

**EnCana Shallow gas Infill Development in the Suffield
National Wildlife Area Environmental Impact Statement
Information Request Responses filed 2007-08-16**

The response to the following Information Request remains
outstanding:

IR #: NC 1

Requesting Party: Nature Canada

EnCana undertakes to provide a response to the above referenced
Information Request as soon as practicable.

**EnCana Shallow gas Infill Development in the Suffield
National Wildlife Area Environmental Impact Statement
Information Request Responses filed 2007-08-16**

The response to the following Information Request remains
outstanding:

IR #: NC 2

Requesting Party: Nature Canada

EnCana undertakes to provide a response to the above referenced
Information Request as soon as practicable.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC3 B	Page 1

Reference: Regulatory Framework

Preamble:

Request: Explain how the precautionary principle was used in the EIS.

- a. Specifically explain how current lack of knowledge regarding species at risk, their habitat requirements and critical habitat identification is dealt with in a precautionary manner.

Response: EnCana respectfully disagrees that there is a lack of knowledge regarding listed species, their habitat requirements and critical habitat identification. Considerable information has been collected on all of the above in the NWA and similar habitats in the CFB Suffield by the CWS, DND and EnCana researchers. This information is found throughout the EIS-Volume 3 and appendices. Notwithstanding the above comments, the precautionary principle was applied by applying preventative actions (i.e. mitigation measures) in the face of uncertainty. There are many examples of this in the EIS, for example the numerous measures to minimize snake mortality (Volume 3, Section 5.8.2, page 5-46).

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Reference: Regulatory Framework

Preamble:

Request: Which recovery strategies or plans were used in the preparation of the EIS and how were they applied?

Response: A comprehensive literature search was conducted for each wildlife VEC including review of recovery strategies and plans where available and applicable. Key findings with respect to VEC status, ecology, mitigation and potential impacts have been provided in Volume 3, Sections 5.7.2, 5.8.2 and 5.8.3.

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Reference: Regulatory Framework

Preamble:

Request: Where in the EIS was work done by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and the Recovery of Nationally Endangered Wildlife Program (RENEW) applied and how was it applied?

If it was not applied, what was the rationale for not applying it?

Response: A comprehensive literature search was conducted for each wildlife VEC which included review of COSEWIC reports and RENEW documents where appropriate. Key findings with respect to VEC status, habitat associations, mitigation and potential impacts have been provided in Volume 3, Sections 5.7.2, 5.8.2 and 5.8.3.

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Reference: Regulatory Framework

Preamble:

Request: Where in the EIS was the approved water management plan for the South Saskatchewan River Basin applied and how was it applied?

If it was not applied, what was the rationale for not applying it?

Response: The approved water management plan for the South Saskatchewan River is discussed in EIS Volume 4, Page 3-7, Section 3.4.1, in the discussion of Key Surface Water and Hydrology Issues, and in Volume 4, Page 4-2, Section 4.4.1, in the discussion of Key Aquatic Ecology Issues. The plan is intended to address the problem of over-allocation of water in the South Saskatchewan River Basin during low flow periods. Its primary effect on the Project is the potential that Alberta Environment may deny or condition EnCana's future applications for water withdrawals from the river.

The water management plan is applied in the EIS by recognizing that in the event of low water conditions, it may be necessary to temporarily suspend the use of water that is withdrawn from the South Saskatchewan River. Such suspension would include river water obtained through purchases from municipalities or existing wells and dugouts, should this be requested by Alberta Environment which is responsible for the implementation of the plan. Citations below are from EIS Volume 4.

Please see Page 3-3, Section 3.2, Page 3-23, Section 3.8.1.1 and Page 3-25 for further information.

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Reference: Regulatory Framework

Preamble:

Request: Where in the EIS were the provincial water quality objectives applied and how were they applied?

If they were not applied, what was the rationale for not applying them?

Response: Provincial water quality guidelines are not explicitly applied in the EIS.

Current provincial water quality objectives are published in “Surface Water Quality Guidelines for Use in Alberta” dated November 1999 by Alberta Environment. The guidelines “*are meant to provide general guidance in evaluating surface water quality*” and in a regulatory approval context are “*used in setting water quality based approval limits for wastewater discharges*” (Guidelines, Page 2). The Project does not propose any wastewater discharges to surface water and therefore the guidelines do not apply in a regulatory approval context.

Within the project area, persistent open water is only found at springs and dugouts associated with groundwater discharge. Water quality baseline data and indicators are presented in the groundwater assessment in Volume 4, Section 2. Indicators of groundwater quality include *[T]he quality of water that discharges from perennial springs that are present on CFB Suffield on or near the NWA and are used by wildlife* (Volume 4, Section 2.5.2, Page 2-6). Baseline information is presented in Volume 4, Section 2.7.8, Pages 2-19 to 2-21. The effects of Project activities on groundwater quantity and quality are assessed in Volume 4, Section 2. A summary of the results of the analysis in Section 2.8.1.2, Page 2-31, shows the effects of the Project on groundwater quality are negligible.

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The response to the following Information Request remains
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IR #: NC 8

Requesting Party: Nature Canada

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**EnCana Shallow gas Infill Development in the Suffield
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The response to the following Information Request remains
outstanding:

IR #: NC 9

Requesting Party: Nature Canada

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	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
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Reference: Regulatory Framework

Preamble:

Request: What is the timeframe for reclamation?

Response: Preliminary reclamation will be conducted promptly after construction (i.e. as soon as conditions are appropriate). Post construction, reclamation will continue in response to monitoring programs and will be subject to natural climatic variations. Monitoring programs will take into account time lapsed after construction and climatic variations to ensure disturbances are recovering according to expected trajectories.

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Reference: Canadian Environmental Assessment Act
i. “Alternative to” assessment

Preamble:

Request: How was environmental minimization of footprint criteria measured relative to the other alternatives considered?

Response: Detailed discussion of the purpose and methods of existing footprint inventory and project footprint inventory are discussed in Volume 3, Appendix 3E and 3L. This assessment approach was not designed to consider alternatives to the project.

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Reference: Canadian Environmental Assessment Act
i. “Alternative to” assessment

Preamble:

Request: Please provide the economic analyses of the various alternatives to the project, including not proceeding.

