Mitigation Measures for Working within the General Bird Nesting Season: Options and Effectiveness

Lyndsey MacBride & Jamie Page

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Outline

- Regulatory legislation / guidelines protecting birds in Saskatchewan
- Challenges (nesting & migration / foraging)
  - Construction
  - Operation
- Solutions
  - Avoid
  - Minimize
  - Monitor
- Summary of Effectiveness

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Regulatory Legislation / Guidelines Protecting Birds in SK

- Breeding birds, their nests and eggs are protected by federal and/or provincial legislation:
  - *Migratory Birds Convention Act (MBCA), 1994*
  - *Species at Risk Act*
  - *The Wildlife Act, 1998 and The Wildlife Regulations, 1981*
  - *The Wildlife Habitat Protection Act*
- Activity Restriction Guidelines (setbacks / timing window):
  - ECCC's Avoidance Guidelines (restricted activity periods for migratory birds)
  - Saskatchewan Activity Restriction Guidelines (restricted activity periods & setbacks for Species of Conservation Concern [SOCC])
  - Petroleum Industry Activity Guidelines for Wildlife Species at Risk in the Prairie & Northern Region (setbacks for SOCC)
- Other Policies/Guidelines:
  - Saskatchewan Policy on Nest Searches for Migratory Birds in SK (do not recommend nest searches)
  - ECCC does not recommend formal nest searching as the potential to cause disturbance is high while the potential to locate nest sites is low (particularly ground nests)

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Migratory Birds Convention Act, 1994

- The Act & its regulations protect most species of birds in Canada
- Administered by Environment and Climate Change Canada's (ECCC) Canadian Wildlife Service (CWS)
- Migratory birds protected by MBCA if:
  - Named in Article I, native / naturally occurring in Canada, & known to regularly occur in Canada
  - Few exceptions
- In general, birds not falling under federal jurisdiction include:
  - Grouse, quail, pheasants, ptarmigan, hawks, owls, eagles, falcons, cormorants, pelicans, crows, jays, kingfishers, and some blackbird species
  - However, many are protected by other legislation, both provincial and/or federal (e.g. *Species at Risk Act*)

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Provincial Legislation Protecting Birds in SK

- *The Wildlife Act, 1998, The Wildlife Habitat Protection Act, &* their regulations
- Protects the destruction / disturbance of:
  - Any wildlife or wildlife habitat
  - Eggs/nests of any birds protected by MBCA
  - Designated species
- Exceptions are listed in the s. 4(1) of the Wildlife Regulations, 1981, and include:
  - Crows, black-billed magpies, starlings, house sparrows, some blackbird species, rock doves/pigeons, & some jay species

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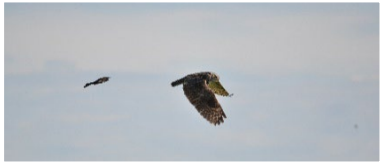
Accidental Harm to Birds

- The [SK] Wildlife Regulations, 1981 (s. 26) require any accidental killing of wildlife to be reported to a wildlife officer (excludes vehicular collisions)
- There is no legal requirement under the *MBCA, 1994* or SARA to report bird mortalities, however:
  - Should keep internal records
  - Consider self-reporting
  - Must comply with legislation, understand impact on migratory birds, & take measures to mitigate
  - Incidental take could result in investigation & prosecution (especially if no reasonable attempts to reduce impacts)



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Challenges

- Executing construction / industrial activities within the general nesting season is often unavoidable, however, presents significant challenges:
  - Project delays, increased costs, contravention of legislation
  - Once a protected bird establishes a nest in a particular area, the nest is protected until birds are no longer using it
- Industrial activities can also result in challenges during nesting and migration / foraging:
  - Sensory disturbances (noise / light)
  - Structures - collisions and disorientation / exhaustion (which can result in mortality)
  - Birds utilizing industrial ponds

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Solutions

- Proponents should follow a stepwise approach for bird management:
  1. Avoid – nesting periods, sensitive habitats
  2. Minimize – habitat modification, auditory/visual deterrents, exclusion, nest management
  3. Monitor – bird management and monitoring during construction
- There is no “one size fits all” approach as every project will have unique challenges
- Combination of preventative & mitigative techniques should be used
- **Use of these solutions may require regulator consultation and various permits**

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Avoid Sensitive Habitat & Nesting Periods

