

Know the Laws: Bridgework and Protection of Nesting Birds and Roosting Bats

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Outline

- Highway infrastructure bridge projects and wildlife
- Challenges and risks
- Mitigation

Introduction



- Maintenance, rehabilitation, and improvements to transportation infrastructure is a constant process.
- Birds nesting or bats roosting on man-made structures create challenges for construction, maintenance, and repair.

Challenges and Risks

Challenges

- Contractors and others doing bridge-related work should be aware that the majority of active bird nests are protected under provincial and federal legislation.
- White-nose syndrome (a fungal disease) have resulted in several bat species being listed as federally threatened or endangered in Canada

Challenges and Risks

Challenges:

- These protective measures can have a major impact on bridge-related projects. Construction may be delayed or repairs could be put off if there's a protected bird nest or a bat roost on an affected section of a bridge.

Challenges and Risks

Risks:

- Being unaware of legal responsibilities towards the protection of birds, nests, eggs and species at risk.
- Construction firms can be forced to pay high penalties (and workers face potential jail time) for violating protective legislation

Regulations Protecting Wildlife

Wildlife is protected under federal and provincial legislation

- *Species at Risk Act* (federal)
- *Migratory Birds Convention Act* (federal)
- *Alberta Wildlife Act*
- *Alberta Wildlife Regulations*
- *National Parks Act* (federal)

Species At Risk Act (SARA)

The purpose of the *Act* is to prevent Canadian indigenous species, subspecies, and distinct populations from becoming extirpated or extinct

32 (1) No person shall kill, harm, harass, capture or take an individual of a wildlife species that is listed in Schedule 1 of SARA as an extirpated, endangered or threatened species.

33 No person shall damage or destroy the residence of one or more individuals of a wildlife species that is listed in Schedule 1 of SARA as an endangered or a threatened species

Species At Risk Act (SARA)

- These prohibitions apply to aquatic species and migratory birds listed as endangered and/or threatened in Schedule 1 of SARA on all lands
- With respect to individuals of a listed wildlife species that is not an aquatic species or a migratory bird protected by the *Migratory Birds Convention Act*, Sections 32 and 33 do not apply in lands in a province that are not federal lands unless an order is made by the Governor in Council

Migratory Birds Convention Act (MBCA)

- The purpose of the *Migratory Birds Convention Act* is to protect migratory birds, their nests and eggs anywhere they are found in Canada. The Act is implemented through the Migratory Birds Regulations.
- Under **section 6(a)** of the Migratory Birds Regulations, it is an offence for anyone to kill, hunt, capture, injure, harass, take, or disturb a migratory bird or to damage, destroy, remove, or disturb migratory bird eggs, nests, and nest shelters, without a permit.

Alberta *Wildlife Act* (AWA)

The purpose of the *Alberta Wildlife Act* is to provide protection to nests and dens of threatened and endangered species throughout the year

Disturbance, etc., of wildlife habitation

- **36(1)** A person shall not wilfully molest, disturb or destroy a house, nest or den of prescribed wildlife or a beaver dam in prescribed areas and at prescribed times.

Alberta Wildlife Regulations

Disturbance, etc., of wildlife habitation

96 Section 36(1) of the Act applies to the nests and dens of

(i) endangered animals throughout Alberta and throughout the year,

(i.1) upland game birds throughout Alberta and throughout the year,

(ii) migratory birds as defined in the *Migratory Birds Convention Act* (Canada), throughout Alberta and throughout the year, and

(iii) bats throughout Alberta and from September 1 in one year to April 30 in the next

National Parks Act

With respect to wildlife, the purpose of the *National Parks Act* is to provide protection to nests and dens of wildlife throughout the year

Disturbance, etc., of wildlife habitation

- **4(1)** No person shall hunt, disturb or destroy or remove any wildlife from a park or disturb or destroy a nest, lair, den or beaver house or a beaver dam

What Can Contractors Do?

- Know the law. It remains the responsibility of transportation departments and their agents to comply with all applicable legal requirements.
- Construction firms can be forced to pay high penalties if they destroy a protected bird's active nest on a job site, or cause the death of a migratory bird, intentionally or not.

Penalties Under MBCA

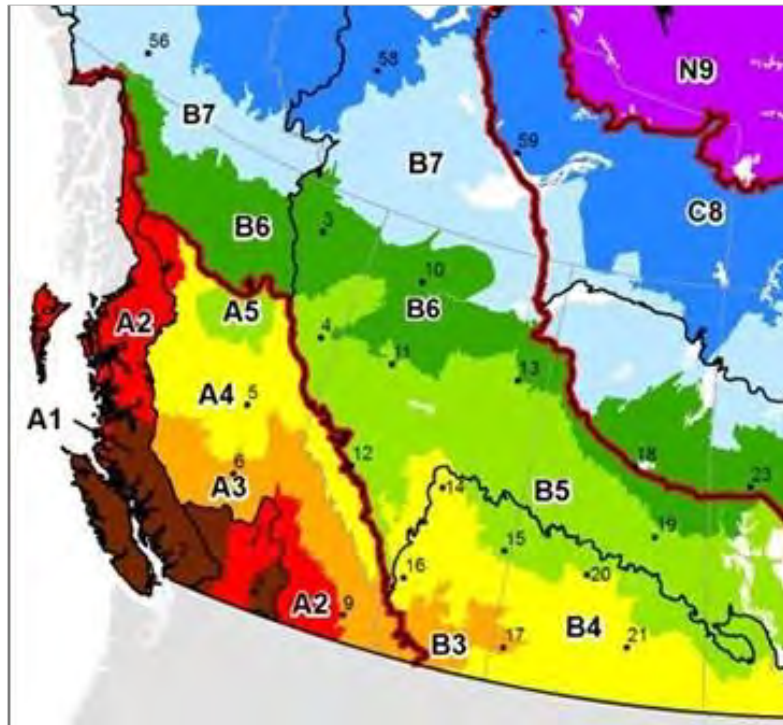
- In 2018, a lodge in Banff NP was fined \$27,000 under the MBCA for removing and destroying four barn swallow nests
- In 2015, a BC company was fined \$250,000 under the MBCA for the deaths of 14 mallards as a result of exposure to a condensate.
- In 2015, an LNG facility in New Brunswick was fined \$750,000 under the MBCA and SARA for the death of 26 different species of migratory birds including SARA-listed Canada warblers.

