassland Gazette</i>. | <ul style="list-style-type: none"> • More than 28 habitat improvements developed through the MULTISAR project using incentives from other NGOs and existing government programs. • Distributed 2,818 copies of the <i>Grassland Gazette</i> to landholders in the GNR. |
|---|--|--|

6.2.5 Recovery Strategy: Research

Work with AEP, Environment Canada, non-government organizations, and Universities to complete the following research:

Table 24. MULTISAR’s contribution to the implementation of Research actions identified in the Alberta Burrowing Owl Recovery Plan (AESRD 2012a).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|---|--|---|
| <p>a) Beneficial Management Practices: Conduct research on different management techniques to improve habitat for burrowing owls and their prey and to increase owl densities.</p> <p>c) Fossorial animals: Encourage study of the relationships between burrowing owls and fossorial animals.</p> <p>d) Prey Management: manage habitat to maximize prey densities near burrowing owl nests.</p> | <ul style="list-style-type: none"> • HCS program identifies key habitat for conservation of burrowing owls and other species at risk and develops an integrated plan balancing the needs of the species with the other land users, including the rancher. • MULTISAR makes recommendations for all habitat types and not just specifically for potential nesting areas. These other habitat types include foraging areas for burrowing owls. | <ul style="list-style-type: none"> • 30 HCSs have been completed as of March 2016. • Distributed 55 burrowing animals BMPs via brochures or within reports. |

6.2.6 Recovery Strategy: Plan Management and Administration

Table 25. MULTISAR’s contribution to the implementation of Plan Management and Administration actions identified in the Alberta Burrowing Owl Recovery Plan (AESRD 2012a).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|--|---|---|
| 1. Coordinate Research Effort: Research activities will need to be properly permitted and coordinated to maximize benefits from research and minimize disturbance to the population. | <ul style="list-style-type: none"> • MULTISAR is with a partnership between Alberta Environment and Parks (AEP), Alberta Conservation Association (ACA), and Prairie Conservation Forum (PCF) and meets federal requirements of the Habitat Stewardship Program. | <ul style="list-style-type: none"> • Maintained successful partnerships between agencies. |
| 3. Data Submission: Survey data will be entered in to the Fish and Wildlife Management Information System (FWMIS). | <ul style="list-style-type: none"> • All information collected through the HCS and SARC Plan programs has been entered into FWMIS. | <ul style="list-style-type: none"> • 153 observations entered into FWMIS since 2002 by MULTISAR. |

6.2.7 Burrowing Owl Summary

The MULTISAR project goals and objectives are closely aligned to many of the key action items identified in the provincial Burrowing Owl Recovery Plan. MULTISAR is a valuable tool in achieving action objectives of the recovery plan; in particular the objectives pertaining to landholder education, development of tools, such as the burrowing owl BMPs, maintenance of native prairie habitat, retention of burrows and keystone species, and multi-species conservation on the prairie. The MULTISAR project should continue to be used as a key tool in delivering the objectives of the Burrowing Owl Recovery Plan.

6.3 Ferruginous Hawk

6.3.1 Recovery Strategy: Habitat Management

Table 26. MULTISAR’s contribution to the implementation of Habitat Management actions identified in the Ferruginous Hawk Recovery Plan (Ferruginous Hawk Recovery Team 2009).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|---|--|---|
| <p>1.3 Habitat Protection: Information and education encouraging retention of trees for nest sites.</p> <p>1.4 Habitat Development: Erect nest platforms in suitable habitat where no conflicts with other SAR exist.</p> | <ul style="list-style-type: none"> • Provides management information to landholders through the HCS and SARC Plan programs. • Maintains native habitat, including trees used for nesting. • Developed Raptor BMP and <i>Artificial Nest Platforms for Ferruginous Hawks</i> brochures for landholder use. • Identify sites where historic nests have fallen down or where suitable habitat exists and assist in erecting artificial nest poles. • Promotes the importance of ferruginous hawks to landholders, especially for pest control. | <ul style="list-style-type: none"> • 109.363 acres through the HCS program are being managed for ferruginous hawks. • Distributed 94 Raptor BMP and 146 Artificial Nest Platform brochures to landholders. • 11 nest poles have been installed on MULTISAR co-operators’ land. |
| <p>1.6 Financial incentives to producers for providing SAR habitat.</p> | <ul style="list-style-type: none"> • Development of free HCSs and SARC Plans. • Developed BMP specific plans that included plans specific to addressing the suitability for ferruginous hawk nest poles. • Installed free raptor nesting poles at key locations. | <ul style="list-style-type: none"> • Completed 30 HCSs, 79 SARC Plans, and 14 BMP Plans as of March 2016, all of which have highlighted the benefits of providing habitat for ferruginous hawks. • Have erected 11 nest poles for ferruginous hawks. |

6.3.2 Recovery Strategy: Reduction of Human Disturbances

Table 27. MULTISAR’s contribution to the implementation of the Reduction of Human Disturbance actions identified in the Ferruginous Hawk Recovery Plan (Ferruginous Hawk Recovery Team 2009).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|--|---|---|
| 2.1 Industrial Land Planning: Provide information on current and historic nesting locations and use of Prairie Sensitive Species Guidelines. | <ul style="list-style-type: none"> • All information collected through the HCS and SARC Plan programs has been entered into FWMIS. • Developed Industrial Guideline brochure for SARs. • HCS reports and SARC Plans include industrial guidelines for ferruginous hawks. | <ul style="list-style-type: none"> • Over 842 ferruginous hawk observations have been entered into FWMIS by MULTISAR since 2002. • Distributed 92 Industrial Guideline brochures to landholders. • By March of 2016, MULTISAR has completed 30 HCSs, 79 SARC Plans, and 14 BMP Plans, all of which have provided industrial guidelines for raptors, including ferruginous hawks. |

6.3.3 Recovery Strategy: Reduction of Human-Caused Mortality

Table 28. MULTISAR’s contribution to the implementation of the Reduction of Human Caused Mortality actions identified in the Ferruginous Hawk Recovery Plan (Ferruginous Hawk Recovery Team 2009).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|--|---|---|
| 3.0 Information and education programs to discourage persecution of species at risk. | <ul style="list-style-type: none"> • Promotes the importance of species at risk to landholders for pest control. • Works with landholders to convey that species at risk, including the ferruginous hawk, are beneficial, as opposed to detrimental, to their operation. • Develops educational material and presentations including a youth education presentation on “Raptors at Risk” and the <u>At Home on the Range</u> brochure for living with Alberta’s species at risk. | <ul style="list-style-type: none"> • MULTISAR has contacted over 1,850 landholders since 2002 and distributed over 9,526 copies of the <u>At Home on the Range, Living with Species at Risk Guide</u>. • Completed 30 HCS and 79 SARC plans and 14 BMP Plans, all of which explain the benefits of raptors to landholders. • 91 presentations/public meetings held for private landholders, government agencies, watershed groups and school groups by MULTISAR. |

