

Badland Motosport Project

Environmental review
of the impacts on species at risk,
songbirds and their plants

To Kneehills County Council public hearings
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Concerns

- ✦ current development design will have negative impact on Species-At-Risk, songbird numbers and plant populations
- ✦ important bird breeding and feeding habitats will be affected for SAR
- ✦ effect on populations will add to cumulative impacts



Data sources

- ✦ Limited information in EIA
 - limited sample due to limited time, duration, intensity and date
 - confusion between Columbian Ground Squirrel and Richardson's Ground Squirrel
- ✦ used data base from a two day site visit 30-31 May
- ✦ A few additional species reported by local residents
- ✦ accessed continental Breeding Bird Survey home page



Conservation Status of Migratory Birds



- ✦ continental population declines
- ✦ radar studies over the Gulf of Mexico have shown 50% decline in songbird in 30 years
- ✦ declines are incremental impacts due to human activity
- ✦ most important single reason is habitat loss



Solutions to Loss of Biodiversity

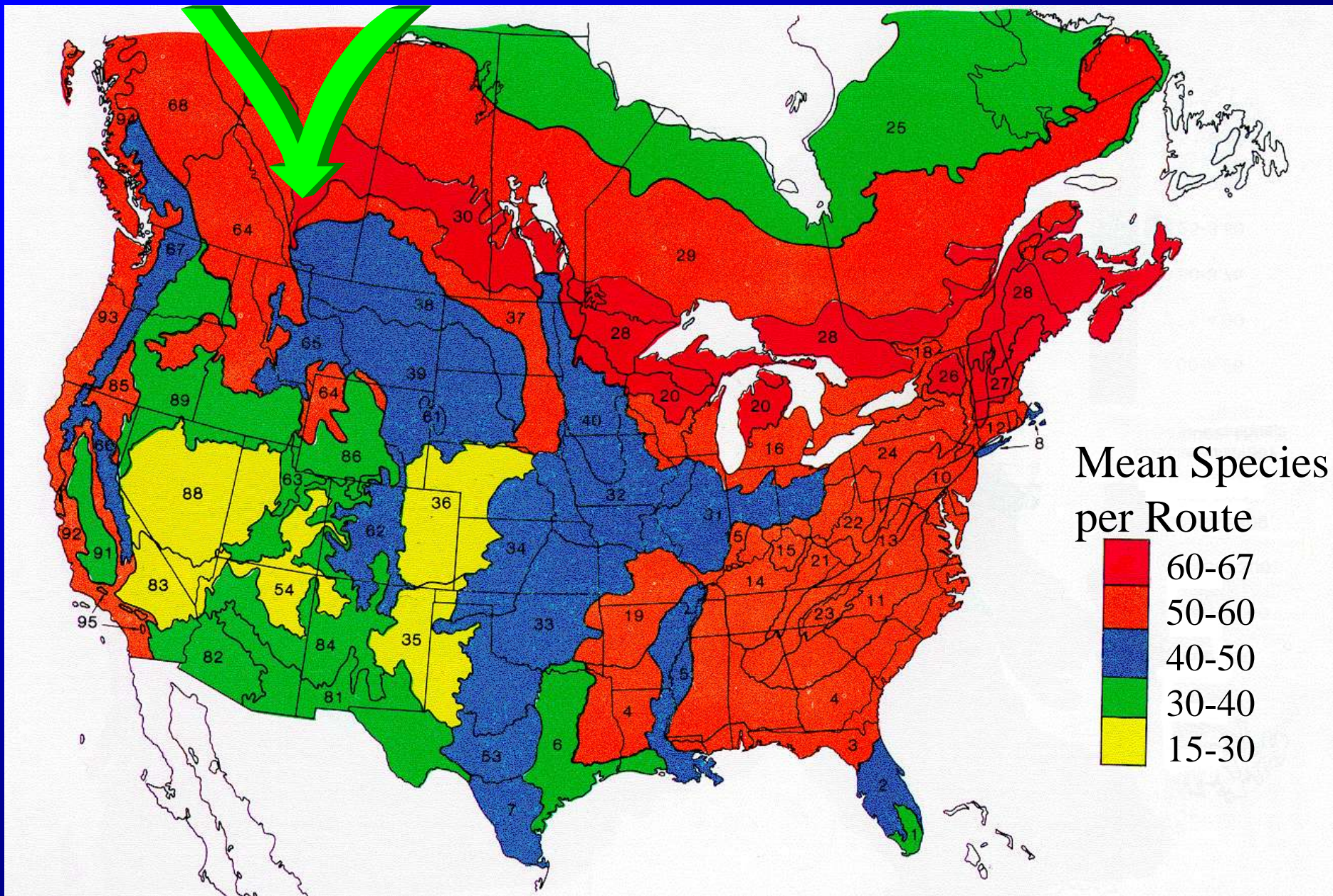
- ✦ **Biodiversity Convention**
- ✦ **Canadian Biodiversity Strategy**
- ✦ **Partners in Flight initiative, Important Bird Areas, Ecologically Sensitive Area Inventories and others**
- ✦ **Goal is to avoid endangered species**



How do these issues apply to Badland Motorsport Development Environmental Impacts?

