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# Renewable Energy Project

Submission Template







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This submission template is designed for all renewable energy project submissions to Alberta Environment and Protected Areas–Wildlife Management (GOA-Wildlife) required under the Alberta Utilities Commission (AUC) Rule 007. The information outlined in this submission template is detailed in the GOA-Wildlife policies for renewable energy projects. For wind energy projects the applicable policy is the *Wildlife Directive for Alberta Wind Energy Projects* (2017) and for solar energy projects the applicable policy is the *Wildlife Directive for Alberta Solar Energy Projects* (2017). Throughout this template, reference will be made to the “Directive” with the intent to reference either the wind or solar energy related Directive document applicable to the project being submitted.

This template provides a list of questions that include all the information and material required in the project submission to GOA-Wildlife. All questions must be answered or indicated as “not applicable” to the project. The submission must be provided in a separate PDF or Microsoft Word document using the same question numbers provided in this template. Proper completion of this template with all identified material constitutes a complete submission as required under the applicable Directive. It is often appropriate to answer a question with one word or number, a list, bullet points or a table, as long as the information is coherently presented and fully addresses the question.

It is the responsibility of the proponent to ensure that all required information and supporting documents, as identified in this template, are included in the submission. There are sections of this template that only apply to either wind or solar energy projects, these sections are clearly identified. Unless otherwise identified, all sections and questions must be completed. Failure to complete a required section will result in automatic rejection from the GOA-Wildlife review process.

### Project Overview

This section asks for a general overview of the project including information about the proponent, project type, location, and infrastructure.

1. What type of project is being proposed (wind, photovoltaic solar or other)?
2. What is the name of the project?
3. WIND PROJECTS ONLY: What type of application is being proposed (standard submission, preferred and alternate turbine locations, other)?
4. What is the contact information for the proponent?
5. What is the wildlife consultant contact information?
6. Provide the legal land description, township and county name for the project.
7. Provide the total MW (AC) size of the Project.
8. What is the size of the project construction footprint (include all infrastructure, temporary workspace or other related project related space) in hectares?
9. What is the size of project operation footprint (include all infrastructure and other project related space) in hectares?
10. WIND PROJECTS ONLY: Provide locations of all proposed wind turbines in a table with the following headings, using as many rows as needed. If applicable, indicate if the turbine location is a preferred or alternate location.

#### Wind Turbine Locations

Turbine ID	UTM Zone	UTM Easting	UTM Northing	Quarter	Section	Township	Range	Meridian	Land Cover Type	Preferred or Alternate Location

11. WIND PROJECTS ONLY: Provide the below turbine details in a table with the below format.

#### Wind Turbine Specifications

Specifications	Detail
Tower/Hub Height (metres from the ground)	
Rotor Swept Area (minimum to maximum metres from the ground)	
Blade Length (metres)	
Number of Blades	

12. Provide any general information about the proponent, or the project that may be applicable to the GOA-Wildlife review.

### Wildlife Habitat Land Cover

This section asks for information about the project siting and general risks to wildlife and wildlife habitat. Ensure setbacks are measured as per the Directive, which states a setback is to be measured from the edge of the feature to the nearest edge of the project footprint (i.e. temporary disturbance and all project related permanent infrastructure).

13. Land Cover within the project area: Provide the amount of each type of land cover within the project area, as identified within the project area map (refer to the Maps and Figures section below) in a table with the below format. For each habitat type, provide the total number of hectares within the entire project area, the number of hectares that will be disturbed during construction (include all temporary work spaces) and the number of hectares that will be used to support the operation of the proposed facility. Ensure the reported permanent and temporary footprint for all infrastructure (i.e. turbines, solar arrays, access roads, collection lines, substation etc.) aligns with the definition as per the Directive. Additional rows may be added for land cover types not already identified in the below table. If an identified habitat type does not occur in the proposed project area, clearly state that it does not occur in the project footprint.

