

**PARAMOUNT PIPELINE WITHIN RUMSEY NATURAL AREA
REVIEW OF ENVIRONMENTAL ASSESSMENT**

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Reviewers:

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EXECUTIVE SUMMARY

The environmental assessment struggles to meet minimal requirements and guidelines. It fails many of the tests for acceptable practice, especially for a protected area. The objectives of environmental assessment with respect to proposed industrial development in the Rumsey Natural Area are not clearly articulated in the information provided. Reviewers therefore do not know what expectations there were of the consultants by the proponent or the protected areas managers. Nonetheless the environmental assessment does not identify gaps or deficiencies that would need to be addressed to meet requirements and guidelines.

Design of rare plant and wildlife surveys appears to have suffered from lack of standard pre-field work information gathering to identify environmentally significant components of the Rumsey Natural Area ecosystem and appropriate methods for investigation of potential impacts. Without an understanding of the area, previous biophysical inventory, environmental sensitivities and the area's management plan, deficiencies in scope and standards of assessment result. For example, there is no explanation for lack of breeding bird and amphibian surveys even though sensitive bird species are known to occur in the area and the project impacts wetlands. Plains rough fescue grasslands are not identified as provincially rare or as a valued component of the ecosystem. Rare plant species known to occur or potentially occurring in the Rumsey block and the larger region are not listed. Survey of rare non-vascular plants is not included.

Details of survey work are not provided. The field surveys appear to have been cursory and lacking adherence to provincial guidelines. There are contradictions in the results reported. One rare plant surveyor reports plains rough fescue grassland communities along the proposed right of way, the other does not. The reports disagree about dominant grass species. According to the plant species and communities listed, the RoW includes wetlands and wooded riparian areas. One wildlife surveyor reports the pipeline enters four ephemeral wetlands, another fails to mention this. There is a statement that the project would violate provincial guidelines regarding wetland setback and another statement that potential amphibian habitat will not be affected.

The disjointed nature of the separate works without a cogent compilation or response to issues by the proponent suggests the environmental assessment is viewed as perfunctory and perhaps an administrative hurdle to be surmounted. The environmental assessment fails in most aspects as a credible framework to guide development in a sensitive way, in a sensitive area, with sensitive species. It is troubling that government managers accepted this EA as satisfying the condition for pipeline construction.

A higher standard of environmental assessment needs to be applied to the Rumsey Natural Area if the area's management goal is to be honoured.

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INTRODUCTION

The following is a review and evaluation of environmental assessment conducted for a pipeline project constructed by Paramount Resources Ltd. in the Rumsey Natural Area. The Rumsey Natural Area and Ecological Reserve (the Rumsey block) is an internationally significant block of native aspen parkland and plains rough fescue grassland. It has long been a priority area of interest for Alberta Native Plant Council (ANPC) and Alberta Wilderness Association (AWA).

The Rumsey Regionally Integrated Decision currently is the management plan for the Rumsey Natural Area (Alberta Government 1993). The stated management goal for the Rumsey NA is “To preserve and protect the Rumsey Aspen Parkland ecosystem while allowing for responsible use of its resources.” In a provincial protected area with the ecological significance of the Rumsey Natural Area, one would expect that new industrial disturbances with potential adverse environmental impacts would not be permitted. The Alberta Government continues to permit new industrial activities in the protected area. ANPC and AWA have undertaken this review to determine if, at a minimum, there is responsible application of standards in environmental assessment to proposed industrial projects in the Rumsey NA. The reviewers also address consistency with the area’s management plan.

The project is a pipeline extending between two existing gas wells, one suspended well in 10-24-33-19 W4M and one operating well in 3-30-33-18 W4M (the Project) constructed prior to the writing of this EA review. The right-of-way (RoW) is about 2 km long and 15 m wide. AWA and ANPC had discussions with Paramount and Alberta Sustainable Resource Development (ASRD) in early June 2008 and expressed concerns about the proposed project (ANPC et al. 2008). Paramount asserted the project was needed because of pressure changes in the original pipeline network draining the 10-24 well to the west and to avoid losing reserves since the Alberta Energy license for the well was due to expire.