Ecoregion has highest species richness





Number of species recorded per Breeding Bird Survey route

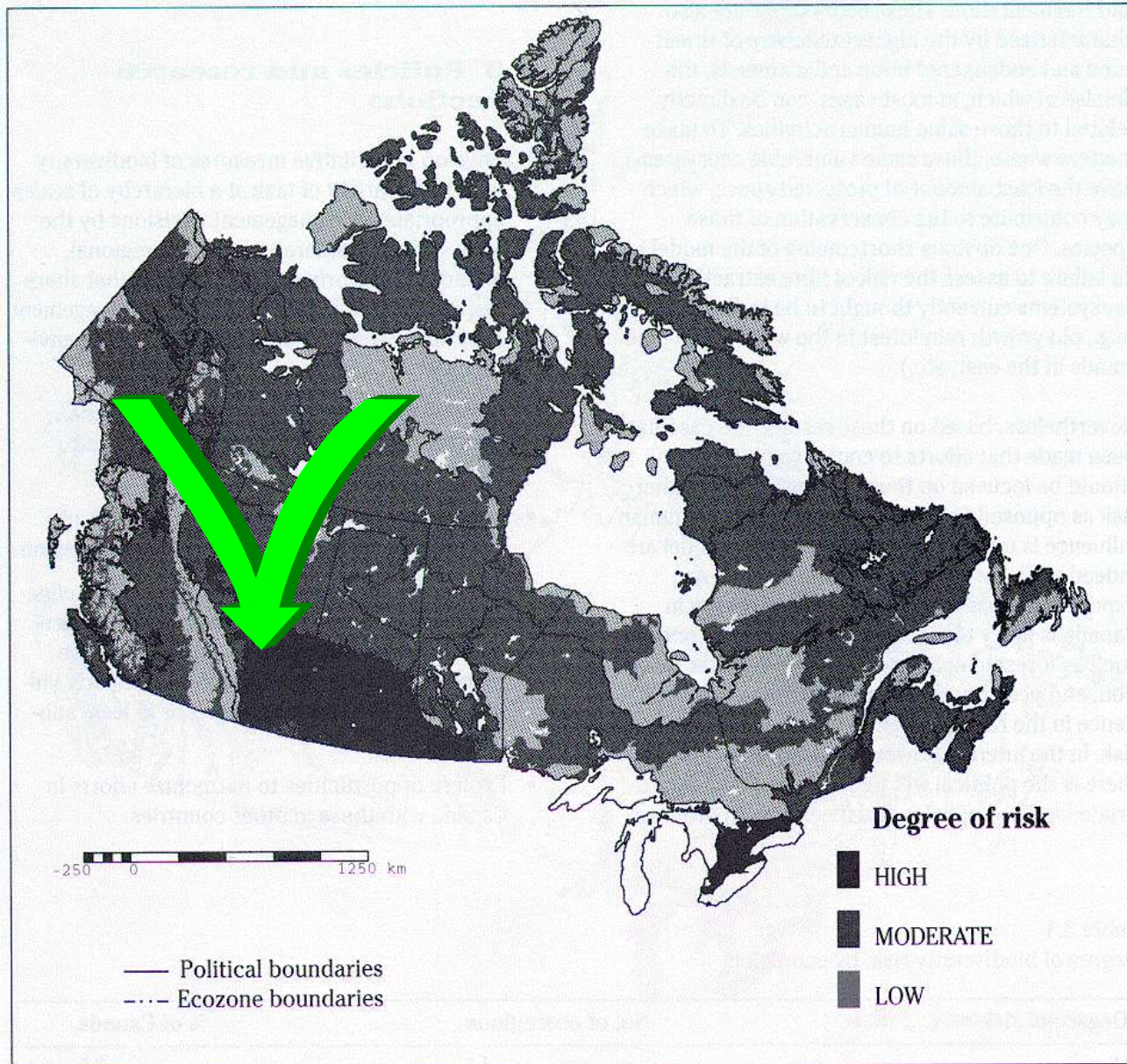
How do these issues apply to Cheviot Mine EIA?

- ✦ Ecoregion has high species richness

Ecoregion with high risk to biodiversity



Risk to Biodiversity



BIODIVERSITY IN CANADA - A Science Assessment for Environment Canada 1994



How do these issues apply to Badlands Motosport EIA?

- ✦ Ecoregion has high species richness
- ✦ Ecoregion with high risk to biodiversity