6.3.4 Recovery Strategy: Population Monitoring and Research

Table 29. MULTISAR’s contribution to the implementation of Population Monitoring and Research actions identified in the Ferruginous Hawk Recovery Plan (Ferruginous Hawk Recovery Team 2009).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|--|---|--|
| 5.1 and 7.1 Population monitoring and inventories every 5 years. | <ul style="list-style-type: none"> • Participates in the 5 year ferruginous hawk population inventory and annual trend monitoring surveys. • Records all ferruginous hawk sightings and nest locations and submits observations into FWMIS. | <ul style="list-style-type: none"> • Completes approximately 9 ferruginous hawk quadrants each year. • In the 2010 provincial monitoring year, completed 28 ferruginous hawk quadrants and <u>The 2015 Ferruginous Hawk Inventory and Population Analysis</u> report. • Over 842 ferruginous hawk observations have been entered into FWMIS by MULTISAR since 2002. |
| 7.3 Prey monitoring and research (including annual ground squirrel trend surveys). | <ul style="list-style-type: none"> • Monitored ground squirrel populations throughout the GNR. • Encourages landholders to tolerate ground squirrel populations. • Developed BMP brochure for the Richardson’s ground squirrel. | <ul style="list-style-type: none"> • Assisted in completing 61 transects as part of the ground squirrel monitoring program. • 118,858 acres have been recommended to be managed in consideration of Richardson’s ground squirrels. • Influenced over 252,305 acres of native prairie habitat for use by keystone species. • MULTISAR has distributed approximately 36 Ground Squirrel and 55 Burrowing Animals BMP brochures to landholders. |
| 7.5 Research on range management and ferruginous hawks. | <ul style="list-style-type: none"> • Conducts range health assessments on grasslands through the HCS program | <ul style="list-style-type: none"> • Conducted range health assessments on 30 HCS properties covering an area of approximately 317,252 acres. |
| 7.8 Monitoring of ferruginous hawk population health. | <ul style="list-style-type: none"> • Participates in the 5 year ferruginous hawk population inventory with ESRD and annual trend monitoring surveys. • Records all ferruginous hawk sightings and nest locations and submits observations into FWMIS. | <ul style="list-style-type: none"> • Completes approximately 9 ferruginous hawk quadrants annually since 2003. • In the 2015 provincial monitoring year, completed 28 ferruginous hawk quadrants. • Over 842 ferruginous hawk observations have been entered into FWMIS by MULTISAR since 2002. |

6.3.5 Recovery Strategy: Information and Outreach

Table 30. MULTISAR’s contribution to the implementation of the Reduction of Human Caused Mortality actions identified in the Ferruginous Hawk Recovery Plan (Ferruginous Hawk Recovery Team 2009).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|--|---|---|
| <p>6.1 Increase awareness of ferruginous hawks and native prairie conservation and to foster action through stewardship.</p> | <ul style="list-style-type: none"> • Developed and implemented species BMPs, including Raptor BMPs brochures, as well as a BMP brochure for the ferruginous hawk’s main prey, the Richardson’s ground squirrel. • Provides BMPs to landholders through the HCS and SARC Plan programs. • Promotes the importance of species at risk to landholders for pest control. • Works with landholders to convey that species at risk, including the ferruginous hawk, are beneficial, as opposed to detrimental, to their operation. • Develops educational material and presentations including a youth education presentation on “Raptors at Risk”, the <u>At Home on the Range</u> brochure for living with Alberta’s species at risk, and participated in the development of the Artificial Nest Poles for Ferruginous Hawks brochure. | <ul style="list-style-type: none"> • MULTISAR has contacted over 1,850 landholders since 2002, distributed over 9,526 copies of the <u>At Home on the Range, Living with Species at Risk Guide</u>, and completed 30 HCS and 79 SARC plans and 14 BMP plans, all of which explain the benefits of raptors to landholders. • 91 presentations/public meetings held for private landholders, government agencies, watershed groups and school groups by MULTISAR. • MULTISAR has distributed approximately 94 Raptor, 36 Ground Squirrel, and 55 Burrowing Animals BMP brochures to landholders. |

6.3.6 Ferruginous Hawk Summary

The MULTISAR project goals and objectives are closely aligned to many of the key action items identified in the Ferruginous Hawk Recovery Plan. In particular, MULTISAR is key for achieving objectives related to landholder education, influencing the maintenance of native prairie habitat, retention of nest sites and keystone species and multi-species conservation on the prairie. MULTISAR has also developed relationships with energy distribution companies to assist with erecting artificial nesting poles. The MULTISAR project should continue to be used as a key tool in delivering the objectives of the Ferruginous Hawk Recovery Plan.

6.4 Greater Sage Grouse

6.4.1 Recovery Strategy: Habitat Conservation and Management

Conserve and manage habitat for greater sage-grouse in order to satisfy life cycle requirements and support of a viable population within its remaining historical range.

Table 31. MULTISAR’s contribution to the implementation of Habitat Conservation and Management actions identified in the Greater Sage Grouse Recovery Plan (AESRD 2013a).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|---|---|---|
| 1.1 Conduct impact assessments of anthropogenic features | <ul style="list-style-type: none"> • During HCS and SARC Plan field surveys, all anthropogenic features will be documented and information will be forwarded to the Provincial sage grouse recovery biologist. | <ul style="list-style-type: none"> • All features will be documented and site specific information will be gathered starting in 2014. |
| 1.3 Establish or maintain protective notations around known lek sites regardless of activity. | <ul style="list-style-type: none"> • The HCS program encourages habitat protection in and around active sage grouse leks. | <ul style="list-style-type: none"> • 3 historical leks are present within MULTISAR cooperator properties. |
| 1.11 Inform ranchers on recognizing key habitat types that support sage grouse. 1.12 Encourage landowners to collaborate with programs like MULTISAR 1.14 Identify sites where grazing disturbance is not optimal and encourage landholders to enhance plant community. 1.15 Promote stocking rates and rotational grazing to improve sage grouse habitat. | <ul style="list-style-type: none"> • Where sage grouse habitat is present on HCS co-operators’ lands, MULTISAR will make appropriate range management and industrial recommendations to benefit the species. • Range health assessments are completed for all HCSs. • Range and wildlife analyses are completed for each HCS and take into consideration sage grouse within their range. | By March 2016, 8 HCSs have been completed that directly target management of habitat for sage grouse. Range health assessments and vegetation inventories have been conducted through 8 HCSs on over 133,252 acres in sage grouse range, including 51,862 acres in sage grouse Critical Habitat. |

| Actions as Identified in the Recovery Plan | MULTISAR's Contribution | Measure of Success |
|--|--|---|
| 1.16 Through the MULTISAR program, provide incentives to landowners and lessees for appropriate land management. | <ul style="list-style-type: none"> • Currently, MULTISAR is working on restoration projects to return cultivated lands back to native grasslands in sage grouse range using local species that include sagebrush. • Removed anthropogenic features that attract predators from sage grouse Critical Habitat. | <ul style="list-style-type: none"> • So far 960 acres have been reclaimed in sage grouse range, including 320 acres considered as critical habitat. • Six old buildings and one shelterbelt were removed from three sites within Critical Habitat |

6.4.2 Recovery Strategy: Population Management and Enhancement

Table 32. MULTISAR's contribution to the implementation of Population Management and Enhancement actions identified in the Greater Sage Grouse Recovery Plan (AESRD 2013a).

| Actions as Identified in the Recovery Plan | MULTISAR's Contribution | Measure of Success |
|--|---|--|
| 2.1 Continue annual counts at lek sites. | <ul style="list-style-type: none"> • Continue to assist ESRD during the annual lek census. | <ul style="list-style-type: none"> • 3 historical leks are present within MULTISAR cooperator properties. • MULTISAR has participated in the annual lek counts since 2005. |
| 2.9 Provide support for appropriate projects such as marking fence lines with markers to prevent mortalities through collisions. | <ul style="list-style-type: none"> • Installing fence markers on fences within sage grouse critical habitat. | <ul style="list-style-type: none"> • Markers have been installed on 36 km of fences within sage grouse critical habitat. |