The summary of the June 3rd meeting states there would be “biological/botanical/heritage surveys” and that an Environmental Protection Plan and Environmental Field Report would be prepared (ANPC et al. 2008). AWA and ANPC requested opportunity to review the environmental assessment when complete and to be kept informed of project planning. Despite this, Paramount constructed the project in early November 2008 without notifying either organization. Following construction, two rare plant survey reports and two wildlife survey reports were provided to ANPC and AWA by Paramount.

Review of these reports and the overall environmental assessment process has been undertaken by professional biologists Cheryl Bradley P. Biol., Cliff Wallis P. Biol., and Lorne Fitch P. Biol., each with over thirty years experience in environmental assessment and management in Alberta (see Qualifications of Reviewers). Ms. Bradley’s specialty is native plants inventory and protected areas planning and management. Mr. Wallis specializes in inventory and management planning for rare plants and wildlife, environmental assessment and protected areas management. Mr. Fitch’s specialty is wildlife habitat management and environmental stewardship. All are familiar with the Rumsey block.

SCOPE AND STANDARDS OF REVIEW

Standard components of environmental assessment are:

- Terrain (including slope) and soil survey and description/mapping
- Vegetation survey and description/mapping (including weed inventory)
- Rare plant species survey
- Rare ecological communities survey
- Wildlife survey with a focus on sensitive species
- Wetland survey
- Constraints analysis with respect to the above features
- Assessment of the direction and significance of potential impacts
- Proposed mitigation measures and residual effects
- Cumulative effects assessment

A route proposed for the Project prior to June 2008 was changed to avoid going over hilltops and instead skirt the base of hills in order to minimize furrowing and hence habitat for invasive species (ANPC et al. 2008). The environmental assessment for the Project appears to have been confined to surveys for rare plants and wildlife. As such this review of the environmental assessment is limited to the ones that were conducted. However, it should be noted that the environmental assessment itself is deficient and missing many components (as described in the list above).

The Alberta Native Plant Council *Rare Plant Survey Guidelines* (Lancaster 2000) provide the minimum standards against which the rare plant surveys for the Project are evaluated. The ANPC Guidelines are designed to “standardize approaches to assessment of lands for the presence of rare plant species so that reliable information on rare plant species presence and status on a site is produced and the potential of locating a rare plant species on a site is maximized” (Lancaster 2000). Within the last few years rare ecological communities have also been included in rare plant survey.

Minimum standards against which the wildlife surveys are evaluated are the following documents prepared by Alberta Sustainable Resource Development (ASRD):

- *Recommended Land Use Guidelines for Protection of Selected Wildlife Species and Habitat within Grassland and Parkland Natural Regions of Alberta* (ASRD 2001)
- *Sensitive Species Inventory Guidelines* (ASRD 2005)
- *Background and Rationale for Recommended Land Use Guidelines (Restricted Activity Dates and Setback Distances) for Protection of Selected Wildlife Species and Habitat within Grassland and Parkland Natural Regions of Alberta* (ASRD 2006).

ASRD wildlife guidelines were developed to address the growing need for improved and consistent data on many species in order to understand their status and to be more effective in dealing with impacts of development (ASRD 2005).

The reviewers’ experience with environmental assessment in regulatory processes also guides the evaluation. The reviewers’ recognize situations occasionally arise that prevent professional biologists from completing their assessment to meet guidelines, however in these situations it is incumbent on the biologists to identify gaps or deficiencies and to recommend how they should be addressed.

Paramount asserted that it would work with a mitigation specialist and develop an environmental protection plan (ANPC et al. 2008); however, the plan has not been made public.

TERMS OF REFERENCE FOR ENVIRONMENTAL ASSESSMENT

The objectives of the plant and wildlife surveys are not clearly articulated in the reports. The terms of reference/objectives provided by Paramount for the surveys are not provided. None of the reports contains a map of the project area or of the area surveyed.

Customarily survey results and environmental assessment for a project would be consolidated into one report. That has not been done in this case. Instead there are four separate brief reports of survey results which are not referenced to each other. It is unclear whether these reports are meant to be stand alone documents or if there was any attempt to prepare a cogent environmental assessment.