Some species are already declining



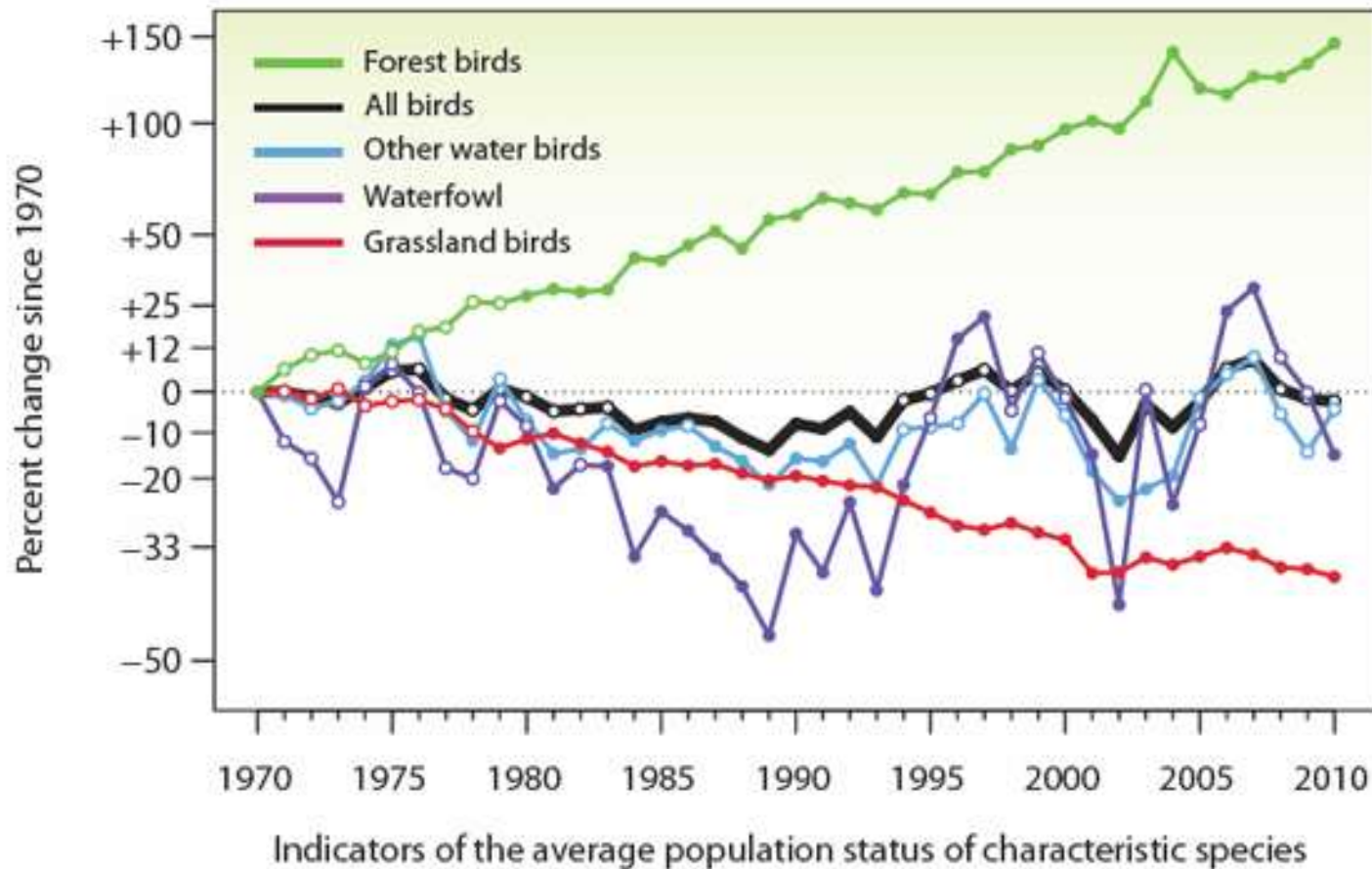
Project Species in Decline

- ✦ 61 bird species identified in 2 brief surveys
- ✦ 20 species listed as sensitive by Alberta
- ✦ 7 species are listed Nationally by COSEWIC
 - 4 species are Threatened
 - 3 species are Special Concern



