

APPENDIX A

SPECIES OF CONCERN IN THE PRAIRIE REGION*

Note - A separate Appendix (Appendix B) has been developed for Fish species of concern

Endangered Category				
Species	Federal List	Alberta	Saskatchewan	Manitoba
<u>Mammals</u> Swift Fox	AB,SK	✓	✓	
Wood Bison	-	✓		
<u>Birds</u> Whooping Crane	AB	✓	✓	✓
Eskimo Curlew	AB,SK,MB			✓
Sage Grouse	AB,SK		✓	
Burrowing Owl	AB,SK,MB	✓	✓	✓
Mountain Plover	AB,SK			
Piping Plover	AB,SK,MB	✓	✓	✓
Eastern Loggerhead Shrike	MB			✓
Sage Thrasher	AB,SK			
Baird's Sparrow	-			✓
Peregrine Falcon	-	✓		✓
<u>Amphibians</u> Northern Leopard Frog	-	✓		
Great Plains Toad	-	✓		
Canadian Toad	-	✓		
<u>Molluscs</u> Banff Springs Snail	AB			
<u>Lepidopterans (Butterflies)</u> Uncas Skipper	-			✓
<u>Plants</u> Tiny Cryptanthe	AB,SK		✓	
Small White Lady's-slipper	MB			✓
Western Prairie Fringed Orchid	MB			✓
Hairy Prairie Clover	-		✓	
Sand Verbena	-		✓	
Western Spiderwort	-		✓	
Great Plains Ladies'-Tresses	-			✓
Buffalograss	SK,MB			
<u>Mosses</u> Haller's Apple Moss	AB			

Threatened Category				
Species	Federal List	Alberta	Saskatchewan	Manitoba
<u>Mammals</u> Wood Bison	AB			
Woodland Caribou	AB,SK,MB	✓		
Grizzly Bear	-	✓		
Northern Long-eared Bat	-	✓		
Ord's Kangaroo Rat	-	✓		
Red-tailed Chipmunk	-	✓		
Wolverine	-	✓		
<u>Birds</u> Anatum Peregrine Falcon	AB,SK,MB			
Sprague's Pipet	AB,SK,MB	✓		
Loggerhead Shrike	AB,SK,MB			
Ferruginous Hawk	-	✓		✓
Bay-breasted Warbler	-	✓		
Black-throated Green Warbler	-	✓		
Cape May Warbler	-	✓		
Long-billed Curlew	-	✓		
Sage Grouse	-	✓		
Short-eared Owl	-	✓		
Trumpeter Swan	-	✓		
<u>Amphibians</u> Spotted Frog	-	✓		
Plains Spadefoot	-	✓		
<u>Reptiles</u> Prairie Rattlesnake	-	✓		
Short-horned Lizard	-	✓		
Western Hognose Snake	-	✓		
<u>Fish</u> Cisco, Shortjaw	AB,SK,MB			
Western Silvery Minnow	AB			
Rosyface Shiner	MB			
<u>Lepidopterans (Butterflies)</u> Dakota Skipper	-			✓
<u>Plants</u> Western Silver-leaved Aster	MB			✓
Western Blue-flag	AB			
Slender Mouse-ear-cress	AB,SK		✓	
Hairy Prairie-clover	SK,MB			
Soapweed	AB			
Western Spiderwort	AB,SK,MB			✓
Sand Verbena	AB,SK			

*** Explanation Notes:**

- Alberta Environment categorizes the Status of Species (amphibians, reptiles, birds and mammals) as follows:
 - Red = species considered to be at risk;
 - Blue= species that may be at risk.For purposes of developing a comprehensive list for the prairie region, Red has been interpreted here to be equivalent to “endangered”; and Blue equivalent to “threatened”.
- Plant species of concern in Alberta are listed by the Alberta Natural Heritage Information Centre (ANHIC). However, their categorization is not in a format compatible with either the COSEWIC or provincial species lists. Plants of concern listed specifically for Alberta have therefore not been included. The COSEWIC list identifies those plants considered endangered or threatened and located in Alberta, but for the complete list of Alberta plants, please refer to the ANHIC list.