6.4.3 Recovery Strategy: Outreach and Information

Table 33. MULTISAR’s contribution to the implementation of Outreach and Information actions identified in the Greater Sage Grouse Recovery Plan (AESRD 2013a).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|---|--|--|
| 4.3 Distribute maps of sage grouse habitat to producers to encourage them to steward these areas in order to benefit sage grouse. | <ul style="list-style-type: none"> • Sage grouse critical habitat maps and BMPs are provided to MULTISAR cooperators as part of the HCS. • MULTISAR cost shares and/or provides direct funding/support for landholders on various habitat improvement projects including water developments and cross fencing. | <ul style="list-style-type: none"> • By March 2016, 8 HCSs have been completed that directly target management of habitat for sage grouse. • Have provided funding/support for 12.8 kilometres of wildlife friendly cross fencing and 3 water developments in sage grouse habitat. |
| 4.4 Provide guidance to landholders on watering site developments, cross fencing, and salt placement in sage grouse habitat. | | |

6.4.4 Recovery Strategy: Plan Management and Administration

Table 34. MULTISAR’s contribution to the implementation of Plan Management and Administration actions identified in the Greater Sage Grouse Recovery Plan (AESRD 2013a)

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|--|---|---|
| 5.3 Enter population data into the FWMIS database following each field season. | <ul style="list-style-type: none"> • Records all sage grouse sightings into FWMIS. | <ul style="list-style-type: none"> • Over 50 sage grouse observations have been entered into FWMIS by MULTISAR since 2002. |

6.4.5 Greater Sage Grouse Summary

MULTISAR continues to play a role in the recovery of greater sage-grouse in Alberta. Within the Recovery Plan almost all actions where Alberta Fish and Wildlife or Alberta Public Lands are listed as the lead, MULTISAR is involved. This includes habitat and species monitoring, implementation of BMPs within Critical Habitat, and education. Starting in the summer of 2014, MULTISAR began gathering information on anthropogenic features within Critical Sage-Grouse Habitat and will assist with their removal if required. MULTISAR will continue to assist with the recovery of greater sage-grouse in Alberta.

6.5 Short-horned lizard

Currently, there is not a recovery plan for short-horned lizards in Alberta. A draft plan is proposed to be released in the next several years. A Recovery Action Summary has been developed based on recommendations from the Endangered Species Conservation Committee (ESCC). Within this Action Summary, several recovery actions have been initiated and/or are ongoing.

6.5.1 Recovery Action: Population Conservation and Management

Table 35. MULTISAR’s contribution to the implementation of Population Conservation and Management actions identified in the Short Horned Lizard Recovery Action Summary 2012-2013 (ESRD 2013c).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|---|--|---|
| 1.1 An initial population estimate has been completed with a more detailed estimate still required. | <ul style="list-style-type: none"> • All lands with the potential of providing eastern short horned lizard habitat are identified and surveyed for during each new HCS and SARC Plan. • MULTISAR conducts periodic surveys for short horned lizards on properties where populations have been identified. • MULTISAR contributes data to FWMIS through the HCS and SARC Plan programs. • MULTISAR assists Fish and Wildlife biologists with provincial lizard occupancy surveys. | <ul style="list-style-type: none"> • Species specific surveys have been completed on 10 properties identified as having lizard habitat. • MULTISAR has identified/confirmed 5 populations of lizards and have entered 52 short horned lizard sightings into FWMIS since 2002. • MULTISAR assisted Fish and Wildlife biologists search 3 historical lizard locations in 2015, and confirmed active lizard populations at those sites. |
| 1.2 Upcoming monitoring for changes in habitat quality. | <ul style="list-style-type: none"> • MULTISAR conducts monitoring of range lands for all HCS properties every 5 years. • MULTISAR provides BMPs to landowners within short horned lizard habitat in order to appropriately manage rangelands within lizard habitat. | <ul style="list-style-type: none"> • One fencing project is proposed and another watering development may potentially be developed in the future with ESHL habitat in mind. |

6.5.2 Recovery Action: Habitat Conservation and Management

Table 36. MULTISAR’s contribution to the implementation of Habitat Conservation and Management actions identified in the Short Horned Lizard Recovery Action Summary 2012-2013 (AESRD 2013c).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|---|---|--|
| 2.2 An HSI model developed for short horned lizards identifies areas likely to provide habitat for the species. | <ul style="list-style-type: none"> • HSI models are used in order to locate potential habitat areas for the lizards, which aid in targeting our searches for this species. • MULTISAR directly contributed to the development of habitat models for short horned lizards. | <ul style="list-style-type: none"> • Suitable short horned lizard habitat has been identified on 10 properties that work directly with MULTISAR. • One HSI and one Resource Selection Function (RSF) model were developed by MULTISAR for the species. |

6.5.3 Recovery Action: Information and Outreach

Table 37. MULTISAR’s contribution to the implementation of Information and Outreach actions identified in the Short Horned Lizard Recovery Action Summary 2012-2013 (AESRD 2013c).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|--|--|---|
| 3.1 Public education regarding short horned lizards and their habitat requirements is promoted through prairie conservation organizations. | <ul style="list-style-type: none"> • Developed reptile BMP brochure to give to landowners. • MULTISAR completes HCSs and SARC Plans in short horned lizard habitat and involves the landholder in developing stewardship approaches on their land. | <ul style="list-style-type: none"> • Distributed over 21 reptile brochures to landowners whose land may contain short horned lizard habitat. • Have worked directly with 10 landholders within short horned lizard habitat. |

6.6 Swift Fox

6.6.1 Recovery Strategy: Enhance and Maintain Habitat

Enhance and maintain habitat for swift foxes to satisfy life cycle requirements.

Table 38. MULTISAR’s contribution to the implementation of the Enhancement and Maintenance of Habitat actions identified in the Swift Fox Recovery Plan (Alberta Swift Fox Recovery Team 2007).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|--|--|--|
| 1.1 Place protections on all known current swift fox dens and eliminate disturbance of known den sites by 2009. | <ul style="list-style-type: none"> MULTISAR contributes data to FWMIS through the HCS and SARC Plan programs. | <ul style="list-style-type: none"> Entered 5 den sites and 19 individual observations into FWMIS. |
| 1.3 Increase habitat area protected by stewardship providing for a sustainable ranching industry and high quality habitat by 2011. | <ul style="list-style-type: none"> MULTISAR encourages voluntary stewardship particularly within its HCS program. | <ul style="list-style-type: none"> The HCS program is currently working on over 219,513 acres in swift fox range. |

6.6.2 Recovery Strategy: Communication of Information

Communicate information about swift foxes to land managers, industry, trappers, recreational users and other relevant parties in the areas for the purpose of fostering stewardship of the species and its habitat.