#### Table of Habitat Types

Habitat Type	Total project area (hectares)	Temporary project footprint (hectares)	Permanent project footprint (hectares)
Native Grassland			
Tame Grassland			
Hay land			
Aspen Forest			
Boreal Forest			
Montane Forest			
Mixed Forest			
Cultivation			
Wetlands			
Lake/Waterbody			

Habitat Type	Total project area (hectares)	Temporary project footprint (hectares)	Permanent project footprint (hectares)
River/Watercourse			
Other - Provide details of habitat type.			
<b>Total number of Hectares</b>			

14. As per the Directive, provide details in the table below if any part or portion of the project is sited in: native grassland, native parkland, old growth forest, named waterbodies, valley breaks/coulee breaks, valleys of a large watercourse or in the eastern slopes.

**Table of Habitat Infringements**

Habitat Type	Location of infrastructure	Type of infrastructure	Amount of area impacted

Detail the rationale for siting the project in an area identified as higher risk by GOA-Wildlife policy and any proposed alternative mitigation(s) the proponent will implement to meet the intent of the Directive. If the proposed project will impact more than one of the identified habitat types, provide the details for each habitat type separately.

## Wildlife Zones and Critical Habitat

15. As per the Directive, provide details in the table below if any part or portion of the project is sited in the following wildlife zones: Greater-sage Grouse Range (inclusive of the area covered by Environment Canada's Emergency Protection Order), Trumpeter Swan Waterbodies and Watercourses (inclusive of 800 m setback from waterbody and watercourse), Caribou Zones, Mountain Goat and Sheep Zones, Piping Plover Waterbodies (inclusive of 200 m setback from waterbody).

**Table of Wildlife Zone Infringements**

Habitat Type	Location of infrastructure	Type of infrastructure	Amount of area impacted

Detail the rationale for siting the project in an area identified as higher risk by GOA-Wildlife policy and any proposed alternative mitigation(s) the proponent will implement to meet the intent of the Directive. If the proposed project will impact more than one of the identified wildlife zones, provide the details for each type of wildlife zone separately.

16. If the project is sited within federally designated Critical Habitat (*Species at Risk Act*), provide details in the table below.

**Table of Critical Habitat Infringements**

Species	Location of infrastructure	Type of infrastructure	Amount of area impacted

Detail the rationale for siting the project in an area identified as higher risk by GOA-Wildlife policy. If the proposed project will impact more than one of the identified Critical Habitats, provide the details for each species Critical Habitat that will be impacted separately.

17. If the project is sited within 100 m of a valley or coulee break, provide the details in the table below.

**Table of Valley or Coulee Break Infringements**

Location of infrastructure	Type of infrastructure	Amount of area impacted

Detail the rationale for siting the project in an area identified as higher risk by GOA-Wildlife policy and any proposed alternative mitigation(s) the proponent will implement to meet the intent of the Directive.

## Lakes, Wetlands and Watercourses

18. Provide details of the methods used to identify and classify wetlands. Note the term wetland is inclusive of natural wetlands, wetlands that have been altered by humans and/or man-made wetlands (i.e. dugout). Is the project sited within 100 m of any wetland class (bog, fen, marsh, shallow open water, swamp), other than those wetland classes with water permanence listed as temporary in the Alberta Wetland Classification System. If the project is sited within a wetland setback, provide a summary of the details (location, type of infrastructure, and amount of area impacted) and rationale for the siting decision in a table with the following headings:

**Table of Wetlands for which GOA-Wildlife Setbacks are Infringed**

Wetland Name/ ID number	Wetland Class	Proposed infrastructure type within setback	Proximity of infrastructure to the nearest edge of the wetland (m)	Rationale/ justification for siting decision

**Note:** Wetland name/ID number must correspond to wetlands on maps submitted to GOA-Wildlife; refer to the Maps and Figures section of this submission template.

Provide details of construction and operational mitigation the proponent will implement to meet the intent of the Directive.