PROFESSIONAL QUALIFICATIONS

Rare Plant and Ecological Community Survey

ANPC guidelines require a surveyor for rare plants to have experience as a botanical field investigator, taxonomic experience to identify plant species encountered, knowledge of plant ecology and knowledge of the local flora and potential rare species in the habitats surveyed (Lancaster 2000).

The two rare plant survey reports were prepared by Landmark Environmental Ltd. (LEL), a firm based in Lethbridge (Porter 2008, Sielski 2008). Surveyors for LEL were Lorrie Sielski and Shane Porter. Lorrie Sielski authored the report of a July 1 survey and Shane Porter authored the report of a July 29 survey. Qualifications of the surveyors are not provided in the rare plant survey reports or on the LEL website. One surveyor is listed as P. Biol. indicating membership in the Alberta Society of Professional Biologists, an organization interested in maintaining professional standards. Both surveyors appear to have taxonomic experience and field experience. It is not clear if the surveyors have knowledge of local flora and potential rare species in the Rumsey Natural Area.

Wildlife Survey

Guidelines for wildlife inventory emphasize the “need for experienced observers” when doing survey (ASRD 2005 p. 11). For example, breeding bird survey requires that observers be experienced and able to identify individuals visually and by songs or calls as well as estimate the distance to the bird.

The two wildlife survey reports were prepared by Landmark Environmental Ltd. (LEL 2008a, LEL 2008b). Surveyors for LEL were Jim Berdula, Gary Erickson and Robert Wapple although they do not appear as authors of the reports. Qualifications of the surveyors are not provided in the wildlife survey reports or on the LEL website. One surveyor referred to as a “wildlife biologist” (LEL 2008b) is known to have knowledge and experience with wildlife survey in southern Alberta. He was involved only in the August 22 survey. The other two surveyors are not known to the reviewers. One is listed as a “wildlife surveyor” and was involved only in the June 5 survey (LEL 2000a). One involved in both surveys is indicated as “construction” and “P. Bio.” indicating membership in the Alberta Society of Professional Biologists.

PRE-FIELD WORK

Rare Plant and Ecological Community Survey

It is important that surveyors understand the legal context for protecting Species At Risk listed federally and provincially in legislation and/or regulations. Sielski (2008) is silent on this and Porter (2008) provides a less than complete or accurate summary

According to ANPC guidelines, pre-field work involves the following (Lancaster 2000):

- Compose a list of potential rare species
- Compile information on potential rare species
- Map the project area

To compose a list of potential rare species ANPC Guidelines require that Alberta Natural Heritage Information Centre (ANHIC) be consulted to determine existing rare plant occurrences in the study area, in similar habitats in the area and in the Natural Region or Subregion. A key reference for determining species potentially occurring in the area is Kershaw et al. (2001). ANPC Guidelines also require liaising with any appropriate agencies, scientists and others.

With respect to existing occurrences, Porter (2008) is silent on this matter and Sielski (2008) states (p. 2):

“Prior to the field survey, a request was made to the Alberta Natural Heritage Information Centre (ANHIC) to provide information of any known rare plants or rare plant communities in the project area. On June 24, 2008, ANHIC replied with no known occurrences being reported.”

The “project area” referred to in the above statement is not defined in the report and a copy of the original request to ANHIC and their response is not provided.

Even if there are no specific element occurrences (EOs) filed with ANHIC, rare plants (vascular and non-vascular) or ecological communities may occur in the area and it is the surveyor’s responsibility to list these. Neither report provides such a list. The rare plant survey did not include

A review of information in Kershaw (2001) and liaising with individuals in ANHIC and others knowledgeable about vegetation in the Rumsey block should have identified several vascular plant species on the ANHIC tracking and watch lists for plant species (Gould 2006) that may occur or are known to occur in the Rumsey block. These species include, but are not limited to, ascending grape fern (*Botrychium ascendens*) (S1,G2G3) (known), Parry’s sedge (*Carex parryana*) (S1S2,G4), waterpod (*Ellisia nyctelea*) (S2,G5), marsh gentian (*Gentiana fremontii*) (S2,G4), lance-leaved loosestrife (*Lysimachia hybrida*) (S2,G5) (known), white-margined knotweed (*Polygonum polygaloides*) (S2,G4G5), early buttercup (*Ranunculus glaberrimus*) (S2,G5), prairie wedge grass (*Sphenopholis obtusata*) (S2,G5), and crowfoot violet (*Viola pedatifida*) (S2G5) (known). Most of these species occur in moist meadows or woods. Rare mosses, liverworts and hornworts are also included in the ANHIC lists (Gould 2006) and should be considered in rare plant survey, especially in a protected area

Additionally, a list of potentially occurring rare plants in the Central Parkland Natural Subregion should have been obtained from ANHIC and a search of SARA-listed species should have been reviewed to identify any whose range fall within the project area.