Response: Please refer to Section 1.4.2 of Volume 1.

EnCana's strong view is that only infill vertical drilling will enable the efficient production of the remaining natural gas resource. No other functionally different ways of addressing the need for the Project and pursuing the purposes of the Project were identified.

The alternative of not proceeding with the Project was not considered viable, as the result would be an inability to meet the identified need (and the conservation mandate of the *Oil and Gas Conservation Act*), namely, “to fully develop the resource, and not to sterilize this natural gas resource”.

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Reference: Canadian Environmental Assessment Act
i. “Alternative to” assessment

Preamble:

Request: What cost benefit analysis was done to determine whether “higher impacts...elsewhere” would be justified considering designation of area for wildlife conservation?

Response: The EIS states that:

“The alternative of not proceeding with the Project was not considered viable, as the result would be an inability to fully develop the resource, and to sterilize this natural gas resource creating the need for potentially higher impact activity elsewhere.”
Volume 1, Section 1.4.2, page 1-11.

The higher impact at issue is operation in a different area in order to meet production requirements. A cost benefit analysis is not required to determine that activity would be required elsewhere or that impact could potentially have a higher impact in comparison to current activity in the area, or in comparison to the Project. It has not been determined that a higher impact will result, only that there is potential.

The Project has many characteristics that gives it a clear advantage over many other alternative gas developments when considering potential environmental effects. Having drilled 1145 wells within the NWA between 1975 & 2005, EnCana is not only familiar with infill shallow gas programs, but has gained valuable knowledge and experience allowing EnCana to continuously update and improve its practices to minimize its impact on the environment. Furthermore, most of the existing infrastructure (such as pipelines, compression and built-up roads) already exists. As such, wells can be drilled quickly with minimal land disturbance, and the recovered gas is pipeline specification natural gas which has the lowest carbon intensity of all hydrocarbon fuels. These are advantages that are unique to infill shallow gas programs.

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Reference: Canadian Environmental Assessment Act
i. “Alternative to” assessment

Preamble:

Request: In what way would substantively delaying the project affect an environmental costs and benefit analysis?

Does this consideration change where critical habitat of species listed in the NWA is identified?

Response: As per the EIS:
“Delaying the Project would not substantively change the environmental costs or benefits, but would have considerable technical and economic implications, including reduced operational efficiency of the field, inability to sustain forecast production levels, failure to meet investor expectations, and the inability to take advantage of the current market demand for clean-burning natural gas.” Volume 1, Section 1.4.2, page 1-11.

Critical habitat of species listed in the NWA would be determined as part of the PDA process.

The spatial footprint associated with the project is small (Volume 3, section 7.5). There is no effect from delaying the project, since environmental protections would not noticeably change.

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Reference: Canadian Environmental Assessment Act
i. "Alternative to" assessment

Preamble:

Request: In considering postponement of the project and related environmental costs or benefits, what consideration was given to phased reclamation?

Response: Phased reclamation will be considered as part of the reclamation plan during the decommissioning and abandonment phase; however, wells and facilities are typically decommissioned in sections.

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Reference: Canadian Environmental Assessment Act
i. “Alternative to” assessment

Preamble:

Request: How would not developing or postponing reduce the ability to sustain forecast production levels and meet investor expectations?

Response: Where EnCana indicates that “Delaying the Project would not substantively change the environmental costs or benefits, but would have considerable technical and economic implications, including reduced operational efficiency of the field, inability to sustain forecast production levels, failure to meet investor expectations, and the inability to take advantage of the current market demand for clean-burning natural gas.” Please refer to EIS, Section 1.4.2.

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Reference: Canadian Environmental Assessment Act
i. “Alternative to” assessment

Preamble:

Request: As part of a cost/benefit analysis is “future market” demand for natural gas considered?

Response: “EnCana takes a disciplined approach in applying realistically-risked return criteria for investment. This includes technical and economic assessments which would include market demand and commodity pricing over the full life cycle of the project”.

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The response to the following Information Request remains
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IR #: NC 18

Requesting Party: Nature Canada

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Reference: Canadian Environmental Assessment Act
B. “*Alternative means*” assessment

Preamble:

Request: Assess impacts of noise on wildlife.

Justify reliance on EUB standards (and its reliance on distance from human residence) in relation to impairment on wildlife. (*EIS Guideline* at p. 27, s.13).

Response: The EUB Directive 38 – Noise Control is the noise regulation that applies to energy related operations and activities in the province of Alberta. To date there are no other noise regulations that apply to these facilities and activities in the province.

The Directive was used to measure the Valued Ecological Component (VEC) for the Project.

Effects on Wildlife

A full discussion of the effects of noise on wildlife was outside the scope of this study and our area of expertise. The paper “Effects of Military Noise On Wildlife: a literature review” sponsored by the USACERL provides an excellent overview of the effects of noise on wildlife and is a good starting point to consider.

There have been many excellent contracted noise studies conducted and consulting reports prepared that have not been available outside the realms of industry reports manuscripts and conference proceedings and that have not been peer reviewed. These studies provide an excellent first insight to the subject and have been deemed as ‘grey’ literature. Field studies lack highly controlled conditions due to the variability of the natural environment and make it difficult to have definitive conclusions unlike controlled research studies in a laboratory setting. Field studies require further research and refinement to substantiate their conclusions.

Research regarding the effect of noise on wildlife and other organisms is relatively limited. The main focus of noise level studies has been focussed primarily on the effects on human receivers. When reviewing literature the perception of the effect of noise level on animals and other organisms is generally interpreted in terms of human hearing and may not truly relate to the diverse sensory perceptions by animals and other organisms. Noise effects on animals and other organisms and their responses may not only be ‘audio’ in nature and include other behavioural responses to noise,

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odours perceived threat, and other sensory perceptions that are not well understood and appear to be extremely varied with the number of species involved and their specific physiology and habitat needs.

The Alberta Energy and Utilities board continues to review scientific literature and has concluded to date that typical energy facility noise regulated under its jurisdiction does not significantly impact the physiology and habituation patterns of animals over the long term.

The literature does suggest that there could be a temporary avoidance of an area until animals become familiar with or acclimatized to the industrial noise.