19. Is the project sited within 1000 m of a named lake or waterbody? If the project is sited within a waterbody setback, provide the details of the project infrastructure (location, type of infrastructure, and amount of area impacted) within the setback and the rationale for siting the project in an area identified as higher risk by GOA-Wildlife policy. Provide details of any proposed alternative mitigation(s) the proponent will implement to meet the intent of the Directive.
20. Amphibian surveys: Were amphibian surveys completed? If no, continue to question 22.
- Provide details of the amphibian surveys completed including if the established survey protocols within the GOA-Wildlife *Sensitive Species Inventory Guidelines* were followed, search area, survey duration, time of day, how survey points were chosen, and the number of visits to each survey point.
  - Provide the survey dates.
  - Provide the number of survey points.
  - The location of survey points must be provided in a named map (refer to the Maps and Figures section below).
  - Provide weather conditions during each survey in a table with the following headings.

**Weather Conditions During Amphibian Surveys Table**

Survey Date	Survey Time	Weather Conditions	Comments

- Provide details of the survey conditions (recent rainfall amount and temperature) and confirm if the conditions met the required conditions for Great Plains toad and plains spadefoot surveys, as per the GOA-Wildlife Sensitive Species Inventory Guidelines.
- Provide the total survey time (time spent actively conducting survey).
- Results: Were amphibians found? If amphibians were found, complete the table below.

**Table of Amphibian Sightings**

Wetland Name/ID number	Species of Amphibian	Location (UTM NAD 83)	Is the required setback met (Y/N)	Distance to nearest project related disturbance (m)	Infrastructure type	Comments

- If a required setback is not being met, provide the details of the project disturbance (location, type of infrastructure, and amount of area impacted), rationale for siting decision and any proposed alternative mitigation(s) the proponent will implement to meet the intent of the Directive. Note as there is a direct link between question 19 and question 20, include alternative mitigations for sensitive amphibians in the proponent's response to question 19.
  - Discussion of results. Provide additional information such as habitat characteristics that support or inhibit amphibian presence and any amphibian observations that were not associated with wetlands.
21. Provide details in the table below for any project infrastructure sited within:
- 45 metres from the top of the break of intermittent watercourses or springs
  - 45 metres from the top of the break of small permanent watercourses
  - 100 metres from the top of the break of large permanent watercourses



Weather Conditions during Amphibian Surveys Table

Feature of setback infringed (i.e., intermittent, small permanent or large permanent)	Location of infrastructure	Type of infrastructure	Amount of area impacted

Detail the rationale for siting the project in an area deemed higher risk by GOA-Wildlife policy. Provide details of any proposed alternative mitigation(s) the proponent will implement to meet the intent of the Directive.

### Pre-Assessment Wildlife Surveys

- 22. Were all wildlife surveys completed by an experienced wildlife biologist as defined by the Directive?
- 23. Provide all Research and Collection license numbers that apply to this project.
- 24. Has all pre-assessment wildlife survey data been submitted to GOA-Wildlife in a FWMIS load form? Provide the date(s) of FWMIS submission to GOA-Wildlife.

### Spring and Fall Bird Migration Surveys

- 25. For spring and fall bird migration surveys:
  - a. Provide details of survey protocols including the search area, the survey duration, how survey points were chosen, and the number of visits to each survey point. In addition, describe what was considered an incidental observation and if these observations were recorded and reported. Clearly state adherence to existing Environment and Protected Areas survey protocols. If alternative survey methods were used provide details of the survey methods with justification and rationale for using alternative methods.
  - b. Provide the survey dates.
  - c. Provide the time of day surveys were conducted.
  - d. Provide the number of survey points.
  - e. Provide the total survey time (time spent actively conducting survey).
  - f. The location of survey points must be provided in a named map (refer to the Maps and Figures section below).
  - g. Provide weather conditions during each survey date and time in a table with the following headings:

Weather Conditions During Migration Surveys

Survey Date	Weather Conditions	Comments

- h. Describe the habitat type or land use within the surveyed area.
- i. Results: Provide the survey results in tables using the following format. The tables must provide an understanding of the number of observations at each survey location and during each round of surveys, a list of the species observed and a summary of the observations per bird guild. Provide a brief written description of the results.