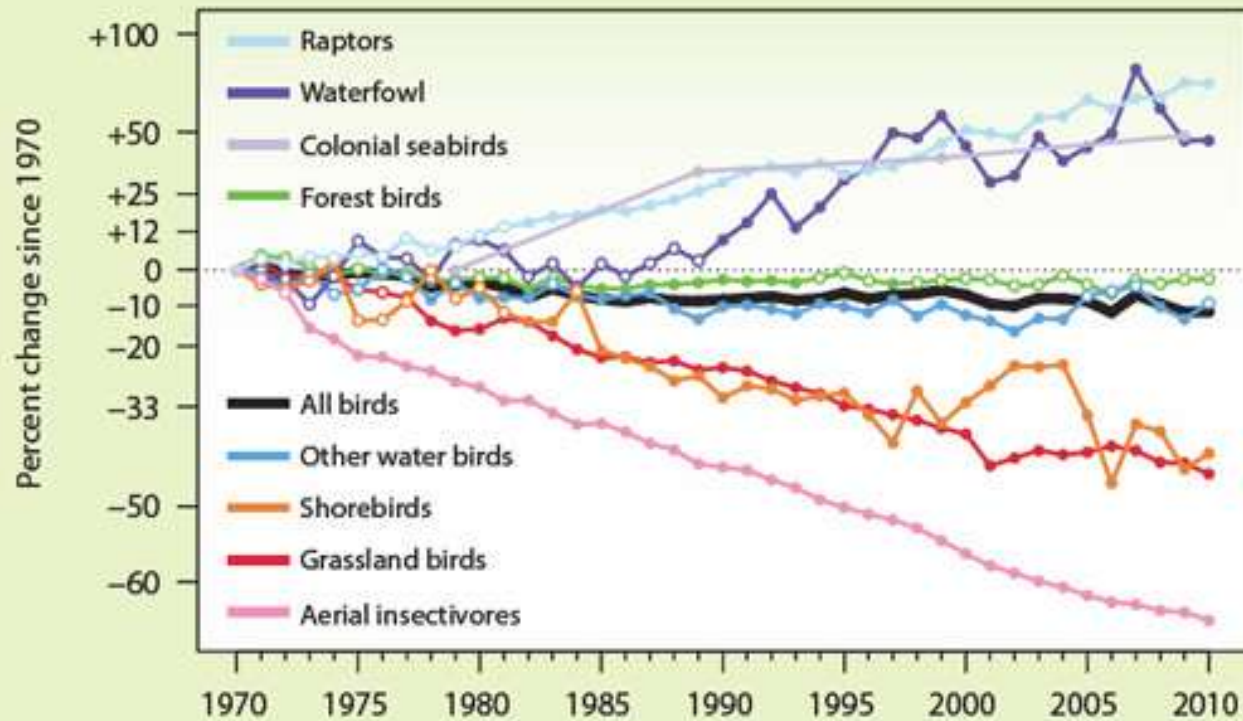
Grassland Bird Declines in Prairies

State of Canada's Birds 2012



Aerial Insectivore Declines in Canada

State of Canada's Birds 2012



Indicators of the national population status of all regularly occurring native bird species in Canada and eight selected subgroups.

9 Species
were
recorded:

Swallows
Flycatchers
Nighthawk



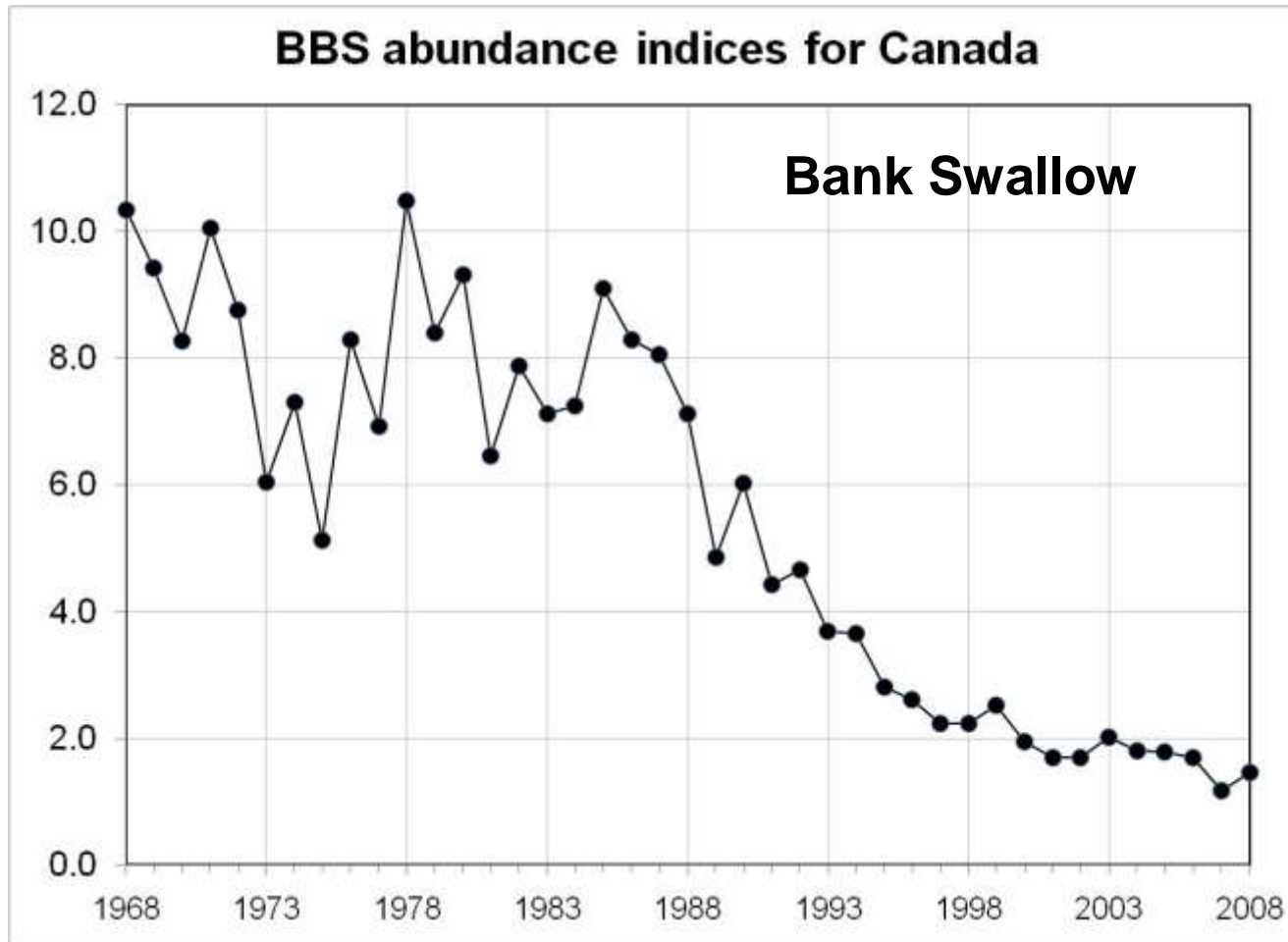
Bank Swallow Status in Proposed Development