Direct observations showed the range of response of wildlife from an avoidance/startled response of wildlife (deer, birds, elk), to the apparent acclimatized nature of the pronghorn antelope which were found lying beside drilling and pipelining operations as well as walking in the fields near drilling and pipelining activity.

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The response to the following Information Request remains
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IR #: NC 20

Requesting Party: Nature Canada

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Information Request as soon as practicable.

**EnCana Shallow gas Infill Development in the Suffield
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The response to the following Information Request remains
outstanding:

IR #: NC 21

Requesting Party: Nature Canada

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**EnCana Shallow gas Infill Development in the Suffield
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The response to the following Information Request remains
outstanding:

IR #: NC 22

Requesting Party: Nature Canada

EnCana undertakes to provide a response to the above referenced
Information Request as soon as practicable.

**EnCana Shallow gas Infill Development in the Suffield
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The response to the following Information Request remains
outstanding:

IR #: NC 23

Requesting Party: Nature Canada

EnCana undertakes to provide a response to the above referenced
Information Request as soon as practicable.

**EnCana Shallow gas Infill Development in the Suffield
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The response to the following Information Request remains
outstanding:

IR #: NC 24

Requesting Party: Nature Canada

EnCana undertakes to provide a response to the above referenced
Information Request as soon as practicable.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
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Reference: Canadian Environmental Assessment Act
B. *“Alternative means” assessment*

Preamble:

Request: What documentation does the proponent have for the selection of transportation alternatives?

Response: The question is unclear. However, all criteria examined in relation to vehicular transportation are contained within the EIS in Volume 1.

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Reference: Canadian Environmental Assessment Act
C. *Cumulative Impact Assessment*

Preamble:

Request: How was the area for cumulative impact assessment determined

Response: See Section 7.2 of Volume 3 of the EIS.

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Reference: Canadian Environmental Assessment Act
C. *Cumulative Impact Assessment*

Preamble:

Request: Justification of spatial boundaries should be expressed. As with the EIS generally the use of the regional study area and local study area may not reflect impacts in the NWA.

Response: See Section 1 of Volume 3 for the discussion of the spatial boundary for the terrestrial VECs and groundwater VECs. Each of the other VECs have a rationale in the discussion of the spatial boundaries.

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Reference: Canadian Environmental Assessment Act
C. *Cumulative Impact Assessment*

Preamble:

Request: How was the pre-disturbance baseline determined?

Response: In Section 5.3, of the EIS Guidelines, the Joint Review suggests 1975 as a pre-disturbance baseline for CFB Suffield since oil and gas projects were initiated at approximately that time. EnCana concurs with the rationale supporting the guideline and has selected 1975 as a baseline for the CEA.

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Reference: Canadian Environmental Assessment Act
C. *Cumulative Impact Assessment*

Preamble:

Request: Provide documentation or references showing that minor pipelines and “access trails” do not contribute to fragmentation?

Response: See the response to AWA 35.

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Reference: Canadian Environmental Assessment Act
C. *Cumulative Impact Assessment*

Preamble:

Request: Please reproduce **Figure 3F-2** based on pipeline type and provide the underlying GIS layers and databases for all the parameters.

Response: See the response to AWA 5.

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Reference: Canadian Environmental Assessment Act
C. *Cumulative Impact Assessment*

Preamble:

Request: Please show the locations of the access routes on a map of proposal area.

Response: The material requested is not available and will not be available until shortly before the commencement of the construction season. EnCana embarks on a lengthy planning process in advance of determining final locations. See section 2.2.1 of Volume 1 for a description of the preconstruction activities.

Environmental assessment is conducted early in the planning stages of a project. This permits changes arising from the environmental assessment and consultation process to be incorporated into the final design. It is not possible for EnCana to submit a “final” design at this time. Once the final locations are determined, that information will be shared with the GOC.

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Reference: Canadian Environmental Assessment Act
C. *Cumulative Impact Assessment*

Preamble:

Request: Explain the relevance of Table 5I-1 regarding baseline fragmentation in relation to the conclusions drawn in the EIS.

Response: Baseline fragmentation was calculated to provide a sense of the number, average size and distribution of high suitability patches wildlife VECs which were known or suspected to be sensitive to fragmentation. Fragmentation was not considered a project effect. (See Section 5.8.1 of Volume 3.)

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Reference: Canadian Environmental Assessment Act
C. *Cumulative Impact Assessment*

Preamble:

Request: Please confirm that only major pipelines were used in assessing the disturbance footprint.

What will be the footprint of other disturbances?

Response: The statement in the above request is incorrect. Calculated project footprint included lateral pipelines, loop lines and well tie-ins. Access route footprint was also included within the evaluation. EnCana believes that this incorporates the substantive disturbance footprint. Volume 3, Section 3.7.2.1 page 3-22 describes the methodology for delineating footprint.

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Reference: Canadian Environmental Assessment Act
C. *Cumulative Impact Assessment*

Preamble:

Request: Please explain what two cover types will be avoided.

Response: Saline grasslands and unclassified wetlands will be avoided.

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Reference: Canadian Environmental Assessment Act
C. *Cumulative Impact Assessment*

Preamble:

Request: Why are the 25 hectares of sump outside of NWA not addressed in the cumulative impacts?

Response: Sumps will be placed in previously disturbed or degraded areas (e.g. crested wheatgrass pastures) and as such the cumulative impacts will be negligible.

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The response to the following Information Request remains
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IR #: NC 36

Requesting Party: Nature Canada

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	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
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Reference: Canadian Environmental Assessment Act
D. *Mitigation*

Preamble:

Request: Provide reasoning or information regarding

- a. Specific mitigation measures will be used in each instance
- b. What impact is mitigated by the proposed measures; and
- c. Data and explanation of how the mitigation measure will be effective.

Response: Each VEC in the EIS outlines its own set of mitigation measures. The effects of the project are assessed for each VEC after the relevant mitigation measures have been implemented. The proposed mitigation measures are designed to avoid, eliminate or reduce potential environmental effects of the project. Volume 2, Section 3.5 outlines the various criteria used to determine the significance of residue environmental effects.