**Spring Survey Observations by Survey Location and Round Table:** Number of individuals detected at each survey location (point surveys and stop over points) during each survey round.

Survey Location	Time 1	Time 2	Time 3	Total Number of Individuals Detected
Location 1				
Location 2...				
Total				

**Spring Survey Observations by Species Table**

Species	Provincial General Status	Number of Individuals	Number of Flocks (greater than 2 birds of the same species)	# of individuals observed with 0-400m	# of individuals observed with 400-800m	# of individuals observed greater than 800 m

*\*Flocks are defined as a group of greater than 1 bird of the same species gathered or moving together.*

**Spring Survey Bird Guild Summary Table**

Bird Guild	Number of Individuals	Number of Flocks	# of individuals observed with 0-400m	# of individuals observed with 400-800m	# of individuals observed greater than 800 m
Passerines					
Raptors					
Grouse					
Waterfowl					
Waterbirds					
Other (Identify group)					

*\*Flocks are defined as a group of greater than 1 bird of the same species gathered or moving together.*

**Fall Survey Observations by Survey Location and Round Table:** Number of individuals detected at each survey location (point surveys and stop over points) during each survey round.

Survey Location	Time 1	Time 2	Time 3	Total Number of Individuals Detected
Location 1				
Location 2...				
Total				

**Fall Survey Observations by Species Table**

Species	Provincial General Status	Number of Individuals	Number of Flocks (greater than 2 birds of the same species)	# of individuals observed with 0-400m	# of individuals observed with 400-800m	# of individuals observed greater than 800 m

*\*Flocks are defined as a group of greater than 1 bird of the same species gathered or moving together.*

**Fall Survey Bird Guild Summary Table**

Bird Guild	Number of Individuals	Number of Flocks	# of individuals observed with 0-400m	# of individuals observed with 400-800m	# of individuals observed greater than 800 m
Passerines					
Raptors					
Grouse					
Waterfowl					
Waterbirds					
Other (Identify group)					

*\*Flocks are defined as a group of greater than 1 bird of the same species gathered or moving together.*

- j. Provide the total number of individuals observed during the spring surveys.
  - a. Point count
  - b. Stopover count
  - c. Combined
- k. Provide the number of species observed for the spring surveys.
  - a. Point count
  - b. Stopover count
  - c. Combined
- l. Provide the number of bird observations per minute of survey time for the spring surveys.
- m. Provide the total number of individuals observed during the fall surveys.
  - a. Point count
  - b. Stopover count
  - c. Combined
- n. Provide the number of species observed for the fall surveys.
  - a. Point count
  - b. Stopover count
  - c. Combined
- o. Provide the number of bird observations per minute of survey time for the fall surveys.
- p. Discussion of results. Provide additional information such as the spatial or temporal trends of bird observations. Other relevant information may include average flight height, notes on behaviour (long distance flight, short distance flights between local features or foraging in area), if there were certain survey points with more bird activity than others or habitat features that may have attracted (or reduced) activity and a summary of incidental observations including total numbers and species.

## Breeding Bird Surveys

26. For breeding bird surveys:

- a. Were the established survey protocols within the GOA-Wildlife Sensitive Species Inventory Guidelines followed? Provide details of the survey protocol including the search area, the survey duration, how survey points were chosen, and the number of visits to each survey point. In addition, describe what was considered an incidental observation and if these observations were recorded and reported.
- b. Provide the survey dates.
- c. Provide the time of day surveys were conducted.
- d. Provide the number of survey points.
- e. Provide the total survey time (time spent actively conducting survey).
- f. Location of survey points must be provided in a named map (refer to the Maps and Figures section below).
- g. Provide weather conditions during each survey date and time in a table with the following headings:

**Table of Weather Conditions During Breeding Bird Surveys**

Survey Date	Weather Conditions	Comments

- h. Provide a description of the habitat type or land use within the surveyed area.
- i. Results: Provide the survey results in tables using the following format. Provide a brief written description of the results.