Table 39. MULTISAR’s contribution to the implementation of Communication of Information actions identified in the Swift Fox Recovery Plan (Alberta Swift Fox Recovery Team 2007).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|--|--|--|
| 4.1 Develop and disseminate an information package for outreach and education aimed at land managers, industry, trappers and recreational users by 2008. | <ul style="list-style-type: none"> Developed Burrowing Animal BMP brochure. Developed <u>At Home on the Range: Living with Alberta’s Prairie Species At Risk Guide</u>, which provides information on the swift fox. | <ul style="list-style-type: none"> Over 9,526 <u>At Home on the Range: Living with Alberta’s Prairie Species at Risk Guides</u> have been distributed. 55 Burrowing Animal BMPs distributed via brochures or within reports. |

| Actions as Identified in the Recovery Plan | MULTISAR's Contribution | Measure of Success |
|--|--|---|
| 4.2 Contact all relevant stakeholders to identify conservation and stewardship opportunities for swift foxes by 2009. | <ul style="list-style-type: none"> MULTISAR works with several ranchers within swift fox range and have conveyed the importance of the species. | <ul style="list-style-type: none"> MULTISAR has worked directly with 6 landowners with known occurrences through HCSs. |
| 4.3 Integrate swift fox biology and conservation information, along with other SAR and prairie conservation information, into local and provincial school curricula by 2008. | <ul style="list-style-type: none"> Developed a youth education program for species at risk. | <ul style="list-style-type: none"> MULTISAR has completed more than 55 school presentations. |
| 4.4 Disseminate information regarding Alberta SAR program illustrating potential benefits of stewardship activities for landowners by 2007. | <ul style="list-style-type: none"> MULTISAR is working to help landholders benefit from SAR. This is achieved through partnerships, education about sustainable ranching practices. | <ul style="list-style-type: none"> Since 2002 MULTISAR has directly contacted over 1,850 landholders. Over 9,526 <u>At Home on the Range: Living with Alberta's Prairie Species at Risk</u> have been distributed to landholders and land managers. |

6.6.3 Swift Fox Summary

MULTISAR is contributing to many of the action items listed in the swift fox recovery plan and has even been listed in the Recovery Plan under several actions as a means of achieving an objective. This is positive as it shows MULTISAR's ability to work as a tool for SAR in Alberta's GNR.

6.7 Northern Leopard Frog

6.7.1 Recovery Strategy: Population Conservation and Management

Table 40. MULTISAR’s contribution to the implementation of Population Conservation and Management actions identified in the Northern Leopard Frog Recovery Plan (AESRD 2012c).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|---|---|---|
| 1.2 Conduct surveys of all currently occupied sites a minimum of once every 5 years. | <ul style="list-style-type: none"> MULTISAR conducts annual spring inventories along a creek where northern leopard frogs are known to breed, as identified through a HCS. MULTISAR participated in the 2005 northern leopard frog inventory. | <ul style="list-style-type: none"> Breeding inventories have been occurring on the property every one to two years since 2008. MULTISAR completed inventories at 34 sites. |
| 1.3 Conduct targeted surveys each year to search for previously unknown frog populations. | <ul style="list-style-type: none"> All water bodies with the potential as northern leopard frog habitat are identified and surveyed for the species during each new HCS. MULTISAR has inventoried key areas of the Milk River Basin for evidence of breeding, primarily through the HCS and SARC Plan programs. | <ul style="list-style-type: none"> Two populations that were originally recorded as declining have been found to be productive populations through MULTISAR surveys. New breeding population of frogs was found in the western foothills during 2015. |
| 1.7 Conduct reintroduction of eggs to augment populations. | <ul style="list-style-type: none"> Potential re-introduction sites are identified through MULTISARs HCS and SARC Plan programs. | <ul style="list-style-type: none"> One of the HCS sites MULTISAR surveyed was used to re-introduce northern leopard frogs into other locations in 2005 and in 2008. |

6.7.2 Recovery Strategy: Habitat Conservation and Management

Table 41. MULTISAR’s contribution to the implementation of Habitat Conservation and Management actions identified in the Northern Leopard Frog Recovery Plan (AESRD 2012c).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|--|--|--|
| 2.2 Make contact with landholders on private/leased land that support northern leopard frog populations. | <ul style="list-style-type: none"> The MULTISAR education and outreach program provides landholders with information on northern leopard frogs, including: <ul style="list-style-type: none"> the importance of maintaining habitat for the northern leopard frog | <ul style="list-style-type: none"> Developed and distributed over 82 copies of MULTISAR’s BMP brochure for wetland species to landholders in the GNR. |

| Actions as Identified in the Recovery Plan | MULTISAR's Contribution | Measure of Success |
|--|---|--|
| | <ul style="list-style-type: none"> ▪ what individual landholders can do to help SAR, including the northern leopard frog. | |
| <p>2.3 Direct management of sites to alleviate threats through cooperative agreements with landholders or other initiatives.</p> | <ul style="list-style-type: none"> • Developed BMPs for the species to provide to landholders. • MULTISAR helps implement BMPs through the HCS and SARC Plan programs. • Signs agreements with HCS landholders to help ensure sound management of northern leopard frog habitat. | <ul style="list-style-type: none"> • 4 creeks and their adjacent wetlands are being managed for northern leopard frogs through the MULTISAR HCS and SARC Plan program. • Installed 2 portable watering system, 3 off-stream watering units, and a pipeline on co-operator's lands to help reduce impacts on creeks supporting populations of northern leopard frogs. |

6.7.3 Recovery Strategy: Information and Education

Table 42. MULTISAR's contribution to the implementation of Information and Outreach actions identified in the Northern Leopard Frog Recovery Plan (AESRD 2012c).

| Actions as Identified in the Recovery Plan | MULTISAR's Contribution | Measure of Success |
|---|--|---|
| <p>3.4 Provide information on leopard frog related topics to technical and non-technical audiences through presentations, signage and other mechanisms.</p> | <ul style="list-style-type: none"> • Developed and distributed wetland BMP brochures. • Provided information through presentations, public meetings, and school field trips. | <ul style="list-style-type: none"> • Distributed 82 wetland BMP brochures to landholders. • Gave 91 presentations/public meetings to private landholders, school groups, government agencies, watershed groups. • Led 3 tours of a northern leopard frog re-introduction site with school groups. • Developed and erected 3 interpretative signs on the northern leopard frog at a reintroduction site. • Developed a page on the state of Northern Leopard Frogs in the Milk River Basin in the Milk River State of the Watershed Report (2008) and in the Milk River Transboundary State of the Watershed Report (2013). |

6.7.4 Recovery Strategy: Research

Table 43. MULTISAR’s contribution to the implementation of Research actions identified in the Northern Leopard Frog Recovery Plan (AESRD 2012c).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|---|---|--|
| 4.3 Co-operate with other research initiatives that will better manage northern leopard frogs in Alberta. | <ul style="list-style-type: none"> • Member of the Research and Monitoring Team of the Milk River Watershed Council Canada which is looking at solutions to improve water quality in the basin. • Developing habitat model to better target new areas that have high potential for the species. | <ul style="list-style-type: none"> • Currently developing a Resource Selection Function Model based on the Grassland Vegetation Inventory biophysical database. |

6.7.5 Recovery Strategy: Plan Management and Administration

Table 44. MULTISAR’s contribution to the implementation of Plan Management and Administration actions identified in the Northern Leopard Frog Recovery Plan (AESRD 2012c).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|--|---|---|
| 5.3 Enter population data into FWMIS following each field season | <ul style="list-style-type: none"> • All sightings documented during HCS and SARC Plan field work are entered into the FWMIS database. | <ul style="list-style-type: none"> • Since 2002, MULTISAR has contributed 769 northern leopard frog sightings into the FWMIS database. |

6.7.6 Northern Leopard Frog Summary

MULTISAR has contributed to the recovery of the northern leopard frog through three key actions: monitoring, direct management of habitat, and education and awareness. The MULTISAR project plans to continue to assist the recovery of this species through these actions.

