



Road Turtle Nest Sweep Program

Supporting Municipal Road Maintenance Through Science-Based Due Diligence

Why Nest Sweeps Matter

Every spring and early summer, freshwater turtles leave wetlands to nest in gravel shoulders, road edges and disturbed soils. Unfortunately, these same areas are often scheduled for grading, ditching, resurfacing or shoulder maintenance.

For several species at risk, nests are considered **critical habitat** under legislation and for mitigation practices as nest sites and of course adult turtle protection are both essential to population recovery.

The concern is particularly significant for Blanding's Turtle.

- Blanding's Turtles are federally Endangered and provincially Threatened.
- Females generally nest after sunset or during the night, meaning nesting often occurs long after road crews have left for the day.
- In some local populations, adult numbers have become so low that females may only reproduce successfully every few years, making every nesting season extremely important.
- Across Ontario, jurisdictions recognize that protecting the remaining adult females and their nests is essential to recovery.

Other freshwater turtles also commonly nest during evening, dusk or nighttime hours, meaning nests may not be visible before maintenance begins the following morning.

Because turtles mature slowly, often taking 15 to 25 years or more before reproducing, protecting adults is important but alone it is not enough. Likewise, incubation alone cannot recover populations if breeding females continue to be lost on roads.

Recovery requires both.

Nest protection through incubation may balance the odds increasing the chance of survival from 1 in 1400 eggs reaching adulthood to 1 in 250, the result still does not replace adult losses, but only buys us time.

About Turtle Guardians

Turtle Guardians is Canada's largest community-based freshwater turtle conservation program and operates one of Canada's largest conservation incubation programs. Turtle Guardians is a registered non government charity that operates on donations, discrete grants, and also through providing services.

Each year we:

- hire and mentor young biologists through the Canada Summer Jobs program;
- train them in field biology, species-at-risk legislation, nest monitoring and recovery science;
- operate under provincial and federal permits;
- conduct standardized road patrols;
- conduct research to answer vital questions;
- excavate nests at immediate risk where authorized;
- incubate eggs under controlled conservation protocols;
- release hatchlings back into their natal wetlands.

Today, Turtle Guardians is **Canada's third-largest turtle incubation program**, producing thousands of hatchlings annually while also working to reduce adult road mortality.

As a registered charity, our objective is conservation - not profit.

At this time, we are able to work in partnership where municipal partners are charged only to recover the direct costs of field patrols and nest excavation.

We do **not** charge municipalities for:

- incubation
- hatchling care
- release
- conservation reporting

These activities are supported through charitable fundraising and volunteers.

Municipal Road Nest Sweep Service

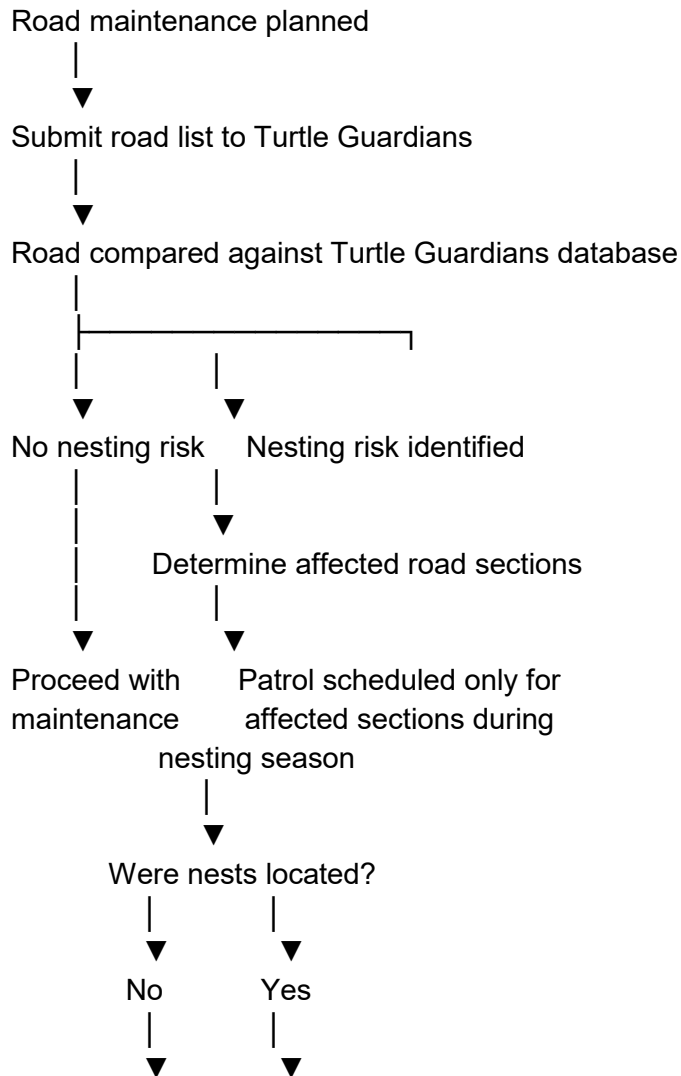
Our service is designed to help municipalities complete road maintenance while demonstrating science-based environmental due diligence in a truly remarkable conservation partnership.