**Survey Location and Round Summary Table: Number of individuals detected at each survey location during each round**

Survey Location	Time 1	Time 2	Time 3	Total Number of Individuals Detected
Location 1				
Location 2...				
Total				

**Observations by Species Table**

Species	Provincial General Status	Number of Individuals

- j. Provide of the total number of individuals observed during the surveys.
- k. Provide the number of species observed.
- l. Provide the number of bird observations per minute of survey time.
- m. Discussion of results. Provide additional information such as the spatial or temporal trends of bird observations. Other relevant information may include if there were certain survey points with more bird activity than others or habitat features that may have attracted or detracted activity and a summary of incidental observations including total numbers and species.
- n. If the project is sited within native habitats, such as native grassland or parkland, identify if construction activities will avoid the restricted activity period for breeding birds (April 1 to July 15)? If no, detail any proposed alternative mitigation(s) the proponent will implement to meet the intent of the Directive.

## Raptor Nest Surveys

27. Raptor nest surveys must be conducted for the entire project area plus 1000m from the edge of the project boundary. For raptor nest surveys:
- a. Were the established survey protocols within the GOA-Wildlife Sensitive Species Inventory Guidelines followed? Provide details of the survey protocol including the search area, the survey duration, time of day and search method.
  - b. Provide the survey dates.
  - c. Provide weather conditions during each survey in a table using the following format:

**Table of Weather Conditions During Raptor Nest Surveys**

Survey Date	Weather Conditions	Comments

- d. Survey Results: Were raptor nests found? If so, provide locations of all raptor nests detected in a table using the following format. Identify if the required setback is met and the distance in metres from the edge of the nest to the nearest edge of project related disturbance.

**Table of Raptor Nesting Location and Proximity of Project Infrastructure**

Nest ID	Species	Location of nest (UTM NAD 83)	Is the required setback is met (Y/N)	Distance from nest to nearest project related disturbance (metres)	Comments

- e. Nest locations and associated setbacks must be provided in a named map (refer to the Maps and Figures section below).
- f. If a required setback is not being met, provide the details (location, type of infrastructure, and amount of area impacted), rationale for siting decision and any proposed alternative mitigations identified. For the purpose of GOA-Wildlife review, infringement from any temporary workspace must be included.
- g. Discussion of results. Provide additional information such as a description of the habitat/land use that may attract or detract raptor activity in the area and a summary of incidental observations of raptors including total numbers, behaviour and species.

## Acoustic Bat Surveys: WIND PROJECTS ONLY

28. For acoustic bat surveys:

- a. Were the established GOA-Wildlife survey protocols followed? Provide details of survey protocols including the detector locations, the detector deployment duration, how detector locations were chosen, and a brief description of the analysis of the audio files.
- b. Surveys dates, provide the acoustic survey period for both the spring and fall surveys.
- c. Provide the total number of detectors during spring and fall surveys.
- d. Provide the number of raised detectors (30 m) during spring and fall surveys.
- e. Provide the total number of detector nights (i.e. excluding nights that a detector malfunctioned) during spring and fall surveys.
- f. Provide location of survey points in a named map (refer to the Maps and Figures section below). Detector location must be included and the detector height must be identified.
- g. Describe the habitat type or land use near each detector location.
- h. If surveys were completed for hibernacula/maternal colonies, provide the results.
  - i. Identify any issues encountered during the survey or analysis that impacted the results.
  - j. Survey results: Provide details of the survey results in tables using the following format.