6.8 Rocky Mountain Sculpin, Stonecat and Western Silvery Minnow

6.8.1 Recovery Strategy: Education and Outreach

Table 45. MULTISAR’s contribution to the implementation of Education and Outreach actions identified in the three Recovery Plans, respectively (The Milk River Fish Species at Risk Recovery Team 2008, 2014; The Alberta Rocky Mountain Sculpin Recovery Team 2013).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|--|--|---|
| E1., A17. and A18. Improve awareness of the species. | <ul style="list-style-type: none"> • MULTISAR has and will continue to inform private landholders bordering the Milk and North Milk Rivers of the existence and importance of the three species. • HCSs and SARC Plans have been completed for landholders along the Milk and North Milk Rivers. | <ul style="list-style-type: none"> • Met with over 195 landholders in the Milk River area. • Worked with 15 landholders through the SARC Plan and HCS programs who directly border the Milk and North Milk Rivers. • Completed in 2013 the evaluation of a HCS developed in 2008 and confirmed a population of the sculpin still present and healthy in one of the tributaries of the N. Milk River. |
| E2., A19. and A20. Encourage stakeholder participation. | <ul style="list-style-type: none"> • MULTISAR completes HCSs and SARC Plans in the Milk River area and involves the landholder in developing stewardship approaches on their land. • MULTISAR works with other stakeholders such as Cows & Fish and the Milk River Watershed Council Canada. | <ul style="list-style-type: none"> • 12 HCSs and 3 SARC Plans have been completed for landholders bordering the Milk and North Milk Rivers. • MULTISAR attends the Milk River Watershed Council annual general meetings and sits on their research team. |
| E4. and A22. Discourage species introduction. | <ul style="list-style-type: none"> • MULTISAR has developed a Wetland BMP brochure which explains the issues related to the introduction of non-native fish to water bodies. | <ul style="list-style-type: none"> • Have distributed over 82 copies of the Wetland BMP brochure to landholders. |

6.8.2 Summary

The Rocky Mountain sculpin, stonecat, and the western silvery minnow recovery plans have similar recovery strategies, and MULTISAR plans to continue supporting those recovery teams through education and outreach initiatives, and possibly funding upcoming research projects/inventories on these three species. MULTISAR assisted in funding preliminary research on these fish species in 2002-2003 and 2005-2006. MULTISAR is also focused on voluntary

stewardship initiatives and will continue to promote appropriate BMPs in the Milk River Basin to protect the rivers and fish within it.

6.9 Soapweed, Small-flowered Sand-verbena, and Tiny Cryptantha

6.9.1 Population Conservation and Management

Table 46. MULTISAR’s contribution to the implementation of Population Conservation and Management actions identified in the three Recovery Plans, respectively (Alberta Environment and Sustainable Resource Development 2013, Alberta Small-flowered Sand-verbena Recovery Team 2012, Alberta Tiny Cryptantha Recovery Team 2013).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|---|--|--|
| 1.2 Survey and Monitoring 6.2 Data Storage | <ul style="list-style-type: none"> • MULTISAR has and will continue to inform private landholders within the critical habitat areas of these three species the importance of them. • Rare plant surveys are completed on those HCS properties where critical habitat of these three species are found. | <ul style="list-style-type: none"> • Documented and entered 122 observations into the ACIMS database. • Confirmed 2 locations of small-flowered sand verbena and 2 locations of tiny cryptantha in the Milk River area. Populations were previously identified in the early 1900’s however no further information was known until MULTISAR located them. • Worked with 15 landholders through the SARC Plan and HCS programs who directly border the Milk and North Milk Rivers. • Completed in 2013 the evaluation of a HCS developed in 2008 and confirmed a population of the sculpin still present and healthy in one of the tributaries of the N. Milk River. |
| 1.3 Invasive Species Inventories | <ul style="list-style-type: none"> • MULTISAR completes range health assessments for all HCSs and documents the presence and location of any invasive plants (i.e., weeds). | <ul style="list-style-type: none"> • Document and enter all observations, with focus on noxious weeds. |

6.9.2 Habitat Conservation and Management

Table 47. MULTISAR’s contribution to the implementation of Habitat Conservation and Management actions identified in the three Recovery Plans, respectively (Alberta Environment and Sustainable Resource Development 2013, Alberta Small-flowered Sand-verbena Recovery Team 2012, Alberta Tiny Cryptantha Recovery Team 2013).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|--|---|--|
| 2.10 and 2.2 Development of Grazing BMPs 2.11 Implementation of Grazing BMPs | <ul style="list-style-type: none"> • Range health assessments are completed for all HCSs. • MULTISAR develops grazing BMPs that will benefit rare plants and other species at risk while taking in the consideration of the landholders’ needs. • MULTISAR works collaboratively with landholders to implement BMPs. | <ul style="list-style-type: none"> • Worked with 15 landholders through the SARC Plan and HCS programs who have critical habitat identified on their properties. • MULTISAR has adopted the BMPs developed by AEP. The next steps will be implementing these BMPs on existing and new HCS’ |

6.9.3 Information and Education

Table 48. MULTISAR’s contribution to the implementation of Information and Education actions identified in the three Recovery Plans, respectively (Alberta Environment and Sustainable Resource Development 2013, Alberta Small-flowered Sand-verbena Recovery Team 2012, Alberta Tiny Cryptantha Recovery Team 2013).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|---|---|---|
| 3.2 Information Distribution | <ul style="list-style-type: none"> • MULTISAR has and will continue to inform private landholders within the critical habitat areas of these three species the importance of them. • HCSs and SARC Plans have been completed for landholders in those critical habitat areas. | <ul style="list-style-type: none"> • Met with over 195 landholders in the Milk River area. • Worked with 15 landholders through the SARC Plan and HCS programs who have critical habitat or lie adjacent to known critical areas. |

6.9.4 Summary

MULTISAR has targeted Habitat Conservation Strategies on lands that are designated as Critical Habitat for all three species. The MULTISAR expansion into the South Saskatchewan River Basin will allow for the development of more HCS’s on lands with both tiny cryptantha and small-flowered sand verbena.

6.10 Harlequin Duck

Table 49. MULTISAR’s contribution to the implementation of management actions identified in the Harlequin Duck Conservation Management Plan (ASRD 2010b).

| Actions as Identified in the Recovery Plan | MULTISAR’s Contribution | Measure of Success |
|---|---|--|
| 3.1 Inventory and Monitoring. | <ul style="list-style-type: none"> • MULTISAR contributes to the spring and late summer harlequin duck surveys in the Oldman/Livingston drainages and the Castle/Carbondale drainages. | <ul style="list-style-type: none"> • Involved in harlequin duck trend surveys since 2002. • Documented and entered 222 observations into the FWMIS database. |

6.10.1 Harlequin Duck Summary

MULTISAR has contributed to the recovery of the harlequin duck through one key actions: inventory and monitoring. MULTISAR plans to continue to assist the recovery team and the recovery efforts of this species through the completing annual spring and late summer surveys in harlequin duck priority areas.