The pre-field survey review also would have revealed that plains rough fescue (*Festuca hallii*) grasslands on the ANHIC tracking list for ecological communities (Allen 2008) do occur in Rumsey. These communities were identified within the Rumsey NA and ER by several researchers including Wroe (1971), Bradley and Bradley (1977), Fehr (1982), Vujnovic (1998), Weerstra and Holcroft Weerstra (1998), Weerstra (2003) and others. Neither report referenced any of these reports, nor did the later survey reference the earlier study causing reviewers to question if any of these reports were reviewed prior to conducting a survey.

ANPC guidelines require that the surveyor gather biological, ecological and phenological information on potential rare species prior to field survey (Lancaster 2000). Gathering this information allows researchers to determine appropriate field survey dates and where search effort has the greatest likelihood of finding rare species or ecological communities. There is no documentation in the reports of this having been done.

Usually the vegetation is either mapped in the environmental assessment or other existing mapping is referenced and consulted during rare plant surveys. General vegetation patterns were identified in both rare plant survey reports, however no mapping of vegetation communities was included or referenced.

Wildlife Survey

Both reports state that a query was made to the ASRD Fish and Wildlife Management Information System (FWMIS). One report states that “several sharp-tailed grouse leks are located throughout the project area” (Landmark 2008a, p. 1). “Project area” is not defined. The other report states “The area is known for its productive deer and sharp-tailed grouse habitat” (Landmark 2008b, p. 2). No other background information is provided on wildlife in the Rumsey block.

Sharp-tail grouse are subject to activity restrictions or setback guidelines (ASRD 2001) There are other species previously reported in the Rumsey block that are also subject to activity restrictions or setback guidelines including short-eared owl, Sprague’s pipit, and pronghorn (Fehr 1982, ASRD 2001). Another species previously reported in the Rumsey block being considered for restricted activity dates or setback guidelines is upland sandpiper (Fehr 1982, ASRD 2006). Species considered sensitive or may be at risk and previously reported in the Rumsey block include horned grebe, upland sandpiper, Swainson’s hawk, Baird’s sparrow and American Badger (Fehr 1982, ASRD 2005). A species of undetermined status reported in the Rumsey block is the thirteen-lined ground squirrel.

Boreal chorus frog and wood frog are reported from wetlands in the Rumsey block; a 1971 report of northern leopard frog is unsubstantiated (Fehr 1982).

Gathering background information on all sensitive species potentially occurring in the Rumsey block prior to field work allows researchers to determine appropriate field survey dates and techniques. There is no documentation in the reports of this having been done.

FIELD WORK AND FINDINGS

Rare Plant and Ecological Community Survey

Rare Plant Species

ANPC guidelines require at a minimum that the area be surveyed when potential rare plant species are most visible and at least twice during the growing season (Lancaster 2000). Ideally the study area should be surveyed sufficient times to observe seasonal changes (e.g. snow melts, ephemeral wetlands in spring, cool and warm season perennials) and over a number of growing seasons and moisture conditions.

According to the rare plant reports, field work was conducted on July 1 (Sielski 2008 p. 2) and July 29 (Porter 2008 p. 4). Both surveys conducted in the same month, again indicates a lack of coordination between the two surveys. Three rare plants potentially occurring in Rumsey flower early in [April] May to June - *Ranunculus glaberrimus*, *Ellisia nyctelea* and *Viola pedatifida*). Field work may have been conducted too late to detect these species.

Survey method is described as floristic and a meandering search pattern within the 15 m RoW as well as a buffer on each side of the RoW. Inconsistency exists between the areas surveyed for the two assessments (10 m and 5 m beyond the RoW). This indicates a lack of coordination between the two surveys.