- Nationally listed by COSEWIC as **THREATENED**
- Three colonies on immediately adjacent banks of Rosebud River
- 500 pairs active at 500 burrows
- Adults foraged continuously over wetlands

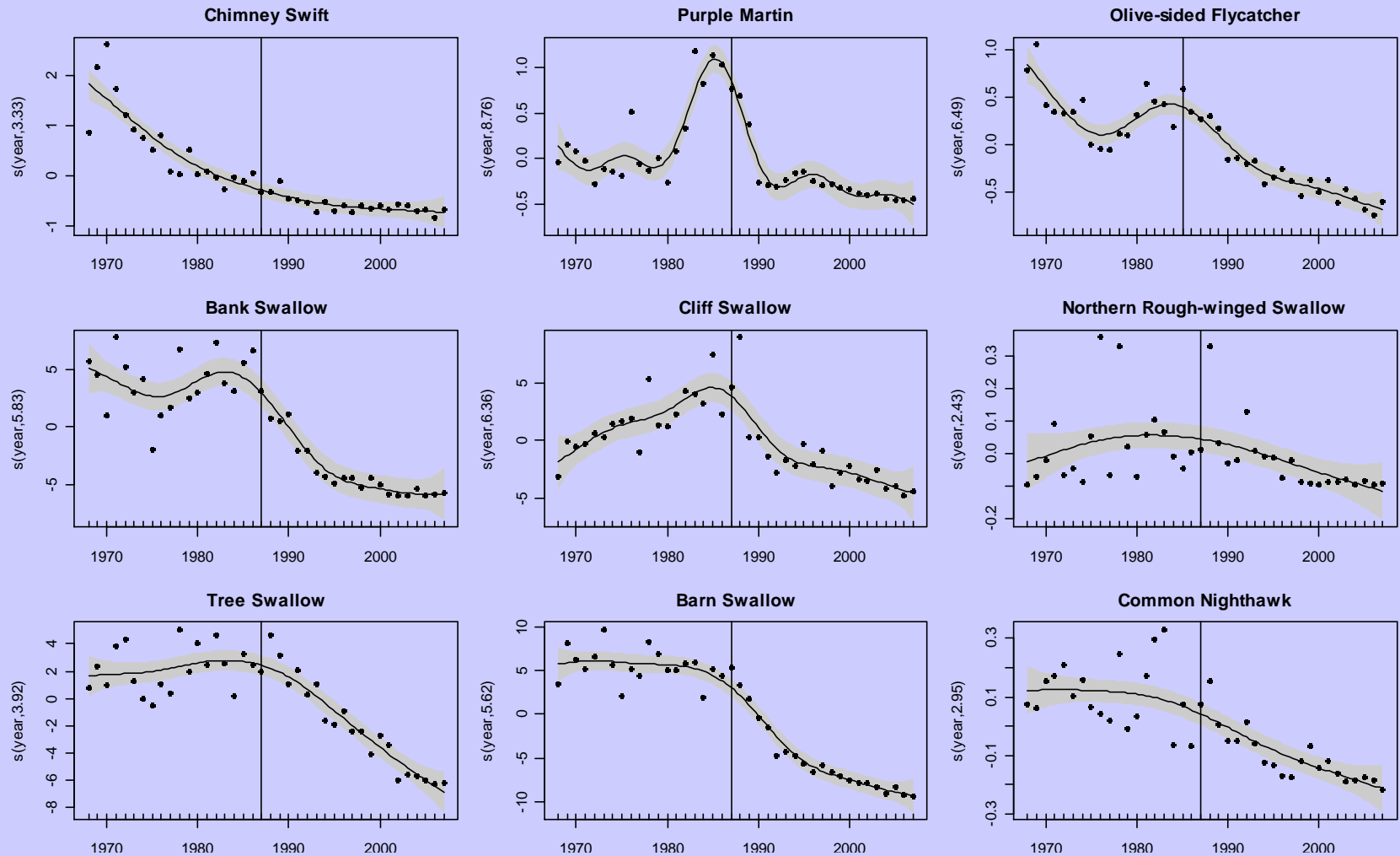


Bank Swallow declines of 80%



- 3 colonies adjacent
- 500 active nests
- 100% adults were foraging over the wetlands

Many species of Swallows and Flycatchers are in decline



How do these issues apply to Badlands Motosport EIA?

- ✦ Ecoregion has high species richness
- ✦ Ecoregion with high risk to biodiversity
- ✦ Some species are already declining

Some species have restricted ranges



Distribution of Project species

- ✦ no endemics
- ✦ 6 species with restricted range



How do these issues apply to Badlands Motosport EIA?

- ✦ Ecoregion has high species richness
- ✦ Ecoregion with high risk to biodiversity
- ✦ Some species are already declining
- ✦ Some species have restricted ranges

**Some species occur at their highest
concentrations in the prairies**



Significance of peaks of abundance

- ✦ important because breeding density of these species is high in the project area
- ✦ source populations for elsewhere in range
- ✦ higher quality genotype associated with source habitats



How do these issues apply to Badlands Motosport EIA?