**Spring Bat Acoustic Survey Results Table: Summary of bat activity by detector location**

Detector ID	Surrounding habitat where detector was placed	Total bat passes/ detector night	Migratory bat passes/ detector night	Mean number of bat passes/ detector night	Detector total

**Fall Bat Acoustic Survey Results Table: Summary of bat activity by detector location**

Detector ID	Surrounding habitat where detector was placed	Total bat passes/detector night	Migratory bat passes/detector night	Mean number of bat passes/detector night	Detector total

- k. Results graphs: Provide a bar or line graph of bat activity by night with the date on the x-axis and mean number of bat passes on the y-axis. Data must be separated into the categories of all bat passes per detector night and migratory bat passes per detector night.
- l. Results summary: Provide a brief written summary of the results including, total bat passes, mean bat passes per detector night, a subset of the migratory bat passes per detector night and a list of species that were detected. Provide other relevant information such as the spatial or temporal trends of bat activity or if there were certain survey points with more bat activity than others or habitat features that may have attracted or reduced activity.
- m. Provide a summary of the survey results in a table using the following format.

**Bat Acoustic Monitoring Summary Table**

Season	Bat passes/detector night	Migratory bat passes/detector night
Spring: May 1-31 (year)		
Fall: July 15-Oct 15 (year)		
Fall: August 1st-September 10th (year)		

- n. Based on the risk of bat mortality, as per GOA-Wildlife policy, is pre-emptive mitigation being applied to the project? If yes, provide the details of any proposed alternative mitigation(s) the proponent will implement to meet the intent of the Directive.
- o. Discussion of results. Provide additional information such as a description of the habitat/land use that may attract or reduce bat activity in the area, interpretation of the data collected or general information on bat activity and the proposed project.

Refer to the Post-Construction Monitoring and Mitigation section to provide details on post-construction monitoring, analysis and general results based on mitigation needs.

## Site Specific Wildlife Surveys

The following section asks for information for the surveys conducted if the project is sited within an identified wildlife range or wildlife layer, as defined in the applicable Directive:

29. Is any part or portion of the project within the wildlife range of:

- Burrowing Owl
- Sharp-tailed Grouse
- Eastern Short-horned Lizard
- Sensitive Snake Hibernacula Range
- Ord's Kangaroo Rat
- Swift Fox
- Endangered and Threatened Plants



For any species where the answer is no, move to Question 30. For any species where the answer was yes, please continue to Question 29 and provide responses for each applicable species.

- a. Were surveys conducted following the established survey protocols within the GOA-Wildlife Sensitive Species Inventory Guidelines? Provide details of the surveys completed including search area, time of day, how survey points were chosen, and the number of visits to each survey point.
- b. Provide the survey dates.
- c. Provide the time of day each survey was conducted.
- d. Provide the number of survey points.
- e. Provide the total survey time (time spent actively conducting survey).
- f. The location of survey points must be provided in a named map (refer to the Maps and Figures section below).
- g. Provide weather conditions during each survey date and time in a table using the following format.

**Weather Conditions During surveys**

Survey Date	Weather Conditions	Comments

- h. Describe the habitat type or land use within the surveyed area.
- i. Survey Results: Was the species found or was species activity seen? If yes, complete table below.

**Table of Species Locations and Proximity of Project Infrastructure**

Location ID number	Location (UTM NAD 83)	Is the required setback is met (Y/N)	Distance from nest to nearest project related disturbance (metres)	Comments

- j. Species or feature locations and associated setbacks must be provided in a named map (refer to the Maps and Figures section below).
  - k. If a required setback is not being met, provide a summary of the project disturbance details (location, type of infrastructure, and amount of area impacted), rationale for siting decision and details of any proposed alternative mitigation(s) the proponent will implement to meet the intent of the Directive.
  - l. Discussion of results including any species observations or signs (including burrows, runways, feces, tracks, etc., if appropriate) that were not associated with a nest/hibernacula/den or any potential nest/hibernacula/den sites and a description of habitat (soil characteristics, slope, vegetation details, etc.).
30. The proponent must commit to ensuring that wildlife data is kept current as per the Directive. Confirm that the following surveys will be repeated at a minimum once every two years until the project is commissioned by indicating yes, no, or not applicable by each:
- a. Burrowing owl
  - b. Sensitive raptors
  - c. Sharp-tailed grouse
  - d. Swift fox
  - e. Ord’s kangaroo rat
  - f. Grizzly bear den surveys
  - g. Endangered and Threatened Plants

Provide details of the proposed surveys and what process will be followed if a new wildlife site is identified and how it will be mitigated.