- Avoid sensitive habitat
  - Site projects to avoid sensitive habitats as much as possible
- Avoid nesting periods
  - Critical in the life cycle of breeding birds, where birds lay / incubate eggs & raise their young
  - Period varies according to species / geographic locations (ECCC provides general migratory bird nesting periods for Canada)
  - Most migratory birds typically nest between March and September
  - Some non-migratory birds (such as ravens, jays, owls & woodpeckers) will also nest during winter months

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Habitat Modification

- As much as possible, remove/modify potential bird habitat in the project footprint. Complete this outside of the general nesting season
  - Remove trees / shrubs
  - Drain wetlands
  - Strip/mow surficial vegetation
  - Remove food sources
- Can be very effective
  - Will not eliminate all bird nesting but can greatly reduce it
- Landscape modification for Canada geese may include installing barriers that discourage geese by intercepting their lines of site

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Auditory Deterrents

- Gas canons, pyrotechnics, bio-acoustics, ultrasonics
- Effective on a short-term basis (deterring stopping along migration routes or for foraging rather than to deter nesting)
- Subject to habituation and effectiveness varies depending on how they are used
- Should be moved regularly and have varied firing frequencies and directions
- Conduct bird surveys prior to setting up during nesting season, as setting up deterrents near active nesting could contravene the MBCA

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Visual Deterrents

- There are various types of visual / scare deterrents available
- Including scarecrows, predator decoys, hawk kites, fan operated air dancers, bird streamers, reflective tape, signal beacon buoys (on land and water), falconry
- Varied effectiveness, subject to habituation
- Falconry
  - Considered highly effective, however, typically only used for airports
  - Not currently permitted as a scare technique (raptors may kill birds even when controlled by a handler)

Exclusion

- Physical barriers such as netting, screens, wire, fencing, perch deterrents
- Eliminating exterior entry points (doors, windows, vents):
  - Search for and seal up openings to infrastructure
  - Close doors & windows
  - Install screens, vinyl paneling, and mesh
- Extremely effective for buildings and other infrastructure
- Effectiveness depends on the degree to which birds are excluded
- The greater the exclusion the more expensive

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Nest Management: Canada Goose

- Canada goose nest management program can be effective to manage geese for current & future years
- Canada geese & their young tend to return to the same nesting area year after year
  - Increase in local population over time
- Involves nest searching / monitoring & egg floating / disposal
- Requires an annual Migratory Bird Damage / Danger Permit from ECCC or a long-term management plan approved by CWS
  - Can only be obtained for Canada and cackling geese
- Very effective practice over time
- Geese will begin nesting elsewhere after multiple failed nesting attempts

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Nest Management: Removal

- Selective removal of inactive nests outside of the general nesting season to discourage their re-use
  - Should be done by qualified personnel only
  - Excludes many SOCC/SAR species & species that use the same nest in subsequent years (e.g. great blue herons, common ravens, raptor species)
- Remove preliminary nest material during the early stages of nest building to discourage nesting
  - Used mainly for select swallow species and American robins
  - Only use when all other methods are exhausted
  - Nests can be built quickly by some species - check & remove material daily
- Only use when other techniques are not available
- Require qualified personnel to ensure correct identification of nest-building stages

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Nest Management: Relocation of Nests

- Requires a Migratory Bird Damage / Danger Permit
- Typically used for single nests
- Suitable in cases where a migratory bird establishes a nest on equipment or infrastructure
- May involve constructing a platform for the nest
- Involvement of qualified personnel is strongly recommended
- If adult birds do not return to the relocated nest with eggs/young within 30 minutes, nest should be taken to a wildlife rehabilitation facility immediately

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Migration / Foraging Management

- Management during migration or for foraging may require different methods
- Goal is to prevent short-term use of areas
  - E.g., deter birds from stopping along their migration routes to rest and forage
- Anti-reflection methods (e.g., tightly-spaced, high visibility flagging ribbon across ponds, concentrated use of “bird balls”, etc.)
- Auditory deterrents
- Reducing lighting on buildings / structures

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Monitor

- If construction during the nesting season cannot be avoided or if birds are creating challenges for your operations, retain qualified experts to provide environmental support
- Implement construction and/or operational bird management plans
- Conduct bird surveys (during breeding & migration seasons)
- Establish species-specific setbacks
- Install deterrents
- Monitor industrial ponds for use by birds year-round

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Summary

- Most effective solutions:
  - Avoid sensitive habitat
  - Avoid construction during the general nesting season
  - Habitat modification / removal of habitat
  - Exclusion methods
  - Canada Goose nest management
- Least effective solutions:
  - Visual and auditory deterrents
    - Can be effective for short-term deterrence
    - Used to deter nesting when other options are no longer available
    - Need to be used properly

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