- ✦ Ecoregion has high species richness
- ✦ Ecoregion with high risk to biodiversity
- ✦ Some species are already declining
- ✦ Some species have restricted ranges
- ✦ Some species occur at their highest concentrations in the prairies

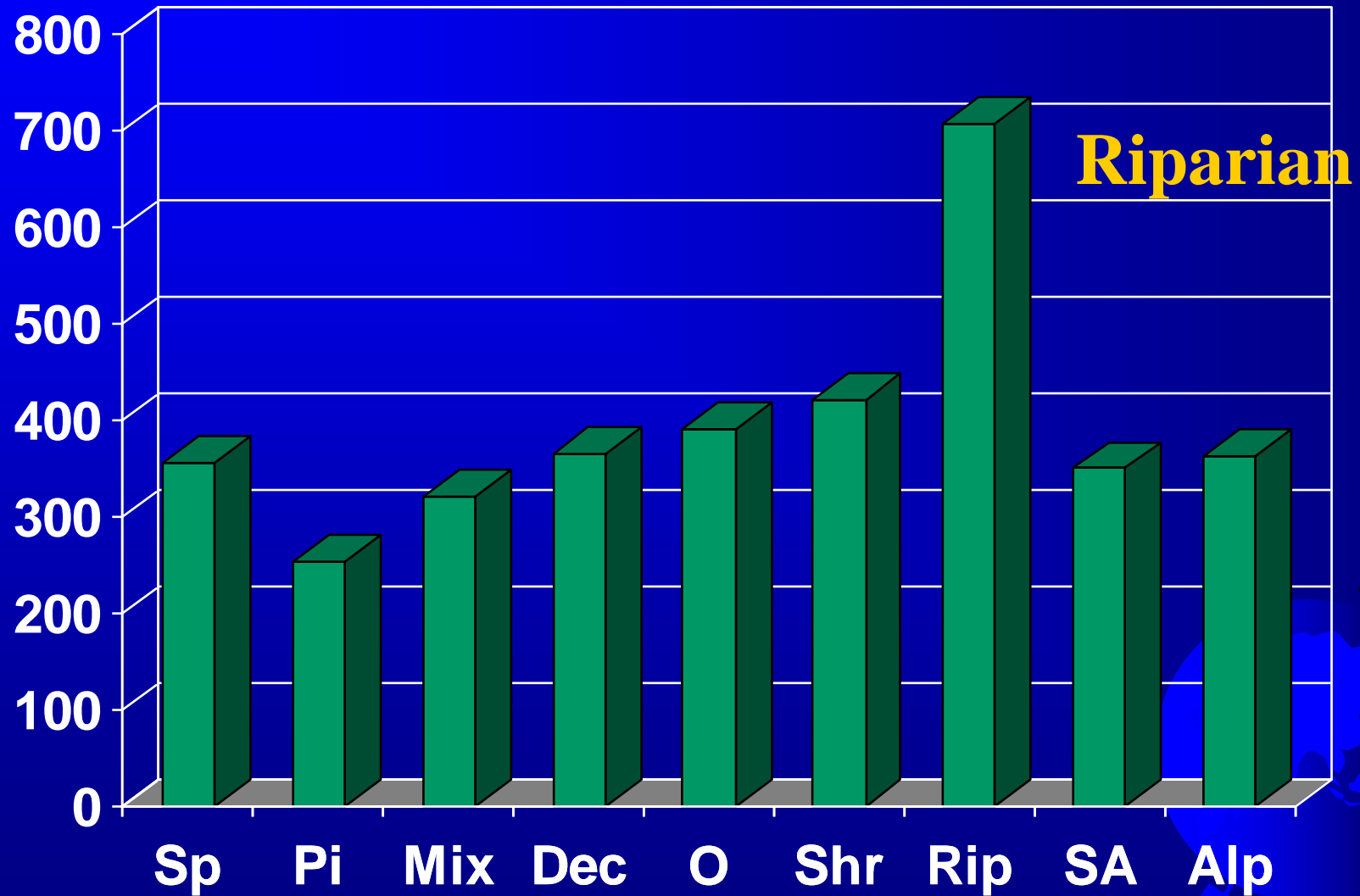
Some habitats have higher bird density





61 species of birds found on only two short surveys indicates that this area is unusually diverse

Important habitats (birds per sq.km)



Other Seasons

- ✦ only breeding habitats have been considered
- ✦ concerns in migration and winter seasons have not been reviewed



HEADINGS FOR RECOMMENDATIONS IN ENVIRONMENTAL ASSESSMENT

- ✦ AVOID IMPACT
- ✦ MINIMIZE IMPACT
- ✦ MITIGATION/RESTORATION
- ✦ COMPENSATION



Recommendations to avoid impacts

- ✦ The concept of No-net-loss is not possible for Species-at-Risk songbirds
- ✦ Lost habitat = lost population
- ✦ Cumulative impact of this habitat loss will negatively affect the abundance of each species



**SRD / Recommended Land Use Guidelines for Protection of Selected Wildlife Species
and Habitat within Grassland and Parkland Natural Regions of Alberta**