31. Projects for which construction has not begun within five years of the completion of the GOA-Wildlife Renewable Energy Referral Report must repeat all surveys and a new GOA-Wildlife Renewable Energy Referral Report will be completed. Confirm this process will be followed.

## **Construction and Operation within Other Key Wildlife Zones**

32. As per the Directive is the project sited in any of these wildlife zones:

- a. Special Access Zones?
- b. Key Wildlife and Biodiversity Zones?
- c. Grizzly Bear Zones?

If yes, will the project meet the required standards identified in the Directives for the associated zone? Provide details of the proposed standard or alternative mitigations if proposed.

33. If the proposed project is sited within the Grizzly Bear Zones, do the project related access roads in addition to the existing roads in the area meet with the open road thresholds defined within the Alberta Grizzly Bear Recovery Plan? If no, provide a summary of the details (location, type of access roads, and amount of area impacted), rationale for siting decision and any proposed alternative mitigation to meet the intent of the Directive.

## **Minimizing Impacts on Wildlife and Wildlife Habitat**

34. Have guy wires been designed to meet the requirements outlined in the Directive. Provide details of mitigation that is proposed.
35. Are all collection lines sited underground? Provide details of construction techniques and how impacts to wildlife and wildlife habitat will be minimized.
36. Provide details on any other wildlife or wildlife habitat risk identified by the proponent and proposed mitigations to reduce this risk. This may include mitigations for the reduction of noise and light pollution, prevention of predator nests on anthropogenic features, minimization of collision risk, mitigations for clearing vegetation attractive to breeding birds or other project associated wildlife risks.
37. SOLAR PROJECTS ONLY: Provide details of the proposed fence including type, shape, height, ground clearance and layout. Provide any wildlife mitigations that are proposed as per the requirements in the Directive. Refer to Maps and Figures for information on required map submissions.

## **Construction and Operation Mitigation Plan**

The following section asks for information about methods that will be implemented to reduce negative impacts on wildlife and wildlife habitat during construction and operation.

38. For projects sited in the Sensitive Snake Hibernacula Range, Sensitive Snake Habitat or in close proximity of either area, provide details of the project's Snake Protection Plan to protect snakes and on-site worker safety. This is a requirement for solar projects, but is strongly recommended for wind projects as well.
39. Provide details about how injured or dead wildlife observed by on-site workers during construction or operation will be reported.
40. Provide details of the proposed reclamation of the project area, both temporary and long term disturbances that will occur. Include information of the amount of area that will be reclaimed or restored following construction, methods that will be used and details of seed mixes if working in areas of native grasslands. Will an approved native seed mix be used to revegetation disturbed native habitats?
41. Provide details of any construction and operation mitigations or methods to reduce the impact to wildlife or wildlife habitat not identified in an above section.

SOLAR PROJECTS ONLY: Questions 42 to 44 are specific to solar energy projects only.

42. Provide details on any levelling or grading of the project site.
43. Will the ground under solar panels be stripped or vegetation removed? If yes, provide details of the methods, wildlife mitigations and type of seed mix if areas will be revegetated.
44. If there is vegetation under the panels, provide details about how and when it will be maintained. Detail all mitigation measures that will be used during vegetation maintenance (including mechanical and chemical methods) to protect wildlife (e.g. survey sweeps for ground nesting birds).

## Post-Construction Monitoring and Mitigation Plan

The following section asks for information about the monitoring and, if required, the mitigation methods that the proponent commits to implementing during operation.