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The response to the following Information Request remains
outstanding:

IR #: NC 38

Requesting Party: Nature Canada

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Reference: Canadian Environmental Assessment Act
D. *Mitigation*

Preamble: (EIS states “Mitigation ... will be implemented as applicable” for most VECs and general mitigation measures proposed 5.8.2)

Request: Specify which specific mitigation measures apply in each case, what impacts are addressed by specific measures and present data to illustrate mitigation effect.

Response: Each VEC in the EIS outlines its own set of mitigation measures. The effects of the project are assessed for each VEC after the relevant mitigation measures have been implemented. The proposed mitigation measures are designed to avoid, eliminate or reduce potential environmental effects of the project. Volume 2, Section 3.5 outlines the various criteria used to determine the significance of residual environmental effects.

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Reference: Canada Wildlife Act

Preamble:

Request: Define “insignificant impact” and “negligible impact”.

Response: See Question #AWA – 36 - B

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Reference: Species at Risk Act

Preamble:

Request: Assess habitat supply for species at risk (SAR) - specifically Ord's Kangaroo Rat (OKR).

Response: Habitat suitability and supply was assessed, mapped and measured for 48 listed species. The results of this work are summarized in Volume 3, Section 5.7.1.1 (page 5-23) and detailed in Volume 3, Appendix 5G. Baseline habitat supply maps for the 48 species provided in Volume 3, Appendix 5H.

Ord's kangaroo rat select for micro-habitat environments at a very fine scale. It is not effective to utilize the habitat supply approach to evaluate the potential impact to this species for two reasons. First, because of this fine scale habitat selection, as described in Section 5.7.2.34 (page 5-35), kangaroo rats require open, sparsely vegetated sandy habitats. These characteristics are associated with sand dune habitats and arid grasslands. Kangaroo rats will also inhabit anthropogenic features such as roads and trails. These characteristics describe many localized regions within the NWA and are not limited to specific habitat types. Second, because as described in Section 5.8.3.34 (page 5-99), mitigation and avoidance strategies have proven effective.

As a result of the implementation of these site-specific mitigation measures, EnCana believes that the habitat supply approach to impact assessment is not required and considers the impact predictions put forward in the EIS to be correct.

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Reference: Species at Risk Act

Preamble:

Request: Explain how or whether vegetation cover is an appropriate determining factor for habitat suitability for each VEC and SAR.

Response: Vegetation structure and composition are the dominant attributes influencing spatial distribution of wildlife. These attributes are contained within the CWS vegetation cover type designations.

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Reference: Species at Risk Act

Preamble:

Request: What needs and life stages were considered for each SAR?

Response: All needs and life stages were considered. A comprehensive literature search was conducted for each wildlife VEC. Key findings with respect to VEC status, ecology, mitigation and potential impacts have been provided in Volume 3, Sections 5.7.2, 5.8.2 and 5.8.3.

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IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC44 B	Page 1

Reference: Species at Risk Act

Preamble:

Request: Explain how Dillon PC dataset is relevant to NWA.

Response: Existing disturbance footprint mapping was conducted using similar methods for the NWA and the adjacent Military Training Area (MTA). An important aspect of the impact assessment of breeding birds was assessing existing footprint magnitude on breeding bird densities for the Project. The Dillon point counts provided breeding bird densities in the MTA and were compared with footprint magnitude. This data, when combined with similar comparisons of footprint and breeding bird densities in the NWA, provided a useful understanding of the effect of a broad amplitude of footprint on breeding birds across CFB Suffield.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC45 B	Page 1

Reference: Species at Risk Act

Preamble:

Request: Describe criteria for deeming habitat suitability as “high, medium, and low”.

Response: The methodology used to rank habitat suitability is provided in Volume 3, Section 5.7.1.1 of the EIS.

Volume 3, Section 5.7.2 of the EIS provides habitat preferences and status and abundance of wildlife VECs within the NWA and RSA. This information combined with the authors’ first-hand knowledge of wildlife-habitat relationships in the RSA and knowledge of habitat gained during field surveys was used to rate vegetation cover types and habitat units for each VEC.

Habitat ratings were incorporated into a GIS as presented in Appendix 5F and attached to vegetation cover types and habitat unit layers. Habitat was then quantified by overlaying the rated vegetation cover types and habitat units on disturbance mapping for both baseline and project conditions for the NWA, LSA and RSA. Moderate and high habitat supply is presented in Volume 3, Appendix 5G.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC46 B	Page 1

Reference: Species at Risk Act

Preamble:

Request: Explain whether “high” suitability habitat is critical habitat for SAR and VEC?

Response: Highly rated suitability does not equate to “critical habitat” as defined in SARA. The definition of high suitability habitat is presented in Volume 3, Section 5.7.1.1: “The habitat type is an important habitat of the species for feeding and breeding. The habitat type contributes significantly to population viability.”

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC47 B	Page 1

Reference: Species at Risk Act

Preamble:

Request: Provide nesting/residence/dens of all SAR.

Response: EnCana does not have nesting/residence/dens information for all SARs. PDAs will location this information prior to development.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC48 B	Page 1

Reference: Species at Risk Act

Preamble:

Request:

What was the reproductive success of observed burrowing owls?

Response:

EnCana has no information on reproductive success of observed burrowing owls.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC49 B	Page 1

Reference: Species at Risk Act

Preamble:

Request: How many burrows are currently in the NWA with how many individuals?

Response: EnCana has no additional information as to the number of burrowing owls and active burrows in the Suffield NWA during 2007. However, as presented in Volume 3, Section 5.7.2.19, three and two active burrows were located in the NWA in 1994 and 1995, respectively.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC50 B	Page 1

Reference: Species at Risk Act

Preamble:

Request: How does habitat suitability map account for apparent discrepancy between nesting of burrowing owls in southern NWA and sightings in Northern NWA?

Response: The habitat suitability map suggests that burrowing owl habitat in northern NWA is of lower quality than southern NWA. This is consistent with the CWS finding that northern NWA does not provide as good burrow habitat, possibly due to sandy soils not supporting holes for any length of time (see Volume 3, Section 5.7.2.19). Burrowing owl sightings in northern NWA tend to be post-breeding and appear to represent birds from a wide area foraging along access routes, particularly the double-wide fire road which runs along the western boundary of the northern NWA.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC51 - B	Page 1

Reference: Species at Risk Act

Preamble:

Request: How is food source accounted for in habitat suitability?