Recommended Restricted Activity Dates and Setback Distances by Level of Disturbance					
Species	Location	Time of Year	Level of Disturbance		
			Low	Medium	High
Great Plains Toad and Plains Spadefoot	Class III wetlands on Native Prairie	Year round	100 m	100 m	100 m
Northern Leopard Frog	Breeding ponds	Year round	100 m	100 m	100 m
Eastern Short Horned Lizard*	Habitat	Year Round	100 m	100 m	200 m
Bull Snake, Western Hognose Snake, Prairie Rattlesnake	Hibernacula	Year around	200 m	200 m	500 m
	Rookery	March 15 th – October 31 st November 1 st – March 14 th	200 m 50 m	200 m 50 m	200 m 200 m
Greater Sage Grouse*	Leks	Year around	3200 m	3200 m	3200 m
	Habitat	Year-Round	1000m	1000 m	1000m
Sharp-Tail Grouse	Leks	March 15 th – June 15 th	500 m	500 m	500 m
		June 16 th – March 14 th	100m	100 m	500m
		March 15 th – July 15 th	1000 m	1000 m	1000 m
Peregrine Falcon, Bald Eagle, Golden Eagle, Prairie Falcon, Ferruginous Hawk	Nesting sites	July 16 th – March 14 th	50 m	100 m	1000 m
Burrowing Owl	Nesting sites	April 1 st – August 15 th	200 m	500 m	500 m
		August 16 th – October 15 th	200 m	200 m	500 m
		October 16 th – March 31 st	50 m	100 m	500 m
Colonial Nesting Birds: American White Pelican, Great Blue Heron*	Nesting sites	April 1 st – August 31 st	1000 m	1000 m	1000 m
Piping Plover waterbodies*	Nesting sites	September 1 st – March 31 st	100 m	100 m	1000 m
		April 15 th – July 31 st	100 m	200 m	200 m
Ord's Kangaroo Rat**	Nesting sites (dens)	August 1 st – April 14 th	100 m	100 m	200 m
		Year Round	50 m	100 m	250 m
Threatened and Endangered Plants	Habitat	Year Round	30 m	30 m	300 m
Swift Fox	Den	February 16 th – July 31 st	500 m	500m	500 m
		August 1 st – February 15 th	50 m	100 m	500 m
Long-billed Curlew Upland Sandpiper Mountain Plover Short-eared Owl Sprague's Pipit	Active nest and surrounding habitat	April 1 st - July 15 th	100 m	100 m	100 m

*These species habitats are mapped

Provincially recommended setbacks for species-of-concern would encompass the whole proposed project area



Bank Swallow foraging habitat



Critically important foraging wetlands for this nationally threatened species

Road mortality from collisions with vehicles will be a major impact



Three colonies with approximately 500 active pairs of bank swallows are at risk from this development



Rare Plant Overview

by Linda Kershaw

- ✦ 50 plant species identified by EnviroConsult Inc.
- ✦ May 30-31, 2013 – survey of plants
- ✦ Some common obvious species were not listed by EnviroConsult Inc.:
 - Water smartweed
 - Dock
 - Creeping juniper