Bird Mitigation: Avoidance

- The easiest way to be sure that a nest is not active is to conduct activities outside of the breeding season (prior to any nesting or breeding activity, or after all young have fledged from the nest).
- Environment and Climate Change Canada provides information on the general nesting period for birds

Nesting Periods

Nesting Zone



Nesting Period

- A3 Zone Nesting Period: mid April – mid August
- B4 Zone Nesting Period: mid April – late August

Note: these are not legislated dates and federal prohibitions apply

Bird Mitigation: Exclusion Netting



The generally accepted method to prevent birds from nesting is by installing netting prior to the nesting season

Bird Mitigation: removing nesting material



If a swallow nest is being constructed, remove the nesting material (mud) during the early stages of construction prior to when it is able to function as a nest, i.e., able to support a resting bird, eggs or chicks. Remove the mud often (e.g., may need to be done daily or more than once per day), to encourage the birds to nest elsewhere.

Bird Mitigation: removing nesting material



Consult a Professional Biologist

Professional expertise is strongly recommended in cases where site clearing is being carried out during sensitive times of the year.

What Can Contractors Do?

Some nests should never be removed. These include nests of:

- Birds listed as endangered or threatened.
- Raptors (hawks, eagles, owls) or other birds (e.g., swans, herons, cliff swallows) that will reuse the same nest for many years.
- Birds that may re-use the nest for additional broods later in the season (e.g., swallows).

What Can Contractors Do?

You do not need approval under the Acts or Regulations if you are damaging or removing the nests or eggs of:

- American crow
- brown-headed cowbird
- common grackle
- European starling
- house sparrow
- magpies
- pigeon
- red-winged and yellow-headed blackbirds

Bird Mitigation: Bioacoustic deterrence



Bird alarm and distress calls are broadcast to prevent birds from nesting

Bird Mitigation: Habitat modification

Modify surfaces to deter swallows from nesting on them

- Polyethylene sheeting: completely effective at preventing swallows from building nests on treated surface
- Paint: less effective than polyethylene sheeting
- Recommend treatment with polyethylene sheeting and broadcast calls

Bird Mitigation: Alternate Nesting Structures

If a structure that provides Barn Swallow habitat will be altered so that it no longer provides suitable conditions for nesting, or provides a smaller area for nesting, habitat must be created.

Consider building housing designed specifically for barn swallows to replace any lost habitat.



Bird Mitigation: Alternate Nesting Structures

Suitable conditions required for nesting habitat include:

- horizontal ledges or rough vertical surfaces with a sheltered overhang
- allow barn swallow to freely enter and exit nests
- Designed to deter predators

Bird Mitigation: Alternate Nesting Structures



Nesting structures must be created before the onset of the active nesting season



Bridges and Bats



- As mentioned earlier, white-nose syndrome (a fungal disease) have resulted in several bat species being listed as federally threatened or endangered in Canada
- This includes little brown myotis and northern myotis

Bird Mitigation: Alternate Nesting Structures

- Bats roost in bridges as many bridges are typically located near waterbodies which often serve as food sources for bats



Bats and Bridges

- Day roosts protect bats from predators and buffer weather changes while resting and rearing their young. Such roosts are usually in expansion joints or other crevices
- In contrast, night roosts, where bats gather to digest their food between nightly feeding bouts, are often found in open areas between bridge support beams that are protected from the wind. Bridges often serve as night roosts.

Bats and Bridges

- Bat surveys should be scheduled far in advance of proposed work to allow for schedule modification to avoid maternity roosts during the breeding season.
- While it is relatively easy to determine the presence of bat usage of bridges, it can be difficult to prove the absence of use

Bats and Bridges



- Intrastructural roosts are crevices, cavities, or both within the structure or its supports and includes expansion joints, hinge joints, parallel beams, stress cracks, and abutment gaps

Bats and Bridges



- Cliff and barn swallow nests, when abandoned or unoccupied, provide ancillary roost habitat for bats

Bat Mitigation: Avoidance

- The easiest way to be sure that a maternity roost is not active is to conduct activities outside of the pupping season (prior to any maternity roosting activity, or after all young have fledged).
- Maternity colonies form from late May onwards and remain relatively cohesive through mid- to late August. Young are born in June and are incapable of flight for several weeks

Bat Mitigation: Exclusion netting

- Exclusion practices to prohibit migratory birds with $\geq 3/4''$ netting does not exclude bats. Any indication of bats necessitates the installation of $3/8''$ netting.
- Installation should not occur between May - August when bats are exceptionally vulnerable to disturbance.

Bat Mitigation: Alternate Roosting Structures

- If a structure that provides roosting habitat will be altered so that it no longer provides suitable conditions or provides a smaller area for roosting, habitat must be created. Consider building alternate roosting designed specifically for bats to replace any lost habitat.
- The erection of these roosts should be initiated prior to commencement of operations (site construction/demolition) and must be appropriately sited (adjacent to suitable foraging areas).

Bat mitigation: alternate roosting structures



Roosting structures must be created before the onset of the active roosting season (May – August)

Thank you



Questions?