Response: Foraging requirements are implicit in the habitat suitability ratings (see definitions in Volume 3, Section 5.7.1.1).

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC52 B	Page 1

Reference: Species at Risk Act

Preamble:

Request: How is suitable burrows accounted for in habitat suitability?

Response: Habitat suitability rating and assessment is not intended to assess site specific habitat requirements of VECs. However the potential for suitable burrows is implicit in the ratings (see Volume 3, Section 5.7.1.1). Site specific habitat requirements including burrowing owl nest sites will be identified during pre-disturbance assessments (PDAs) and appropriate mitigation and setbacks implemented.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC53 B	Page 1

Reference: Species at Risk Act

Preamble:

Request: What information was used to determine presence of high suitability habitat?

Response: Information used to assess the suitability of wildlife habitat included literature sources, first hand knowledge, and knowledge of wildlife-habitat relationships.

A full description of the type of information used to determine the presence of high suitability wildlife habitat is provided in Volume 3, Section 5.7.1.1 (page 5-23).

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC54 B	Page 1

Reference: Species at Risk Act

Preamble:

Request: What work was conducted in 2006 in relation to SAR habitat and abundance data?

Response: Field studies conducted in 2006 that provided insight into wildlife habitat and abundance are documented in Volume 3, Section 5.6.5 and associated appendices and includes:

- Bird point count surveys
- Amphibian road transects and wetland surveys
- Ground squirrel call playback surveys
- Small mammal live trapping
- Ungulate aerial and ground surveys

In addition, all incidental observations of listed species during travel to and from survey sites were noted and are presented in Appendix 5B.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC55 B	Page 1

Reference: Species at Risk Act

Preamble:

Request: How is national and regional distribution and abundance of SAR considered in degree of impact determination?

Response: National and regional distribution and abundance of listed species did not influence the degree of impact determination. All listed species were assessed similarly using the same criteria (Volume 3, Section 5.8).

**EnCana Shallow gas Infill Development in the Suffield
National Wildlife Area Environmental Impact Statement
Information Request Responses filed 2007-08-16**

The response to the following Information Request remains
outstanding:

IR #: NC 56

Requesting Party: Nature Canada

EnCana undertakes to provide a response to the above referenced
Information Request as soon as practicable.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC57 B	Page 1

Reference: Species at Risk Act

Preamble:

Request: “15% of known juvenile mortalities...were attributed to collisions with vehicles” – How will this be mitigated on “access routes” or at all?

Response: Mitigation for wildlife VECs is presented in Volume 3, Section 5.8.2. Construction activities will be confined to October 1 - April 15 when most burrowing owls will not be present on the NWA. Vehicle speed will be restricted to 70 kph. From April 15 – October 15 vehicle speed will be restricted to 50 kph in the high risk snake area. The statistic quoted was from a study in southeastern Alberta outside Suffield. EnCana is not aware of vehicle collisions being a significant source of mortality to burrowing owls within Suffield.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC58 B	Page 1

Reference: Species at Risk Act

Preamble:

Request: Provide documentation or references justifying buffer area suggested for each SAR.

Response: Buffer distances are based on recommendations and guidelines provided by regulatory agencies – specifically Environment Canada (Scobie and Faminow 2000 or its successor) and ASRD (Fish and Wildlife Division 2001).

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC59 B	Page 1

Reference: Species at Risk Act

Preamble:

Request: How is Baird's Sparrow study relevant to Sprague's pipits and current study area and projected impacts? (page 5-83).

Response: This is a drafting error. Please replace Baird's Sparrow with Sprague's Pipit in that line.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC60 B	Page 1

Reference: Species at Risk Act

Preamble:

Request: How will winter construction impact OKR and its habitat?

Response: A summary of the factors contributing to the decline of kangaroo rats is presented in Volume 3, Section 5.8.3.34 (page 5-99 to 5-101).

Mitigation measures, also summarized in the same section, which were implemented during the construction of the North Suffield pipeline (August 19 to October 11) proved to be effective at preventing/minimizing detrimental effects. Further, this study demonstrated that with successful implementation of the mitigation measures, there was:

- No evidence of direct mortalities;
- No evidence of reduced survival;
- No evidence of territory abandonment;
- No evidence of effect upon reproductive status..

Winter construction will occur well after the termination of the breeding season and well after the time for which K-rats have spent gathering food stores for winter months. These two factors, in conjunction with the implementation of the mitigation measures employed during the construction of the North Suffield pipeline, should ensure minimal impact to K-rats.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC61 B	Page 1

Reference: Species at Risk Act

Preamble:

Request: Explain how decreased torpor (observed impact) results in winter construction having less impact (for OKR)?

Response: The decreased torpor reported by Gummer and Robertson (2003) appears to have resulted from pipeline construction activities. The construction activities during this study occurred from August 19 to October 11. Gummer and Robertson (2003) theorize that because construction activity caused a reduction in home range size and caused Kangaroo rats to spend more time in their burrows, they depleted their food stores more rapidly. They believed that this resulted in the decreased amount and duration of torpor periods (as a result of decreased fat stores). The increased time in burrows, smaller home range not only caused an increased usage of food stores it also prevented K-rats from gathering more food stores.

Scheduling construction such that it occurs later in the year will have two benefits. First, the later in the year the construction occurs, the less likely it is to impact breeding. Winter construction will prevent the overlap of construction with the primary part of the breeding season. Second, construction that is scheduled later in the year will not cause a reduction in home range size and will not increase the amount of time spent in the burrow. Thus, providing a larger window of time and space for Kangaroo rats to gather food stores and prepare for winter torpor periods.

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IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC62 B	Page 1

Reference: Species at Risk Act
Plants

Preamble:

Request: Identify abundance and distribution of rare plants and SAR.

Response: A detailed discussion on rare abundance and distribution is provided in Volume 3, Appendix 3J, Section 3J.1.

Rare plant occurrence and distribution is presented in Table 3J-1 and Figure 3J-1.