The floristic survey method requires that all plant species encountered be sufficiently evaluated to confirm or to rule out the possibility that they are a rare species (Lancaster 2000). Sedges and willows are not identified to species. One of the rare species potentially occurring in the area is the Parry's sedge (*Carex parryana*).

Rare Ecological Communities

The two rare plant reports are inconsistent regarding the presence of plains rough fescue grassland communities; all of which are on the ANHIC ecological community tracking list (Allen 2008). Porter (2008) notes that the RoW "meanders its way through Plains Rough Fescue (*Festuca hallii*) rangeland on the upper slopes" (p. 1) and "...more moist sites [than the hilltops along the RoW] contained Rough Fescue-Oatgrass communities" (p. 4). Sielski (2008 p. 3) notes that plains rough fescue (*Festuca hallii*) is present but that no rare plant communities were identified at the time of field assessment.

Neither report indicates any methods as they relate to rare ecological surveys, with respect to pre-field work, survey methods and data collection.

Plains rough fescue does not flower every year. Abundance can be underestimated if survey occurs in years when flowering does not occur or if appropriate techniques for surveying grassland plant communities are not used (e.g. small plots).

Porter (2008) does not provide a description of the plains rough fescue community(ies) that he observed. Such a description would allow comparison with the plant community description in the ANHIC tracking list of ecological communities. The *Festuca hallii* grassland (plains rough fescue grassland) is most likely the community observed along the RoW. Further details on this community can be found on page 70 of the *Preliminary Ecological Community Tracking List* (Allen 2008). The S1 rank assigned to that community indicates it is imperiled because of extreme rarity or some factor(s) making it particularly vulnerable to extinction (of extirpation).

The two reports do not agree with respect to dominant species in the drier grassland communities. Sielski (2008 p. 3) states “grassland is dominated with speargrass (*Stipa comata*) and June grass (*Koeleria macrantha*)” whereas Porter (2008 p.4) states drier hilltops are occupied by Needlegrass – June grass communities. Speargrass (*Stipa comata*) is not contained in Porter’s list of species found on the RoW but rather western porcupine grass (*Stipa curtisetata*) which is not in Sielski’s list.

Non-native Plant Species

Both rare plant surveyors found non-native species along the ROW. Porter (2008 p.1) notes that disturbance at the two well sites is reflected in the higher number of “invasive weeds” there compared to the rest of the RoW. Both reports are silent on the implications of the project for invasion of non-native species into native plant communities. Commonly weed surveys are conducted as part of an environmental assessment, issues regarding non-native species invasion are identified and a weed management approach is defined.

Twenty-one non-native species are contained in a combined species list of the two reports: crested wheatgrass (*Agropyron pectiniforme*), awnless brome (*Bromus inermis*), shepherd’s purse (*Capsella bursa-pastoris*), lamb’s quarters (*Chenopodium album*), creeping thistle (*Cirsium arvense*), bull thistle (*Cirsium vulgare*), flixweed (*Descurainia sophia*), quackgrass (*Elytrigia repens*), yellow lucerne (*Medicago falcata*) alfalfa (*Medicago sativa*), yellow-sweet clover (*Melilotus officinalis*), common timothy (*Phleum pratense*), common plantain (*Plantago major*), Kentucky bluegrass (*Poa pratensis*), curled dock (*Rumex crispus*), perennial sow thistle (*Sonchus arvensis*), common dandelion (*Taraxacum officinale*), stinkweed (*Thlaspi arvense*), common goat’s-beard (*Tragopogon dubius*), alsike clover (*Trifolium hybridum*), and white clover (*Trifolium repens*). Porter (2008) notes that “invasive weeds” are mostly associated with disturbances on the two well sites.

Species on the above list that invade native range resulting in loss of ecological integrity are crested wheatgrass, awnless brome, creeping thistle, common timothy and Kentucky bluegrass. Disturbance from pipeline construction increases the risk of these species spreading from wellsite disturbances to pipeline disturbances and invading the native communities. There are no suggestions in the reports provided for mitigating this threat, nor is there a stand alone report for weed management.