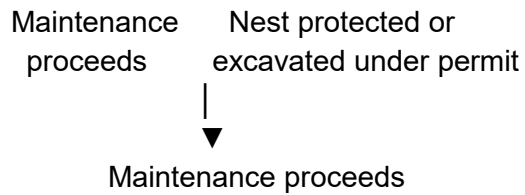
Using over a decade of turtle monitoring data, and based on scheduled municipal road works we determine where nest sweeps are warranted before maintenance proceeds.

This approach:

- minimizes delays;
 - targets effort only where needed;
 - reduces unnecessary costs;
 - helps protect Species at Risk;
 - demonstrates proactive environmental stewardship;
 - supports legislative due diligence.
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Decision Tree





Standard Operating Protocol

Step 1

Planned Road Works

The municipality provides:

- road list
- locations
- maintenance type
- anticipated dates

preferably before nesting season.

Step 2

Risk Assessment

Turtle Guardians compares proposed works against:

- nesting records
 - road mortality records
 - Species at Risk observations
 - known nesting corridors
 - historical nesting hotspots
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Outcome A

No known risk

No patrol required.

Municipality proceeds.

Environmental due diligence has been completed.

Outcome B

Potential nesting habitat

Targeted nest sweeps recommended.

Step 3

Targeted Monitoring

Monitoring occurs only where necessary.

Rather than surveying an entire road network, patrols focus on:

- known nesting sections
- historical hotspots
- recent observations
- appropriate nesting dates

This keeps costs low while maximizing effectiveness.

Step 4

Nest Detection

Where nests are found:

If safe to leave in place:

- nest marked
- maintenance adjusted where feasible

If immediate destruction is likely:

- nest excavated under permit
 - transported to conservation incubator
 - eggs incubated
 - hatchlings released into their natal watershed
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Step 5

Reporting

Municipality receives documentation summarizing:

- patrol dates
 - roads surveyed
 - nests located
 - actions taken
 - recommendations
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Additional Services

Municipal road departments can also request training for supervisors and road crews.

Training includes:

- turtle identification
- road ecology; how roads intersect with populations and home ranges
- general turtle and also nesting behaviour - including why many turtles nest after dark
- Species at Risk legislation and how to ensure operations are not encumbered unnecessarily
- critical habitat
- road mortality science
- practical mitigation during maintenance, reporting and adaptive responses to issues as they arise
- Helping and handling of turtles including injured turtle care and response

This practical training helps crews recognize when flexibility exists and where simple operational changes can achieve conservation outcomes without significantly affecting work schedules.

Note that turtle biology and behaviour is far more sophisticated than one may think simply by observing a turtle; they are highly intelligent and are very nuanced in how they respond to cues within their home range, interactions, as well as infrastructure.

Why Partner With Turtle Guardians?

Working together benefits both wildlife and municipalities.

Municipalities receive:

- science-based advice grounded in one of Canada's largest freshwater turtle databases and road ecology research programs;
- targeted monitoring rather than blanket restrictions;
- documentation supporting environmental due diligence;
- practical solutions that balance infrastructure maintenance with species recovery;
- positive public visibility through collaborative conservation.

By combining municipal expertise with conservation science, road maintenance and turtle recovery can work hand in hand-protecting critical habitat, reducing delays, and helping ensure that Ontario's freshwater turtles remain part of our landscapes for generations to come.

For more information, please contact:

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