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IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC63 B	Page 1

Reference: Species at Risk Act
Plants

Preamble:

Request: Outline habitat requirements for rare plants and SAR.

Response: Rare plant species habitat affiliations are presented in Volume 3, Section 3.6.4 (pages 3-17 to 3-18).
A more detailed summary and discussion is provided in Volume 3, Appendix 3J, Section 3J.1, Table 3J-1 (page 3J-5).

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IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC64 B	Page 1

Reference: Species at Risk Act
Plants

Preamble:

Request: How are rare plants avoided post planning, or post disturbance assessment (i.e. emerging rare plants)?

Response: See response to NC 65.

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IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC65 A	Page 1

Reference: Species at Risk Act
Plants

Preamble:

Request: How are operations conducted to avoid impacting rare plants and species at risk?

Response: Timing of construction during the dormant season will significantly minimize encounters with listed species. Constraints mapping and identification of listed species during PDA's will further protect both rare plants and other listed species by identifying specific habitat features requiring avoidance. Specific listed species features will be mapped to ensure operations access respects them. Once sufficient documentation has proven some features are no longer in use by listed species (i.e. former burrowing owl burrows with two years or greater documented non-occupancy) they will be removed from general access maps. Operations will continue under the guidance of the Suffield Environmental Coordinator and EnCana's Environmental Services.

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IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC66 A	Page 1

Reference: Species at Risk Act
Plants

Preamble:

Request: How will transplanting programs (if used) be assessed and monitored for success?

Response: Transplanting programs are not anticipated. However, if necessary, transplanting programs will proceed under the guidance of species specialists who will also contribute to a specific monitoring program designed to measure success. PDAs will be utilized to avoid rare plants and develop appropriate site specific mitigation.

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IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC67 B	Page 1

Reference: Species at Risk Act
COSEWIC listed species at risk

Preamble:

Request: What considerations were given regarding COSEWIC endangered status species?

- a. Gold-edged Gem *Schinia avenmensis* – designated endangered in April 2006 –status report notes that most of habitat potential is in Middle Sandhills in CFB Suffield
- b. Smooth Goosefoot –threatened –status report discusses “middle sand hills” (needs to be confirmed)
- c. Dwarf Woolly-heads –designated special concern in April 2006

Response: None of these species have been recorded specifically in the NWA or CFB Suffield but they do occur in similar habitats. These species will be included in the list of candidate species for rare plant search purposes during pre disturbance site assessments (PDA’s). Mitigative measures to protect and minimize impact to these plants will be implemented as per the project-specific Environmental Protection Plan.

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IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC68 B	Page 1

Reference: Migratory Birds Convention Act, 1994

Preamble:

Request: Please explain impacts of the proposal on habitat relevant factors such as prey species, impacts of water withdrawals on wetlands and other surface features used by birds.

Response: Assessment of the potential impacts of the project on bird and small mammal prey VECs is provided in Volume 3, Section 5.8.3. No water will be withdrawn from wetlands or surface drainages.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC69 B	Page 1

Reference: Biodiversity

Preamble:

Request: Species and habitat diversity determination

- i. How are invertebrates, lichens/mosses, fish, amphibians, reptiles considered in the biodiversity calculations?
- ii. Please provide assessment of natural variability?
- iii. Please provide abundance data on species?
- iv. Has any of the species biodiversity analysis been evaluated with empirical data?
- v. Please explain rationale behind using vegetation cover types from region near Brooks, personal experience supplemented by plot sampling. (6A-3)
- vi. What is diversity of NWA relative to the other areas?
- vii. How is abundance and richness determined for each VEC, SAR and rare plant?
- viii. Explain conclusion that biodiversity will not be impacted because impacts are negligible on species, particularly concerning presence of rare, endangered and threatened species.
- ix. Explain why analysis and mapping of landscape level biodiversity were limited to the NWA where direct project effects are likely to occur –(p.6-2).

- Response:**
- i. These species groups were not considered in biodiversity calculations. Invertebrate inventory was not requested as part of the Joint Review Panel Terms of Reference. Amphibians and reptiles were not considered because wetlands will be avoided during construction and operations. Lichens and mosses will be protected at the habitat level.
 - ii. Please see responses to IRs AWA 45, AWA 46, and AWA 47.
 - iii. Abundance data is provided for breeding songbirds, ungulates, small mammals,

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- and amphibians are provided in Volume 3, Appendices 5J, 5K, 5N, 5O, 5P and 5L.
- iv. Empirical data was used to assign informed subjective ratings to species level diversity.
 - v. The purpose was to provide an informed subjective rating based on 5 classes. These ratings were informed by professional expertise from studies conducted elsewhere in the Dry Mixedgrass Subregion (i.e. Brooks area) as well as summer surveys in 2006.
 - vi. This question is too general to answer in detail.
 - vii. These measures were not completed. Richness measures were calculated by habitat type.
 - viii. Please refer to discussion in Volume 3, Section 6.8 pages 6-6 and 6-7. Impacts on rare, endangered and threatened species were rated from negligible to insignificant.
 - ix. Landscape level effects pertain to fragmentation and loss of habitat patches. The Project, as proposed, will exert such potential effects only in the NWA.

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IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC70 B	Page 1

Reference: Biodiversity

Preamble:

Request: Diversity spatial boundaries –how does the use of RSA/LSA impact on diversity rating relative to NWA alone?

Response: Biodiversity analysis and mapping was completed only for the NWA. The vegetation and wildlife sections were analyzed on the basis of RSA/LSA including a spatial footprint analysis.

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IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC71 B	Page 1

Reference: Biodiversity

Preamble:

Request: Outline biodiversity results for NWA alone (not RSA or LSA).

Response: Biodiversity results are outlined for the NWA alone. No analysis or mapping was completed for the LSA or RSA.

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IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC72 B	Page 1

Reference: Biodiversity

Preamble:

Request: Please provide documentation or references to support the statement that project must “significantly fragment habitat patches or alter natural selection to exert environmental effects on biodiversity.” Page 6-2

Response: These are original comments of the author that refer in part to published work by Noss 1997.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC73 B	Page 1

Reference: Biodiversity

Preamble:

Request: Please explain why direct mortality (particularly of rare species and habitat fragmentation) not assessed?