Wildlife Survey

Methods

On June 5 surveyors looked for evidence of grouse leks and raptor nests within 1000m of the proposed 2-km pipeline RoW (LEL 2008a). The search area therefore is estimated to be about five square kilometers. The report states that “all habitats” were assessed “via truck, all-terrain vehicle and on foot”. The specific method of survey and the conditions at the time of survey are not described.

On August 22 surveyors inspected all burrows with a diameter greater than 10 cm up to 500 m from the proposed project for evidence of occupation by burrowing owl (LEL 2008b). Areas suitable for sharp-tailed grouse up to 500 m from the proposed project were “quickly checked”.

Stick nests within 1000 m of the proposed project were investigated for signs of ferruginous hawks. A low ground pressure all terrain vehicle was used to conduct the ground search.

Sharp-tailed Grouse

Inventory guidelines for sharp-tail grouse are for a general area search from mid-March to mid-May in the early morning hours under cool conditions with wind no stronger than 20 km/h and no precipitation (ASRD 2005). Guidelines require walking the entire length of a proposed linear disturbance at approximately 2 km/h. There is insufficient information to determine if the guidelines were followed. No leks within 500 m of the RoW are reported for either survey; however a previously known sharp-tailed grouse lek was determined to be 1.95 km from the proposed RoW (LEL 2001a). Both reports recommend that the pipeline “minimize disturbance to shrubby areas, a habitat important to sharp-tailed grouse”.

Sharp-tailed Grouse are vulnerable to human disturbance, including oil and gas activity, in the breeding complex (lek and surrounding nesting ground) (Connelly et al. 1998): Disturbance on leks appears to limit reproductive opportunities, and may result in regional population declines. Females appear to be more susceptible to various kinds of disturbance and if females are flushed frequently during the early stages of egg laying, this may cause nest abandonment. Excessive disturbance to wintering birds may impair their ability to cope with unfavourable winter conditions. Additional impacts include collisions with utility lines and vehicles; and disturbance from all terrain vehicles (ATVs). In Colorado and adjacent states, oil and gas development has only recently been considered a threat to the Sharp-tailed Grouse. While the amount of habitat directly affected by oil and gas activity is relatively small, avoidance and stress responses of wildlife may extend the influence from well pads, roads, pipelines power lines and other facilities to over 1 km in open country, affecting use of habitats that otherwise appear undisturbed. These impacts can be especially problematic when they occur in wintering and reproductive habitats (Hoffman and Thomas 2007). Colorado's standard management practices to reduce wildlife impacts associated with oil and gas development (Colorado Division of Wildlife 2007) include:

- no development activity between 1 March and 30 June within 2 km of active Sharp-tailed Grouse lek sites
- no development activity in winter habitat between 1 December and 15 March.
- no surface occupancy in areas within 0.64 km of any leks

The Colorado guidelines are in contrast to more liberal timing and setback guidelines for oil and gas activity recommended by Alberta Fish and Wildlife (Alberta Sustainable Resource Development 2001) that appear to be inadequate, especially for a protected area like Rumsey where the highest standards should be applied for the protection of species at risk. The Alberta guidelines are:

- 100-500 m setbacks from leks in June 16-Sept.15
- 500 m setback from leks in Sept.16-Oct. 31
- 100-500 m setbacks from leks in Nov. 1-Mar. 14

The breeding complex (lek and nesting areas) includes all lands within a 2-km radius of lek sites. Connelly et al. (1998) caution that vegetation manipulation should be avoided within these complexes because of their importance for nesting and brood-rearing.

The use of the 500 m setback demonstrates the lowest level of commitment to protection for this species, i.e. nothing beyond statutory compliance even when there is evidence of harmful effects at greater distances. The highest standard should apply in a protected area.

Breeding Bird Surveys (Sprague's Pipit)

There was no breeding bird survey conducted although arguably there should have been. There is no explanation why not. Bird species considered "Sensitive" are known to occur in the Rumsey block including Sprague's pipit, Baird's sparrow, upland sandpiper and Swainson's hawk. In fact, two of these species – Sprague's pipit and Swainson's hawk – were observed in the August 5th surveys of the pipeline RoW (LEL 2008b). Inventory guidelines specify breeding bird survey be done between 25 May and 1 July, and that two surveys be completed at least ten days apart. Surveys should not be performed when temperatures are below 0°C, when there is anything greater than very light precipitation and when winds are less than 3 on the Beaufort wind scale.