6.11 Long-billed Curlew

Table 50. MULTISAR’s contribution to the implementation of management actions identified in the Long-billed Curlew Conservation Management Plan (ASRD 2010c).

| Actions as Identified in the Management Plan | MULTISAR’s Contribution | Measure of Success |
|---|---|--|
| 3.1 Inventory and Monitoring. | <ul style="list-style-type: none"> • Inventories areas of suitable habitat through its HCS and SARC plan programs. • Records all observations and enters information into FWMIS. | <ul style="list-style-type: none"> • Surveyed 317,252 acres through the HCS program since 2002. • Participated in the annual provincial monitoring survey between 2002-2007. • Participated in the International Census between 2004-2005. • Over 577 observations have been entered into FWMIS by MULTISAR. |
| 3.2 Habitat management. | <ul style="list-style-type: none"> • Provides information for landholders and implements BMPs through the HCS and SARC Plan programs. • Developed BMP brochure for grassland birds. • Re-seeding marginal cropland to native grassland. • Developed and updated a | <ul style="list-style-type: none"> • Has helped maintain and manage over 252,305 acres of native prairie for grassland birds. • Has distributed over 92 BMP brochures for grassland birds to landholders. • 1,400 acres of marginal cropland has been re-seeded |

| Actions as Identified in the Management Plan | MULTISAR's Contribution | Measure of Success |
|---|---|---|
| | Habitat Suitability Index model and assisted in developing a user friendly search tool to identify areas of high priority for the long-billed curlew. | back to native grasslands. |
| 3.4 Education and communication. | <ul style="list-style-type: none"> • Developed BMP brochure for grassland birds for landholder use. • Provides information for landholders through the HCS and SARC plan programs. • Provides information through public and school presentations. • Developed the brochure <u>At Home on the Range: Living with Alberta's Species at Risk</u> that discusses the habitat needs of the long-billed curlew and grassland birds in general. | <ul style="list-style-type: none"> • Has distributed over 92 BMP brochures for grassland birds to landholders. • By March 2016, will have completed 30 HCSs and 79 SARC plans, all of which have recommended maintaining native grasslands for grassland birds. • 91 presentations/public meetings held for private landholders, government agencies, and school groups by MULTISAR. • Distributed over 9,526 copies of the <u>At Home on the Range</u> brochure. |

6.11.1 Long-billed Curlew Summary

MULTISAR has contributed to the recovery of the long-billed curlew through three key actions: inventories, the maintenance of habitat, and through education and communication with the public. MULTISAR plans to continue to assist the recovery team and the recovery efforts of this species through the delivery of the MULTISAR project in priority areas that include the long-billed curlew.

6.12 Prairie Falcon

Table 51. MULTISAR's contribution to the implementation of management actions identified in the Prairie Falcon Conservation Management Plan (ESRD 2012b).

| Actions as Identified in the Management Plan | MULTISAR's Contribution | Measure of Success |
|---|---|---|
| 3.1 Inventory and monitoring | <ul style="list-style-type: none"> • All prairie falcon observations are documented and entered into the FWMIS database. | <ul style="list-style-type: none"> • Submitted more than 256 sightings and 61 nesting locations to the FWMIS database. |
| 3.2 Habitat Management | <ul style="list-style-type: none"> • MULTISAR is a multi-species management program that encourages appropriate | <ul style="list-style-type: none"> • By March 2014, the HCS program has been active on 317,252 acres and 155,175 |

| Actions as Identified in the Management Plan | MULTISAR's Contribution | Measure of Success |
|--|---|---|
| <p>2. Maintain healthy rangelands that promote habitat for a variety of species.</p> <p>3. Limit use of chemical ground squirrel control agents.</p> | <p>management of habitat for over 17 species at risk, including the prairie falcon through HCSs and SARC Plans.</p> <ul style="list-style-type: none"> • Promotes the importance of species at risk to landholders for pest control. • Developed habitat models for the species to assist with identifying suitable habitat and focus habitat conservation efforts. | <p>acres through the SARC Plan program.</p> <ul style="list-style-type: none"> • MULTISAR team has maintained over 252,305 acres of native prairie habitat for use by grassland birds. • Over 36 ground squirrel BMPs distributed. • Developed a Habitat Suitability Index model based on Native Prairie Vegetation Inventory. Then Developed a more robust Resource Selection Function model based on the Grassland Vegetation Inventory. |
| <p>3.3 Education and Communication</p> | <ul style="list-style-type: none"> • Developed and distributed raptor BMP fact sheet. • Developed the brochure <i>At Home on the Range: Living with Alberta's Species at Risk</i> that discusses the habitat needs of the prairie falcon and raptors in general. | <ul style="list-style-type: none"> • More than 94 raptor BMP fact sheets have been distributed to landowners throughout the GNR. • Distributed over 9,526 copies of the <i>At Home on the Range</i> brochure. |

6.12.1 Prairie Falcon Summary

The MULTISAR project goals and objectives are closely aligned to many of the key action items identified in the Prairie Falcon Conservation Management Plan. MULTISAR is a valuable tool in achieving action objectives of the recovery plan; in particular the objectives pertaining to inventory, maintenance of native prairie habitat, promotion of appropriate grazing practices, and multi-species conservation on the prairie. The MULTISAR project should continue to be used as a key tool in delivering the objectives of the Prairie Falcon Conservation Management Plan.

6.13 Sprague's Pipit

Table 52. MULTISAR's contribution to the implementation of management actions identified in the Sprague's Pipit Conservation Management Plan (ASRD 2010d).

| Actions as Identified in the Management Plan | MULTISAR's Contribution | Measure of Success |
|---|--|--|
| <p>3.1 Inventory and monitoring.</p> | <ul style="list-style-type: none"> • All Sprague's pipit observations are documented and entered into the FWMIS database. | <ul style="list-style-type: none"> • Submitted more than 2,050 sightings to the FWMIS database. |

| Actions as Identified in the Management Plan | MULTISAR's Contribution | Measure of Success |
|---|---|--|
| <p>3.2 Habitat Management</p> <ol style="list-style-type: none"> 1. Maintain large continuous blocks of native prairie habitat. 3. Reclaim disturbed grasslands back to native. 4. Promote grazing practices that create appropriate habitats. 6. Reduce or eliminate the use of insecticides. 7. Maintain healthy rangelands with a mosaic of habitats. | <ul style="list-style-type: none"> • MULTISAR is a multi-species management program that encourages appropriate management of habitat for over 17 species at risk, including the Sprague's pipit through HCSs and SARC Plans. • Currently working on restoration projects to return cultivated lands back to native grasslands. • Developed habitat models for the species to assist with identifying suitable habitat and focus habitat conservation efforts. | <ul style="list-style-type: none"> • By March 2016, the HCS program has been active on 317,252 acres and 155,175 acres through the SARC Plan program. • MULTISAR team has maintained over 252,305 acres of native prairie habitat for use by grassland birds. • Over 92 grassland bird BMPs distributed. • Reseeded 1,400 acres of cropland to native grassland and witnessed the return of the Sprague's pipit to one of the re-seeded properties. • Developed a Habitat Suitability Index model based on Native Prairie Vegetation Inventory. Then developed a more robust Resource Selection Function model based on the Grassland Vegetation Inventory. |
| <p>3.2.1. Timing and setback recommendations</p> | <ul style="list-style-type: none"> • Developed and distributed an Industrial Guidelines fact sheet. Fact sheet was updated in 2010-2011. | <ul style="list-style-type: none"> • More than 92 Industrial Guidelines fact sheets have been distributed. |
| <p>3.3 Education and Communication</p> | <ul style="list-style-type: none"> • Developed and distributed grassland bird BMP fact sheet. | <ul style="list-style-type: none"> • More than 92 grassland bird BMP fact sheets have been distributed to landowners throughout the GNR. |

6.13.1 Sprague's Pipit Summary

The MULTISAR project goals and objectives are closely aligned to many of the key action items identified in the Sprague's Pipit Management Plan. MULTISAR is a valuable tool in achieving action objectives of the recovery plan; in particular the objectives pertaining to inventory, maintenance of native prairie habitat, promotion of appropriate grazing practices, and multi-species conservation on the prairie. The MULTISAR project should continue to be used as a key tool in delivering the objectives of the Sprague's Pipit Management Plan.