45. State that the post-construction surveys will be completed as directed by the Environment and Protected Areas Post-Construction Survey Protocols for Wind and Solar Energy Projects?
46. If mortality is deemed higher than acceptable by GOA-Wildlife, the proponent will be required to mitigate the mortality to acceptable levels as per GOA-Wildlife Policy. Identify the proposed mitigation methods that will be implemented by the proponent if mortality is determined to be high.

## Maps and Figures

Maps and figures are important to help GOA-Wildlife understand the proposed project. The following maps and figures are required by GOA-Wildlife in all renewable submissions. Additional maps/figures may be submitted at the discretion of the proponent.

47. Map and a KMZ file of the overall project area: map must include project boundary line, photo imagery, boundary line for the 1000 m setback of the project boundary, identification of all wildlife habitat types as identified in this submission (i.e. native grassland, cultivation, etc.). Provide the name of file(s).
48. Map and a KMZ file of survey locations: Map must include project boundary line, photo imagery, and each wildlife survey point for all required surveys. To enable GOA-Wildlife review, if the map is cluttered it is recommended that multiple maps be used with files labelled appropriately. Depending on the size of the project, it may improve clarity of information by providing a separate map for the survey locations of each type of survey conducted. Provide the name of file(s).
49. Map and a KMZ file of the project layout: Map must include project boundary line, photo imagery, infrastructure locations including but not limited to turbines or solar arrays, access roads, collection lines, substations, temporary work spaces and fences. To enable GOA-Wildlife review, if the map is cluttered it is recommended that multiple maps be used with files labelled appropriately. Provide the name of file(s).
50. Map and a KMZ file of Lake/Wetland/Waterbody/Watercourse Features: Map must include project boundary line, photo imagery, all classified wetlands and setback distance from nearest project infrastructure. To enable GOA-Wildlife review, if the map is cluttered it is recommended that multiple maps be used with files labelled appropriately. Provide the name of file(s).
51. Map and a KMZ file of Wildlife Features: Map must include project boundary line, photo imagery, all identified wildlife features (house, nests, dens, leks, etc.) and associated setback boundary line, and setback distance from nearest project infrastructure. Labelling of wildlife features must match identification number of feature referenced in above section(s) of this submission. To enable GOA-Wildlife review, if the map is cluttered it is recommended that multiple maps be used with files labelled appropriately. Provide the name of file(s).
52. Other associated maps and figures: (insert jpeg/pdf map file). Provide any other maps referenced by the proponent in the body of this submission. Additional maps or figures must be provided as a KMZ file, in addition to a figure in the submission. To enable GOA-Wildlife review, if map is cluttered it is recommended that multiple maps be used with files labelled appropriately. Provide the name of file(s).

## Other Comments

This section allows the proponent to provide wildlife or wildlife habitat related information that has not already been addressed in any of the above sections.

53. If there is any additional wildlife related information that the proponent would like to include in the submission, provide the information here (e.g., photographs).

## Final Statement of Compliance

Upon completion of the submission form, the applicant or applicant's representative must fill out the following and submit as part of their application.

Once the GOA-Wildlife has received all required documents the submission will be forwarded to the local area Biologist for review and comment. A final referral report will be completed by the AEP-Wildlife Biologist and forwarded to the AUC for inclusion within the AUC application.

*I, fill in the blank , as an authorized representative of fill in the blank , ensure that this application meets the Environment and Protected Areas requirements as detailed in the Wildlife Directive for Alberta Wind or Solar Energy Projects. Deviations from the Directive (if any) are outlined in this submission form and include proposed mitigations and any formal discussions or agreements with GOA-Wildlife. All other supporting documents and materials for this project will abide with the statements made in this submission form.*

Signature:\_\_\_\_\_

Date:\_\_\_\_\_

Once signed, the entire submission form, including all supporting documents identified in the submission form, must be emailed by the proponent to the appropriate GOA-Wildlife representative.