Sprague's Pipit is one of a handful of birds endemic to the Northern Great Plains. It is listed as "Threatened" in Canada (COSEWIC 2008) and "Sensitive" and a "Species of Special Concern" in Alberta. According to Canadian analyses of the Breeding Bird Survey (BBS), Sprague's Pipit populations across Canada steadily declined (-3.1% per year) from 1968 to 2005. Population trend results from the Canadian Wildlife Service's Grassland Bird Monitoring Program (1996–2004) show a decline of 10.5% annually in a core area for this species in the prairie region (Environment Canada 2008).

Sprague's Pipits are relatively intolerant of non-native vegetation, and native habitat loss is considered a major threat for this species. Habitat degradation (including fragmentation) typically reduces the population, but can lead to local extirpation if the magnitude, frequency, and duration of these threats are great enough. Linear development and stretches of broken land are typically associated with invasion by exotic plants that reduce habitat suitability (Robbins and Dale 1999). The increased amount of edge habitat resulting from fragmentation may be detrimental to Sprague's Pipits because of their association with interior habitats (Environment Canada 2008). In a study of the effects of minimal disturbance shallow gas activity on grassland birds in Saskatchewan, it was concluded that minimal disturbance well sites and trails may contribute to decreased territory establishment in Sprague's Pipits and Lark Buntings (Linnen 2006).

The environmental studies fail to recognize the deterioration of the grassland ecosystem in this protected area through cumulative fragmentation, including linear disturbances such as pipelines; the presence of non-native vegetation in and around the existing gas development; and reclamation approaches that will create a plant community that is different in structure and species composition to native grassland. Given the preceding analysis, this is an ongoing threat to Sprague's Pipits.

Raptor Nests, Dens and Burrows

No active raptor stick nests were found in either survey. The reports do not specify if any inactive stick nests were found.

Dens and burrows up to 500 m from the proposed development were inspected during the August 22nd survey (LEL 2008b). The number of dens and burrows found is not provided. Any burrows found were considered unsuitable for burrowing owls; however, no mention is made of whether they were considered suitable for American badger, a 'sensitive' species.

Wetlands

Both rare plant reports note that the RoW intersects wetlands that were dry at the time of survey. Wetland communities reported are willow-aspen communities and sedge-sloughgrass-rush communities” (Porter 2008).

Both wildlife surveys include observation of wetlands; however, findings and recommendations are confusing. The June wildlife survey report states “No wetlands with standing water were found within 200 m of the proposed right-of-way” (LEL 2008a, p. 2). A photo is provided of a wetland with standing water 250 m southeast of the 3-30 wellsite (Photo 6.) The August wildlife survey report states “The proposed alignment passes through a dry wetland area in NW 19-33-18 W4M and three separate dry wetlands in NE 24-33-19 W4” (LEL 2008b, p. 2). By definition ephemeral wetlands periodically are wet.

The June survey report states ASRD (Public Lands) approved the practice of putting the pipeline through extensive willow and aspen growth “in order to facilitate the positioning of the proposed pipeline with minimal disturbance of the surrounding area” (LEL 2008a p.1). The August survey report states that the reason for wetland survey is “to insure compliance with ASRD guidelines requiring a 100 m setback from ephemeral and permanent wetlands” (LEL 2008b p. 1). That the proposed pipeline enters wetlands in four locations is viewed as an issue (p. 2-3).

Both reports state “Its proximity to wetlands in the vicinity of this proposed project should not affect potential amphibian habitat”. This sentence makes no sense grammatically. In addition, there was no survey for amphibians or explanation for why not; hence, no evidence on which to base this conclusion.

According to the *Recommended Guideline for Protection of Selected Wildlife Species and Habitat within Grassland and Parkland Natural Regions of Alberta* (ASRD 2001):

“Fish & Wildlife Division recommends that there be no industrial activity within 100 m of water bodies (wetlands, ponds, creeks, rivers, lakes, including dry water bodies) or within 100 m of the crest of any coulee associated with riparian areas or unique geographical features like hummocky moraines, because all of these areas receive extensive wildlife use.”