Information Sources:

Canadian Species at Risk - COSEWIC List - November 2001
Alberta Status of Species - 1996
Saskatchewan Species List - 1999
Manitoba Endangered Species List - April 2000

Standard Contract Mitigation

Part 1 - Road Upgrades

General

- Disturbance to areas of natural vegetation such as native prairie, shrublands, mature forest stands, riparian and wetland areas shall be minimized as part of project planning activities and during all construction and post construction activities
- Disturbance to water bodies including intermittent and ephemeral water courses, wetlands, and sloughs shall be minimized as part of project planning activities and during all construction and post construction activities
- Project activities shall be scheduled to minimize disturbance to normal agricultural operations (e.g. seeding or harvesting of crops)
- Highly productive agricultural land shall be avoided wherever possible
- Fragmentation of productive agricultural land into small parcels shall be minimized
- Project activities shall conform to the terms and conditions of signed agreements with all potentially affected landowners and other users including agreement regarding the siting and timing of work, reclamation standards, repairs, and financial compensation.
- Undertaking of project activities during adverse weather conditions such as high winds and rain shall be avoided
- Project activities shall not be undertaken while soils are frozen
- The proponent shall be responsible for conforming with all requirements of the Transportation of Dangerous Goods Act, the Transportation of Dangerous Goods Regulations, Provincial Regulations and other relevant regulations, with particular reference to the transport, storage, handling, accidental releases, and disposal of fuels or other hazardous materials
- Contingency plans for the clean-up of spills shall be prepared prior to commencement of work.
- Spills of contaminants shall be contained and immediately cleaned up using a suitable commercial absorbent, and reported immediately to Provincial Authorities.
- Appropriate precautionary and drainage control measures shall be implemented at all drainage crossings to ensure that no potentially hazardous material is inadvertently spilled or deposited into surface waters.

- Hazardous materials shall not be stored within 100 m of the normal high water mark of any water body or water drainage course
- Chemicals, including emulsions and tackifiers, shall not be directly sprayed into or onto surface water bodies
- Chemicals, including herbicides, shall not be sprayed in windy conditions such that chemicals may be caused to drift
- Herbicides for weed control shall not be sprayed within 30 m of a waterbody; where vegetation control is required after initial clearing, manual cutting in sensitive areas is preferable.

Site Preparation

- Appropriate geotechnical control measures shall be implemented to stabilize soils and slopes
- Erosion control measures shall be implemented as necessary to prevent or reduce the likelihood of sediment or other deleterious substances entering water bodies or water courses
- Clearing and stockpiling shall not be undertaken in advance of construction where erosion is likely
- Stockpiled soils shall be stabilized and protected from wind and water erosion
- Stockpiled topsoil, subsoil and overburden materials shall be placed on equivalent soil materials (e.g. topsoil placed on topsoil, subsoil placed on subsoil, etc.)
- Separation distances between stockpiled topsoil, subsoil and overburden shall be a minimum of 1 m to prevent mixing
- Soils shall not be excavated or handled when the ground is frozen to minimize soil mixing and compaction
- Stockpiled topsoil which is not to be used for six months or longer shall be stabilized with plant cover.

Construction and Equipment Operation

- In the event of the discovery of archeological or historical sites or artifacts during construction, activity at the location shall be suspended until permission to proceed is granted by Provincial Authorities
- Work shall be minimized or postponed when soil is wet, to reduce potential for soil compaction
- Vegetation outside the road right-of-way shall not be damaged by construction activities or equipment operation
- The ground surface below the normal high water mark of any watercourse or waterbody shall not be disturbed except at specified crossings

- ❑ The application of oil, asphalt, and tar shall be restricted to the specified road surface during application and shall be prevented from entering surface waters
- ❑ Movement of all construction equipment shall be restricted to the existing road right-of-way
- ❑ Construction equipment shall be restricted to existing crossing sites when crossing a surface water body or water course
- ❑ Mobile machinery shall not be serviced or washed within 100 m of the normal high water mark of any water body or water course
- ❑ Construction equipment shall not be parked within 30 m of the normal high water mark of any water body or water course
- ❑ All vehicles shall be maintained in good operating order, and shall be fitted with standard air emission control devices - idling of combustion engines shall be minimized at all times
- ❑ All construction vehicles shall be washed prior to moving to a new construction site and prior to leaving the site to prevent the spread of noxious weeds
- ❑ Dust affecting other parties shall be controlled by the proponent (e.g. the wetting down of dry, exposed soils during site preparation)
- ❑ Noise affecting other parties shall be controlled by the proponent (e.g. restriction of daily construction hours).

Post Construction

- ❑ Clean, washed rock only, shall be used for rip rap
- ❑ Clean, washed granular fill only, shall be used in the construction of roadway sections through water bodies and wetland areas
- ❑ Stockpiled topsoil, subsoil and overburden shall be replaced in an manner that minimizes mixing and in an order that ensures replacement with like materials
- ❑ Disturbed areas shall be tilled and prepared for re-seeding
- ❑ Disturbed areas of non-native vegetation shall be successfully re-vegetated with species approved by the respective landowners or with species that reflect the pre-disturbance plant community as soon as possible after construction
- ❑ Disturbed areas of native vegetation shall be successfully re-vegetated with species that reflect the pre-disturbance plant community as soon as possible after construction
- ❑ Upon completion of the work, or cancellation of the contract, construction waste, fuel caches and all other surplus or hazardous materials shall be removed from the work site and disposed of at approved facilities.

