

# CAPE BRETON PRIVATELAND PARTNERSHIP

*Nova Scotia At-Risk Reptiles*

## Blanding's Turtle (*Emydoidea Blandingii*)

### Status

- Endangered (NS)

### Species Description

- Medium-sized freshwater turtles
- Semi-hinged shell
- Long-lived (80+ years)
- Slow to mature (20+ years)
- Bright yellow chin and throat
- High domed top shell is grey to black with yellow flecks
  - Flecks are brighter on young turtles and most visible when their shell is wet
- Lower shell is orange-yellow with irregular black patches
- Annual growth lines are visible on the lower shell in juveniles
- Growth lines wear off as the turtle matures
- In NS, adult shell length ranges from 18-25cm
- Adult males are larger than females typically
  - Males can be distinguished by their concave plastron, thick tail base, and solid grey upper lip
- Hatchlings are approximately 4cm long and have a grey shell



### Threats

- Habitat loss and degradation
  - Residential and cottage development
  - Forestry practices (harvesting in riparian zones)
  - Road development
  - Recreational use of nesting areas
- Accidental mortality
  - Mortality from on and off-road vehicles and machinery
  - Motorboat use
- Changes in ecological dynamics or natural processes
  - Hydroelectric dam operation
  - Human alteration of beaver dams
  - Introduction/establishment of exotic predatory fish
  - Changes in predator populations resulting from human activities
- Climate and natural disasters
- Collection for pets and/or relocation

## Habitat Characteristics

### **Summer Habitats**

- Habitats used from April to September include fens, shallow lake coves, vernal ponds, slow flowing brooks and rivers
- Shallow water (<2m deep) with abundant vegetation, often with deep, organic sediments
- Sites with sweetgale (*Myrica gale*) and or sedge (*Carex spp.*) hanging over banks, sphagnum mats and few rocks
- Extensive beaver activity has been noted at most known Blanding's turtle sites in NS

### **Winter Habitats**

- Adults and juveniles return to the same overwintering sites every year
- Arriving in September or October and staying until the ice melts in March or April
- Sites include wooded pools or channels, railway trenches, specific sections of streams or wetlands
- Sites tend to have an organic bottom and undercut banks
- Often variations in temperature, dissolved oxygen levels, flow rates, water depth and types of vegetation at different overwintering sites
- Mating activity is often observed at these sites
- Hatchlings tend to spend the winter in different habitats such as vegetated water or buried in damp substrates on land

### **Nesting Habitats**

- Both natural and human influenced habitats
  - Lakeshore cobble beaches, slate outcrops, gravel roadsides, borrow pits, vegetable gardens, mine tailings, and recreational tracks
- Must have sufficient solar heat gain in order to incubate eggs
- Often southwest facing
- May be close to water or considerable distances inland
- Females may nest densely in one area or individually
  - High site fidelity in some cases but not all
- Nesting typically occurs in evenings in June to early July
- Females may stay at or near the nesting site for several days prior to nesting
  - Females lay only one nest per year and may not nest yearly
- Hatchlings usually emerge from late August to mid October
  - Hatchlings may remain close to the nest for several days before moving on

### **Travel Routes**

- May travel considerable distances both overland and by water
- Regularly move between seasonal habitats
- Sometimes make long distance migrations
- Travel same routes to and from nesting sites for multiple years

## Resources

- General Info: [Species at risk - Government of Nova Scotia, Canada](#)
- Recovery Plan: [Recovery-plan-Blandings-Turtle.pdf \(novascotia.ca\)](#)

## Wood Turtle (*Clemmys Insculpta*)

### Status

- Threatened (NS)

### Species Description

- Medium-sized semi-aquatic turtle with a 16-25cm length carapace
- Adults weigh roughly 1kg
- Males are slightly larger than females with a broader head
- Broad, low carapace ranging from greyish-brown to yellow in colour
- Scutes (plates on shell) have pyramidal concentric ridges, giving the carapace a sculpted appearance
- The bottom shell does not have a hinge and is yellow with black blotches on the outer posterior corners of its scutes
  - It is flat in adult females and juveniles but concave in mature males
- Skin is generally brown
- Legs and neck typically have orange, yellow or reddish colouring
- Known to live over 50 years in the wild
- Maturity is reached at 11 to 22 years of age
- Females lay 1-20 eggs, although they may not breed every year



### Threats

- Habitat loss, degradation and modification
- Road networks
- Agricultural practices
  - Mortality and mutilation as a result of agricultural machinery
- Illegal collection as pets
- Residential and commercial development
- Subsidized predation
  - Increased population of predators (i.e.: raccoons, coyote, striped skunk and red fox)
- Forestry practices
  - Road networks
- Offroad vehicles
- Water management
  - Disturbances to stream and riparian habitats (i.e.: channelization, damming and dredging)
- Sand and gravel pits
  - Often used for nesting sites
  - Exposed to direct mortality, injuries and/or illegal collection
- Pollution and sediment input
  - Water pollution
  - Pesticide exposure
  - Erosion and runoff inputting sediments and organic matter

## Habitat Description

### ***General Habitat***

- Forested landscapes
- Terrestrial habitats
- Clear, freshwater streams and associated floodplains
  - Year-round current ranging from creeks to medium-sized rivers
  - Meandering with frequent oxbows
  - Sandy or gravely-sandy, sometimes cobbly substrate
  - Salinity up to 0.1ppm
- Recent study found 12 individuals in New Brunswick used brackish water and estuaries with salinity up to 30ppm for several months
  - Nested in associated habitat
  - Further studies required
- Bogs, marshy pastures, beaver ponds, oxbows, riparian and shrub areas, meadows, hay and agricultural fields, utility rights-of-way

### ***Overwintering Habitat***

- Underwater hibernacula from October to April (or for shorter periods in milder climates)
- Low (< 3ppm) to moderate (6-9ppm) dissolved oxygen levels
- Numerous microhabitat types
  - Buried in mud
  - Under overhanging banks
  - Resting on the bottoms of stream pools
- Main stream with which they are associated
- Small streams (~1m wide) that may be several kilometers from the main stream
- In small groups in oxbows and marsh outlets
- Lakes near stream outlets
- May overwinter alone, communally or with other turtle species
- Overwintering site fidelity is dependent on habitat structure stability

### ***Nesting Habitat***

- Eggs are laid from late May to mid-June
- High nest-site fidelity
- Open, sunny areas (crucial for ideal temperature)
- Fairly moist but well-drained sandy or gravelly soil
- Beaches, riverbanks, gravel pits, road and railways embankments, utility rights-of-way, agricultural fields, pastures and old fields
- Hatchlings emerge from late August or early September to early October

### ***Foraging Habitat***

- Wood turtles are opportunistic omnivores, feeding primarily on vegetation, mushrooms and invertebrates
- Deciduous and mixed-wood forests
- Floodplains
- Alder thickets and openings in the streamside canopy (balance foraging and thermoregulatory needs)

### **Resources**

- General Info: [Species at risk - Government of Nova Scotia, Canada](#)
- Recovery Plan: [Recovery-plan-Wood-turtle.pdf \(novascotia.ca\)](#)