6.14 Western Blue Flag

Between 2002 and 2005, the majority of the western blue flag inventory, stewardship and educational work was completed through the Western Blue flag Project. In 2005, the Western Blue flag Project merged with MULTISAR. Today there is a monitoring component that is addressed through the MULTISAR project. MULTISAR currently monitors four watering improvements, three reseeding projects, and three fencing changes completed as part of the Western Blue flag Program. In 2005, western blue flag was downgraded under the Alberta *Wildlife Act* from a Threatened species to a Species of Special Concern. In 2009, MULTISAR funded the western blue flag five year inventories, the results of which found the current population estimate to be approximately 107,000 to 138,000 plants. MULTISAR conducted an HCS on two western blue flag properties in 2009 and one western blue flag property in 2010. A potentially new population was found (in seeds) on an existing HCS property in 2013.

6.15 Additional Species

MULTISAR is also involved with several other listed species occurring in Alberta's Grassland Natural Region and on the bordering Foothills Parkland Natural Subregion through the HCS and SARC Plan programs. These species include: western spiderwort, peregrine falcon, soapweed/yucca moth, small-flowered sand verbena, long-toed salamander, trumpeter swan, prairie rattlesnake and the Ord's kangaroo rat. Many of these species or their suitable habitats have not been located on MULTISAR co-operator properties, primarily because they are only found in a few specific locations within the province. As these species and habitats are located, MULTISAR will provide BMPs and/or incentives for their protection and maintenance.

6.16 Program Summary

The MULTISAR project has successfully assisted in the implementation of many recovery and management actions for species at risk and sensitive species in the Grassland Natural Region of Alberta. MULTISAR is an important tool in education and outreach initiatives, implementation of BMPs, development of habitat improvement projects and in monitoring of species at risk. Additionally, the multi-species approach of MULTISAR allows for several species recovery actions to be included in each conservation strategy, thus decreasing the cost of implementing these actions and possible conflicts between different species at risk and their recovery.

Continued cooperation between Recovery Teams, the AEP Species at Risk Program and MULTISAR is essential to ensure the timely implementation of the necessary recovery actions for several species at risk. To facilitate the process, Recovery Team leads for species occurring in the Grassland Natural Region should communicate with MULTISAR during the plan development and identify what aspects of the plan could be achieved through MULTISAR or multi-species initiatives. Multi-species initiatives may not be suitable with the recovery of all species but should be used whenever possible.

MULTISAR will continue to be a key tool in the implementation of species at risk recovery plans in the Grassland Natural Region.

7.0 FUTURE DIRECTION

In 2015-2016, MULTISAR will continue to work to achieve its goals and objectives in its three core program areas:

1. Habitat Conservation Program:
 - 1.1. Continue to seek interested landholders in priority species at risk areas, and complete 3-5 new Habitat Conservation Strategies (up to 20,000 acres) with their cooperation and with Alberta Environment and Parks, the Alberta Conservation Association and Prairie Conservation Forum. This includes detailed vegetation and wildlife inventories, as well as range and riparian health assessments to identify habitats, priority species and the ecological condition of the rangeland and riparian areas.
 - 1.2. Expand the Habitat Conservation Strategy program outside of the Milk River, St. Mary's and Pakowki Lake Basins into the South Saskatchewan River Basin.
 - 1.3. For those species at risk detected during inventories, use MULTISAR as a tool to implement recovery actions identified in provincial and national recovery plans.
 - 1.4. Secure habitat for species at risk through signed stewardship commitment agreements.
 - 1.5. Assist landholders, based on priority, that have had a Habitat Conservation Strategy completed, in implementing habitat enhancement recommendations outlined in their HCS.
 - 1.6. Complete new Species at Risk Conservation Plans or Beneficial Management Plans upon request and continue to seek interested landholders, conducting pre-assessment interviews and research, carrying out rapid assessments and delivery of final report to landholders.
2. Education, Outreach and Awareness Program:
 - 2.1. When opportunities with watershed and other conservation groups present themselves, promote the MULTISAR message and distribute relevant information to target audiences.
 - 2.2. Deliver 2-5 formal presentations to interest groups according to demand.
 - 2.3. Assemble information and images, write and distribute one issue of the Grassland Gazette; MULTISAR's newsletter.
 - 2.4. Update and reprint MULTISAR brochures or fact sheets on species at risk and beneficial management practices, as needed.
 - 2.5. Regularly update MULTISAR's website, Facebook and Twitter accounts and ensure relevancy and accuracy of posted information.
 - 2.6. Produce a 3-5 minute video featuring the work and mandate of MULTISAR.
 - 2.7. Continue membership and maintain active participation in the Canadian Roundtable for Sustainable Beef.
 - 2.8. Continue collaboration with the Canadian Cattlemen's Association on the environmental display along the Cattle Trail during the Calgary Stampede.
3. Research, Monitoring and Data Management Program:

- 3.1. Assist Alberta Environment and Parks in conducting sharp-tailed grouse monitoring on leks in southeastern Alberta.
- 3.2. Monitor loggerhead shrike on two routes in southern Alberta.
- 3.3. Monitor amphibians on up to 10 road transects (RANA Routes), if temperatures and precipitation allow for the great plains toad and the plains spadefoot to emerge and reproduce.
- 3.4. Assess the relationship between wildlife species occurrences, wildlife species diversity, relative abundance, plant community type and metrics or range health.
- 3.5. Evaluate 5 properties (~65,667 acres) originally assessed in 2004-2005 and 2010-2011, to measure how effective the HCS plan was at influencing habitat management, habitat value for species at risk and landholders' perceptions of species at risk.
- 3.6. Monitor habitat enhancement projects at 73+ enhancement sites developed in the Milk River, St. Mary River and Pakowki Lake basins since 2005.
- 3.7. Submit all wildlife observation data collected to the FWMIS (Fish and Wildlife Information System) annually.
- 3.8. Submit all range health assessment data on Crown lands into the provincial database on an annual basis.

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APPENDIX A: PRELIMINARY & FOLLOW-UP SARC PLAN QUESTIONNAIRES

Species at Risk Conservation Plan Landholder Questionnaire

Ranch:
Landholders:
Location of homestead (inc. UTM):
Year:
Observers:

In office prep work (please attached all prelim work to forms):

- HSI/MCV check
- FWMIS search
- Range Benchmark site
- GIS map
- Airphoto
- Communication with range agrologist *Contact before assessment if any leased land*
- Review of SAR recovery plans
- Other _____

Suggested report date and meeting:

Contact Information:

Phone Number:
Would you like our newsletter twice a year? If yes, electronic or hardcopy?
Electronic - Email Address:
Hardcopy - Mailing Address:

Section 1: History, Land Base and Usage

1. How long have you owned/operated this ranch? (If inherited how long has family owned ranch)?
2. What is the total land base (*i.e.*, acres) of your operation?
 - a) # Deeded:
 - b) # Leased:
3. What acres do the following contribute to the land base of your operation?
 - i. Native prairie
 - ii. Seeded pasture
 - iii. Hayland (and dates of harvest)
 - iv. Cropland
4. Can you explain the details of how you graze?
(e.g. continuous vs. rotational, approx. time/season of use, how you decide to move cows, etc.)
5. Have you ever had a range or riparian health assessment completed on any of your land? If so, by whom? Yes – private land Yes – public land No
6. Do you currently have any wildlife issues on your land?
7. Are there any short or long-term projects you plan on completing on your ranch (e.g. add watering sites,

fencing, etc.).