The proposed project violates the ASRD guidelines by being constructed within a hummocky moraine and within four ephemeral wetlands.

EUB Directive 056 requires a well centre must be sited a minimum of 100 m from a water body but does not include setback requirements for pipelines. A water body is defined as “natural or manmade and contain or convey water continuously, intermittently, or seasonally”.

COMPLIANCE WITH THE RUMSEY RID

The project was also reviewed with respect to its compliance with relevant environmental guidelines set out in the *Rumsey Parkland South Regionally Integrated Decision* (Government of Alberta 1993), the management plan being used for the Rumsey Natural Area. The relevant guideline from the RID is provided followed by reviewers' comments.

RID Guideline: Disturbance of wetlands will be avoided (p. 21).

Comment: According to the reports, the pipeline traverses wetlands and/or riparian areas.

RID Guideline: Cut and fill operations will be minimized (p. 21).

Comment: According to the June 3rd Meeting Summary (ANPC et al 2008), the pipeline was routed around the base of hills (i.e. in or near wetlands and/or riparian areas) to avoid upper slopes and hilltops. This Guideline is potentially in conflict with the previous one about avoiding wetlands.

RID Guideline: Sites of rare and sensitive flora will be avoided (p. 21).

Comment: Based on the vegetation community description provided, rare plains rough fescue grassland communities on the ANHIC Tracking List are impacted. Rare plant survey was inadequate to determine if rare species are impacted.

RID Guideline: Cleared areas must be reseeded using the seed of native grasses or natural revegetation encouraged.

Comment: Given the number of non-native species listed, some that are invasive, it seems doubtful that this was accomplished on the previously disturbed wellsites that the pipeline connects connecting.

RID Guideline: Clearing woodlands will not be permitted and hand cut lines will be allowed through treed areas for seismic activity (p. 21).

Comment: The pipeline is routed through woodlands according to the reports. Extent of clearing is not provided.

RID Guideline: Pipelines – A master plan will be developed which minimizes the amount and degree of pipeline construction required for development of proven reserves. (p.22)

Comment: There is no master plan. This is the second pipeline constructed from the well at 10-24-33-19 W4M. As such it does not comply with minimizing pipeline construction.

RID Guideline: Ecological expertise will be used to conduct biophysical inventories with emphasis on rare and sensitive ecological resources within the Parkland. (p.25)

Comment: Inventories throughout the Rumsey block have not been done. The project-specific surveys for rare plants and wildlife are deficient. For example, rare plant survey was inappropriately timed and surveys of breeding birds and amphibians were not conducted.

RID Guideline: A review will be conducted on the cumulative effects of existing oil and gas developments as it relates to the ecological integrity of the Parkland. (p. 25)

Comment: There was no cumulative effects assessment done for this project. A cumulative effects assessment for rough fescue grasslands is underway through a PhD student at the University of Alberta; however the results are not yet available.

RID Guideline: The resource management activities of all provincial government agencies within the Parkland, will be conducted in conformance with the provisions of the RID. (p. 34)

Comment: Professional standards of environmental assessment are not being upheld by managers of the Rumsey Natural Area. Public Lands' decision to allow construction in wetlands contradicts the RID requirement regarding wetlands as well as the Fish and Wildlife Guideline (ASRD 2001).

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Cheryl Bradley is a professional botanist based in Lethbridge. She has worked on biophysical inventory, rare plant species survey, environmental assessment and protected areas planning for over thirty years. She has undertaken projects or been involved in management planning for the Rumsey Natural Area since the mid-1970s.

Lorne Fitch BSc. P. Biol.

Lorne Fitch has 35 years of experience as an Alberta provincial habitat biologist and natural resource manager involving inventory, research, management and extension. He has also worked as a private consultant throughout Canada and the western United States. Now he works with a number of NGOs as well as being an Adjunct Professor with the University of Calgary.

Cliff Wallis BSc. P. Biol.

Cliff Wallis is an environmental consultant based in Calgary. He has almost 40 years of professional experience that has included biophysical inventory, species at risk surveys (plant and animal), constraints analysis for oil and gas development, environmental assessment and protected areas management. He has worked in the Rumsey area since the mid-1970s.