Response: See section 5.8.1, volume 3, Potential Project Environmental Effects – Direct Mortality.

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IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC74 B	Page 1

Reference: Biodiversity

Preamble:

Request: Provide empirical support that mitigation measures will be effective in preserving or maintaining biodiversity, particularly in reference to isolated and rare species.

Response: The vegetation triangle sampling program (Volume 3, Appendix 3C) and the breeding bird point count program (Volume 3, Appendix 5J and 5K) both found that shallow gas infill drilling did not result in statistically significant decreases in biodiversity relevant to these attributes. These findings are based on activities that have taken place since the early 1970's with lesser levels of reclamation and mitigation measures than proposed for the Project.

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IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC75 B	Page 1

Reference: Precautionary Approach

Preamble:

Request: Elaborate upon the concordance table citation regarding the use and application of the precautionary principle in the EIS.

Response: Volume 1 Section 5 Page 5-2 identifies those EIS Volumes that address aspects of the precautionary principle as described in the guidelines for the preparation of the EIS.

Also refer to Volume 1 Section 4 Environmental Management which describes how the environmental aspects of the Project will be effectively managed through the environmental management framework that includes EnCana corporate policies, supported by management systems, practices and plans.

Also refer to Volume 1 Appendix I Draft Environmental Protection Plan (EPP). The EPP is a document that will be continuously updated to reflect any changes or additional mitigation that is required.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC76 B	Page 1

Reference: Precautionary Approach

Preamble:

Request: Explain how “inexact knowledge of threshold patch size” is considered in assessment?

Response: Baseline fragmentation was calculated to provide a sense of the number, average size and distribution of high suitability patches wildlife VECs which were known or suspected to be sensitive to fragmentation. The number, average size and distribution of high suitability patches for baseline conditions is presented in Volume 3, Appendix 5I. For the most part we do not know thresholds for patch size for wildlife VECs sensitive to fragmentation. The distribution (ie patches greater than 10-ha, 50-ha, 100-ha) was provided in acknowledgment of this. Fragmentation was not considered to be a project effect.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC77 B	Page 1

Reference: Precautionary Approach

Preamble:

Request: Determine and outline patch size thresholds for VECs.

Response: The number, average size and distribution of high suitability patches for baseline conditions is presented in Volume 3, Appendix 5I for those wildlife VECs which were known or suspected to be sensitive to fragmentation. Because thresholds for patch size for wildlife VECs sensitive to fragmentation are in some cases unknown, the patch distribution (ie greater than 10-ha, 50-ha, 100-ha) was provided. A comprehensive literature search was conducted for each wildlife VEC. Key findings with respect to VEC ecology including sensitivity to patch size is provided in Volume 3, Sections 5.7.2 and 5.8.3.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC78 B	Page 1

Reference: Precautionary Approach

Preamble:

Request: Explain habitat fragmentation effect calculated for each species.

Response: Baseline fragmentation was calculated to provide a sense of the number, average size and distribution of high suitability patches wildlife VECs which were known or suspected to be sensitive to fragmentation. Please see the methodology and results presented in Volume 3, Section 5.7.1.2 and appendix 5I. Fragmentation was not considered a project effect because neither access trails nor pipeline right-of-ways will have a fragmentation effect on any VEC, and no new roads will be constructed.

**EnCana Shallow gas Infill Development in the Suffield
National Wildlife Area Environmental Impact Statement
Information Request Responses filed 2007-08-16**

The response to the following Information Request remains
outstanding:

IR #: NC 79

Requesting Party: Nature Canada

EnCana undertakes to provide a response to the above referenced
Information Request as soon as practicable.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC80 B	Page 1

Reference: Precautionary Approach

Preamble:

Request: Provide documentation or references to support the scale of habitat analysis for each VEC.

Response: EnCana assumes that NC is referring to the informed subjective ratings of habitat suitability. It is important to note that the purpose of the habitat suitability mapping was to quantify the magnitude of the Project effects on high quality habitat for each species. This was done by overlaying a preliminary spatial layout of pipelines and wells onto habitat suitability maps shown in Volume 3, Appendix 5G. The scale of habitat mapping used to assign habitat ratings was adopted from existing CWS mapping in the NWA and was appropriate for this task. The CWS used this same mapping in the NWA for their intensive baseline inventories.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC81 B	Page 1

Reference: Precautionary Approach

Preamble:

Request: What assumptions are made about receptor species in relation to wildlife movement and pipeline construction?

Response: Barriers to movement was one of the factors used to assess Project impacts to wildlife VECs. It was concluded that little potential exists for impairment of wildlife movement as no roads or other potential barriers will be constructed. Construction during the winter period, as well as the mitigative measures outlined in the Environmental Protection Plan, serve to reduce effects on species vulnerable to movement effects such as amphibians and reptiles.

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IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC82 B	Page 1

Reference: Precautionary Approach

Preamble:

Request: Provide documentation or references to support statement that “minor pipelines and access trails were not considered to contribute to fragmentation?”

Response: See the response to AWA 35.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC83 A	Page 1

Reference: Precautionary Approach

Preamble:

Request: What measures are in place to prevent/mitigate impacts if a blow-out occurs or if contamination from drilling wastes (or other waste) occur?

- Outline current incidents of waste and drilling waste spills and/or contamination within the RSA, including the NWA.

Response: In 30yrs of operations at CFB Suffield there have been no blowouts due to the low pressure natural gas resource. All drilling takes place in a closed contained system.

There have been no drilling waste spills in the RSA or NWA. There have been circumstances in the past where wellbore cement was left on location; however, that method is no longer employed at CFB Suffield.

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IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC84 B	Page 1

Reference: Precautionary Approach

Preamble:

Request: Provide documentation or references to support the traffic mortality mitigation measures.

- Response:**
1. Bertwistle (1999) reported that reduced speed zones (70 km/h) had a significant effect on reducing the rate of elk-vehicle collisions.
 2. Gunther et al. (1998) concluded that vehicle speed was significantly related to collisions between vehicles and wildlife and that speeds less than 45 mph (76 kph) led to significantly reduced mammal mortality.
 3. Kloeden et al. (2001) cited in Huijser et al (2007) estimated that even a 5 km/h reduction in speed from 80 km/h (50 mi/h) on undivided roads could lower casualty crashes by 31-32%.
 4. Schaefer et al (2003) conclude that a reduction in vehicle speed should result in decreased highway-related wildlife mortality.