140

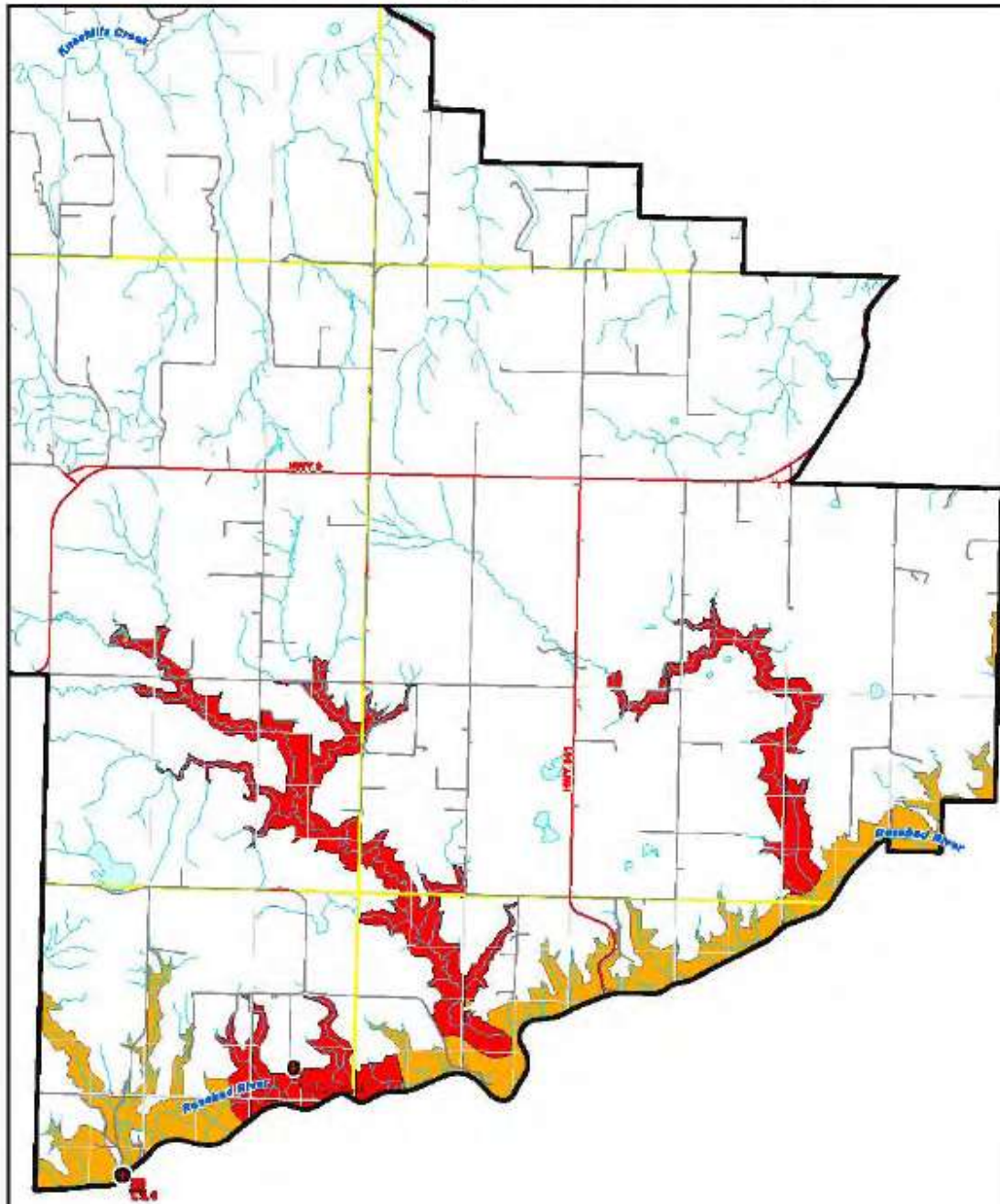
140 species of
plants identified

Rare Plants

- ✦ S1 species are ‘critically endangered’
- ✦ One S1 species was identified:
 - Prairie Cordgrass (*Spartina pectinata*)
 - extensive along the edge of the well access road

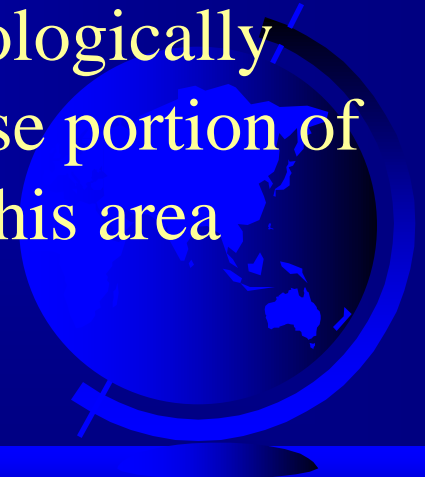


Rosebud River Environmentally Significant Area - Kneehill County 2009



Rosebud Valley
was identified as
highest
Environmentally
Significant Area
in 1990 and 2010

This proposal
would destroy a
biologically
diverse portion of
this area



Environmentally Significant Areas in Kneehills County

- ♦ County ESA reduced 25% in last 20 years
 - 61,887 ha in 1990
 - 45,857 ha in 2009
- ♦ Rosebud ESA reduced over 50% in last 20 years
 - 4530 ha in 1990
 - 2029 ha in 2010



ROSEBUD RIVER ESA

ESA Area (hectares):

- 2029 ha

Applicable Criteria:

1. Hazard lands and areas unsafe to develop (ie. Floodplains, steep or unstable slopes)
2. Vital environmental, ecological or hydrological functions
3. Areas with rare or unique geological or physiographic features
5. Unique habitats or remnants of once large habitats
8. Areas that provide a linking function and permit movement for wildlife
10. Areas with intrinsic appeal or widespread community interest
12. Areas of historical importance

ESA Significance:

- ESA-1: Very high (1065 ha)
- ESA-2: High (964 ha)

Management Considerations:

For management plans for ESA-1 through 4 refer to section 7.1. For management recommendations by natural feature type refer to section 7.2.

Photoplate:



Site: 29 **Criteria:** 1-3, 5, 8, 10, 12
ESA Significance: ESA-1: Very High
Natural Feature Types: Coulee & Badlands, Native Grasslands



Site: 29 **Criteria:** 1, 2, 8
ESA Significance: ESA-2: High
Natural Feature Types: Aspen Forest



Site: 30 **Criteria:** 1, 2, 8
ESA Significance: ESA-2: High
Natural Feature Types: Riparian Area, Waterbody

Conclusions

- ✦ Environmental Assessment was incomplete
- ✦ 20 bird species listed as sensitive by Alberta
- ✦ 4 bird species Nationally Threatened
- ✦ 3 bird species Special Concern
- ✦ At least one S1 plant species
- ✦ Nationally significant ESA
- ✦ 50% loss of ESA in past 20 years



Conclusions

- ✦ Proposed Development will result in:
- ✦ Destruction of this Ecological Diverse and Important area
- ✦ Destruction of Critical Foraging Habitat for listed species
- ✦ Contribute to Cumulative Destruction of Global Biodiversity



THINK GLOBALY ACT LOCALY



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