Section 2: Wildlife and Species at Risk

1. Do you feel that it is possible to run a profitable operation while providing suitable habitat for wildlife? Y N unsure
2. Do you feel that wildlife is beneficial to your operation? Y N unsure
Please explain your opinions.
3. Do you feel that programs like MULTISAR may be useful in assisting you with maintaining suitable habitat for wildlife? Y N unsure
4. a) Do you feel that your land is important for providing habitat for species at risk and/or other wildlife? Y N unsure
- b) Do you know of any species at risk on your land? Y N unsure
If so, which ones?
5. Do you feel that species at risk should be protected by law? Y N unsure
6. Have you heard of federal and provincial legislation such as the Species At Risk Act (SARA) and the Alberta Wildlife Act? Y N
7. Do you feel this legislation has an impact on your operation? Y N unsure
If so, is the impact positive or negative?
8. Do you currently make adjustments for wildlife in your operation? Y N
If yes, please give examples.
9. a) Would you consider making changes (or additional changes) to your operation in order to enhance habitat for wildlife? Y N maybe
- b) If no, are there any particular reasons?
10. What does (or would) motivate you to consider making changes to your operation in order to enhance habitat for wildlife?
11. Do you practice any of the following:

| | | | |
|--|---|---|-----|
| Keeping your native prairie (not plow) | Y | N | n/a |
| Rotational grazing | Y | N | n/a |
| Resting pastures | Y | N | n/a |
| Delaying haying until after wildlife has nested (after July 15 th) | Y | N | n/a |
| Using flushing bars | Y | N | n/a |
| Seeding fall seeded crops | Y | N | n/a |
| Using zero or minimal tillage | Y | N | n/a |
| Maintaining shelterbelts and natural trees | Y | N | n/a |
| Limiting chemical use around water bodies | Y | N | n/a |
| Leaving vegetative buffer around wetlands when haying/cultivating | Y | N | n/a |
| Not draining wetlands | Y | N | n/a |
| Limiting grazing around wetlands | Y | N | n/a |
| Removing invasive alien weeds | Y | N | n/a |
| Minimizing environmental disturbance from industry | Y | N | n/a |

12. Are you willing to share wildlife sightings on your ranch with MULTISAR? Y N

Section 3. Future Plans and Direction

1. Do you currently have a long-term plan for your ranch (e.g. plan to sell, expand operations, etc.)?
2. Can we contact you annually to follow up on the report? Y N

Section 4: Ranch Tour and Map

On the map provided please draw pastures, pasture names, fence lines, stock watering sites, and corral placement, areas of historical importance, etc.

How did you learn about MULTISAR? How about SARC Plans?

Species at Risk Conservation Plan Follow Up Survey

*** Before calling, read the report and have it open when you call.**

Section 1: The SARC Plan

1. Hello! This is _____ from MULTISAR calling, how are you? I'm doing a follow-up on the Species at Risk Conservation Plan that we developed together last <enter month+ year it was produced> .
2. At the time of the assessment, you had:

| | Original | Current |
|----------------|-----------------|----------------|
| Native prairie | _____ acres | _____ acres |
| Seeded pasture | _____ acres | _____ acres |
| Hayland | _____ acres | _____ acres |
| Cropland | _____ acres | _____ acres |

Is this information still correct? (if changed, adjust in *Current* column)

You also had:

| | Original | Current |
|--------|-----------------|----------------|
| Deeded | _____ acres | _____ acres |
| Lease | _____ acres | _____ acres |

Is this information still correct? (if changed, adjust in *Current* column)

3. Have you made any changes to management on the ranch since our last meeting? If so, what changes have been made?
4. If habitat improvements (Greencover or others) were made:

“We did this <improvement> with you. How is that working out for you?”
(address issue specific to the improvement. Eg For an offsite watering system, any changes to the wetland or changes to cattle from this new water source)

4. If no habitat improvements, continue here:

MULTISAR 2015-2016 Annual Summary Report

We identified _____, _____, and _____, as focal species on your property. Have you noticed use by any of these species (or species groups) on your land? (*Offer brochure etc if they show interest.*)

7. Is the MULTISAR sign that we provided you still in good condition, or do you need another one?

Section 2: “This section helps us guide our SARC Plan program and makes us understand your circumstances.”

1. Do you feel that it is possible to run your operation while keeping the needs of wildlife in mind?

Y N unsure

4. How would you categorize wildlife in regards to your ranching (farming) operations (circle one).

- Important to my operation
- No impact to my operation, but I love having them and seeing them on the landscape.
- Negatively affect my operation
- I don't think about it.

5. How would you categorize the benefits of programs like MULTISAR. (circle one)

- Provide me with general wildlife knowledge for my property.
- Provide me with knowledge to make management changes beneficial to my operation.
- Both of the above
- None of the above

6. Has the MULTISAR program changed your perceptions of wildlife and/or species at risk? Explain.

5. a) Do you feel that your land is important for providing habitat for species at risk and/or other wildlife?

Y N unsure

b) Do you know of any species at risk on your land? Y N unsure
If so, which ones? (*May not need to ask if already mentioned in discussion*)

Section 3: Wrap Up

1. Are there any projects that you would like to complete? (*off stream watering units, fencing water bodies, re-seeding permanent cover, bioengineering, etc*)

2. Do you have any suggestions or comments for us to improve our Species At Risk Conservation Plans?

3. Is a SARC Plan something that you could see yourself recommending to your neighbours or friends?

yes no

4. Is there anything else we can do for you? (Provide you with information about wildlife or wildlife issues, technical assistance, etc.)

(Tell them about any special events / projects relevant to them). Please keep in touch and feel free to contact us at any time.

That is all, thank you very much for your time. Have a nice day!

APPENDIX B: LIST OF ACRONYMS

| | |
|-----------|---|
| ACA | Alberta Conservation Association |
| AFGA | Alberta Fish and Game Association |
| ESCC | Endangered Species Conservation Committee |
| AEP | Alberta Environment and Parks |
| ATPR | Alberta Tourism, Parks and Recreation |
| BACI | Before After Control Impact |
| BMP | Beneficial Management Practice |
| FWMIS | Fish and Wildlife Management Information System |
| GNR | Grassland Natural Region |
| GVI | Grassland Vegetation Inventory |
| HCS | Habitat Conservation Strategy |
| MLA | Member of the Legislative Assembly |
| MULTISAR | Multiple Species At Risk |
| PCF | Prairie Conservation Forum |
| RH | Range Health |
| SAR | Species at Risk |
| SARC | Species at Risk Conservation |
| SARC Plan | Species at Risk Conservation Plan |

For a list of additional reports in the Alberta Fish and Wildlife Species at Risk Report Series, please go to the website:

<http://aep.alberta.ca/fish-wildlife/species-at-risk/species-at-risk-publications-web-resources/default.aspx>