Bertwistle, J. The Effects of Reduced Speed Zones on Reducing Bighorn Sheep and Elk Collisions with Vehicles on the Yellowhead Highway in Jasper National Park. In the *Proceedings of the International Conference on Wildlife Ecology and Transportation*. Held in Missoula, MT, September 13 to 16,1999, pp. 727 to 735.

Gunther, K.A., M. J. Biel, and H, L. Robison. Factors Influencing the Frequency of Road-killed Wildlife in Yellowstone National Park. In the *Proceedings of the International Conference on Wildlife Ecology and Transportation*. Held in Fort Myers, FL, February 9 to 12,1998, pp. 395 to 405.

Huijser, M.P., A. Kociolek, P. McGowen, A. Hardy, A.P. Clevenger and R. Ament. 2007. Wildlife-vehicle collision and crossing mitigation measures: a toolbox for the Montana Department of Transportation. *prepared for The State of Montana Department of Transportation in cooperation with The U.S. Department of Transportation, Federal Highway Administration. prepared by Western Transportation Institute, Montana State University – Bozeman. FHWA/MT-07-002/8117-34*

Kloeden, C.N., G. Ponte & A.J. McLean. 2001. Traveling speed and the risk of crash involvement on rural roads. Road Accident Research Unit. University of Adelaide, Australia.. Report no. CR 204. Department of Transport and Regional Services

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Australian Transport Safety Bureau, Australia.

Schaefer, J., Frank J. Mazzotti and Craig Huegel. 2003. Document WEC-172. Department of Wildlife Ecology and Conservation, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Published:1993, as SS-WIS-41. Revised: February, 2003.

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Reference: Precautionary Approach

Preamble:

Request: What is considered “susceptible wildlife”?

Response: “Susceptible wildlife” refers to species vulnerable to collisions with vehicles. A comprehensive literature search was conducted for each wildlife VEC. Key findings with respect to VEC ecology including susceptibility to collisions with vehicles is provided in Volume 3, Sections 5.7.2 and 5.8.3.

**EnCana Shallow gas Infill Development in the Suffield
National Wildlife Area Environmental Impact Statement
Information Request Responses filed 2007-08-16**

The response to the following Information Request remains
outstanding:

IR #: NC 86

Requesting Party: Nature Canada

EnCana undertakes to provide a response to the above referenced
Information Request as soon as practicable.

	EnCana Shallow Gas Infill Development in the CFB Suffield National Wildlife Area CEAA File #05-07-15620	IR Due Date: August 2 nd , 2007	
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Reference: Precautionary Approach

Preamble:

Request: Describe the statistical power of the amphibian survey and how this data relates to the conclusions made (p.5-17 to 19).

Response: Please see response for #AWA-43-B.

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IR Requested By: Nature Canada		IR No. CEAA-EIS-009 #NC88 - B	Page 1

Reference: Precautionary Approach

Preamble:

Request: Provide documentation or references to support the exclusion of invertebrates from surveys.

Response: The EIS guidelines presented in Volume 1, Appendix A, serve as a guide to the proponent. The EIS guidelines provide the scope and guidance to the proponent and detail the information required by the Joint Review Panel for the completion of the environmental impact statement. Invertebrates are not included in this document. Specifically, there are no provisions that highlight the requirement to investigate invertebrates as part of the EIS. Invertebrates are not specifically identified under Part 2, Section 5.3.2 (Biological Environment) of the EIS guidelines.

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Reference: Monitoring

Preamble:

Request: How is monitoring of SAR currently conducted?

Response: SAR monitoring in the NWA is currently being conducted by University researchers and government. EnCana's SAR protection provisions related to the Project are detailed in the EPP in the Specific Wildlife Protection section (Volume 1, Appendix I, Section I.5.6, pg, I-22)

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Reference: Monitoring

Preamble:

Request: What impacts on SAR, VEC, rare plants have been observed to date? This includes impacts on individuals, habitat, and or general trends in population.

Response: Current conditions for each wildlife VEC are provided in Volume 3, Section 5.8.2. Potential effects and proposed mitigation of the project on wildlife VECs have been provided in Sections 5.8 and 8.1.

The effects of in-fill development on vegetation are provided in:

- 1) Existing Land use Disturbance (Volume 3 Section 7.3.2)
 - Total existing disturbance footprint is estimated to affect 1.3% and 2.3% of the northern and southern portions of the NWA respectively.
- 2) Vegetation Triangle Sampling (Volume 3 Section 3.6.2.1)
 - Results are summarized for bare ground, litter, native plant species composition and weedy and invasive plant species in this section, and are unique to each variable. Please see Appendix 3C.3.1 for detailed sampling results.
- 3) Site-Level Grassland Integrity-Paired Pipeline Sampling (Volume 3 Section 3.6.2.2)
 - Results are extensive and produced in this section. Overall, “steady recovery of native range appears to occur as long as Crested Wheatgrass is not used in the reclamation seed mix. Recovery toward a native condition was generally more advanced in choppy sand hills than in glacial soils.”

EnCana’s method of study for the project, as recommended by its external, independent, expert consultants, was to focus on the impact of the project, rather than attempting to duplicate the intensive work carried out by the CWS during its CFB Suffield National Wildlife Inventory from 1994 to 1996, and due to the large number of wildlife VECs and a desire to reduce the potential for repetition.

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Reference: Monitoring

Preamble:

Request: How will projected impacts on SAR and VEC's be confirmed?

Response: The EEMP will address follow-ups and monitoring progress determined, through the environmental assessment process, to be necessary to confirm the predicted environmental effects and the effectiveness of mitigation, to identify any unforeseen environmental effects, and to determine the need for and scope of any potential new or modified mitigation to avoid, eliminate, or reduce environmental effects.

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Reference: Monitoring

Preamble:

Request: Explain monitoring and responses that will be part of the Environmental Effect Monitoring Plan (cited in V.1 p. 4.7).

Response: Please see the response to NC 91.