Part 2 - Bridge Deck Modifications

General

- The proponent shall comply with terms and conditions of Provincial Approvals or Codes of Practice regulating work that affects the shores or banks of waterbodies and the modification and maintenance of bridges
- The proponent shall manage construction activities and remove any waste or surplus materials from watercourses to ensure that potential for navigation is not impeded
- Drainage control measures shall be implemented to intercept storm run-on to the bridge deck and to divert on-deck drainage away from receiving waterbodies.

Construction and Equipment Operation

- Sandblasting shall be minimized
- Physical containment barriers shall be utilized during painting and sandblasting activities to capture dust, construction materials and debris (e.g. bridge skirting, shrouds, scaffold canopies)
- Painting and sandblasting activities shall be limited to days with little or no wind.

Part 3 - Borrow and Aggregate Pits

Project Planning

- Proponents (or agents acting on behalf of the proponent) will prepare a development and reclamation plan for each borrow and aggregate pit developed for the road project that will include the following information:
 - the proposed pit location
 - topsoil storage area
 - overburden and subsoil storage areas
 - access road location
 - information regarding the pre-construction depth of topsoil, subsoil, overburden and proposed excavation, and depth to groundwater
 - cross-section schematic plans showing existing site conditions, proposed pit design, and the reclaimed site conditions
 - information regarding the post-construction depth of topsoil, subsoil, overburden, and proposed excavation, and depth to groundwater
 - the existing land use
 - the proposed end land use for the reclaimed site
- Borrow and aggregate pits, along with any associated temporary access or haul roads shall be sited, constructed and reclaimed in consultation with, and to the satisfaction of landowner(s) and the appropriate Municipal/Provincial authorities.

Part 4 - Asphalt Plants

General

- Plant operation shall be in compliance with provincial requirements, including air emission standards, monitoring and reporting procedures
- Plants shall be sited so as to minimize adverse impacts downwind
- Asphalt plants and associated parking, loading and storage areas and fuel storage areas must be sited at least 100m from water bodies (normal high water mark)
- Site preparation shall be halted during heavy rain or flood conditions

Post Construction

- Contaminated soils must be remediated in accordance with provincial requirements.

Part 5 - Watercourse / Waterbody Culvert Replacement or Installation

Project Planning

- Culverts shall be aligned perpendicular to the direction of flow to minimize crossing length
- Culverts shall be located and designed to not impede the natural flow of surface or ground water
- Culvert gradients shall be maintained as close to the natural stream grade as possible
- Culverts shall be installed to a minimum depth of 30 cm or 10% of culvert diameter (whichever is greater) below the stream bed. Fill with granular material to stream bed level.
- Culvert opening size shall be sized to ensure the passage of debris

Site Preparation

- Hand clearing instead of mechanical clearing shall be utilized where possible to prevent disturbance of organic soil layers
- All in-stream structures shall be constructed from erosion resistant materials
- Topsoil and overburden stockpiles shall be placed well above the high water mark to prevent sediment from entering the stream

Construction and Equipment Operation

- Water from excavation activities is to be disposed of on land away from the watercourse to settle out the sediment
- Excess material from culvert installations shall be placed where it will not erode into waterways

Post Construction

- Soils shall be graded in the direction away from the watercourse and never into the stream itself to reduce the potential for sedimentation

LIST OF ACRONYMS

AAFC	Agriculture and Agri-Food Canada
Agency	The Canadian Environmental Assessment Agency
BMP	Best Management Practices
CCG	Canadian Coast Guard
CEA Act	Canadian Environmental Assessment Act
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CSPR	Class Screening Project Report
DFO	Department of Fisheries and Oceans
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EPP	Environmental Protection Plan
EC	Environment Canada
FA	Federal Authority
FEAI	Federal Environmental Assessment Index
HMP	Habitat Management Program (Department of Fisheries and Oceans)
IEC	Integral Ecosystem Component
MCSR Model	Class Screening Report
NWPA	Navigable Waters Protection Act
OIC	Order in Council
PFRA	Prairie Farm Rehabilitation Administration
PGRP	Prairie Grain Roads Program
RA	Responsible Authority
REO	Regional Environment Officer
ROW	Right of Way
TLE	Treaty Land Entitlement