Painted Turtle

Chrysemys picta

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Disclaimer: The following document was compiled based on a review of information currently available for this species as of November 25, 2005. This document can be used to assist with the identification of this species and to support the development of management recommendations as they relate to forestry activities. For more information on this species, please refer to the reference section or consult with a Species at Risk specialist.

Description

The Painted Turtle is the only native freshwater turtle in British Columbia. It is easily distinguished from non-native turtle species because of the yellow stripes on its head, neck, tail and legs. The species is also identified by irregularly shaped bright red markings around the edges of the plastron (the underside of the shell) and under the rim of the carapace which stand out vividly against its generally black to greenish back. In British Columbia, adult male Painted Turtles have plastron lengths of 9 to 17 centimetres; females are larger and their plastrons may be up to 22 cm long. With head and tail extended, the total body length is increased by about 50 percent[1].

Photos courtesy of Karl Larsen

Distribution

In British Columbia, Painted Turtles are irregularly distributed but locally abundant in Southern Interior valleys, including the Rocky Mountain Trench north to Golden, the

Creston and Nelson areas, the Okanagan Valley, and the Kamloops-Shushwap Lake area. There is also a population near Williams Lake[1].

Distribution of the Western Painted Turtle in British Columbia[2]

Forest Districts[3]

- Arrow Boundary Forest District (DAB)
- Central Cariboo Forest District (DCC)
- Chilliwack Forest District (DCK)
- Columbia Forest District (DCO)
- **Cascades Forest District (DCS)**
- **Kamloops Forest District (DKA)**
- Kootenay Lake Forest District (DKL)
- Okanagan Shuswap Forest District (DOS)
- Rocky Mountain Forest District (DRM)
- Sunshine Coast Forest District (DSC)
- South Island Forest District (DSI)
- Vanderhoof Forest District (DVA)

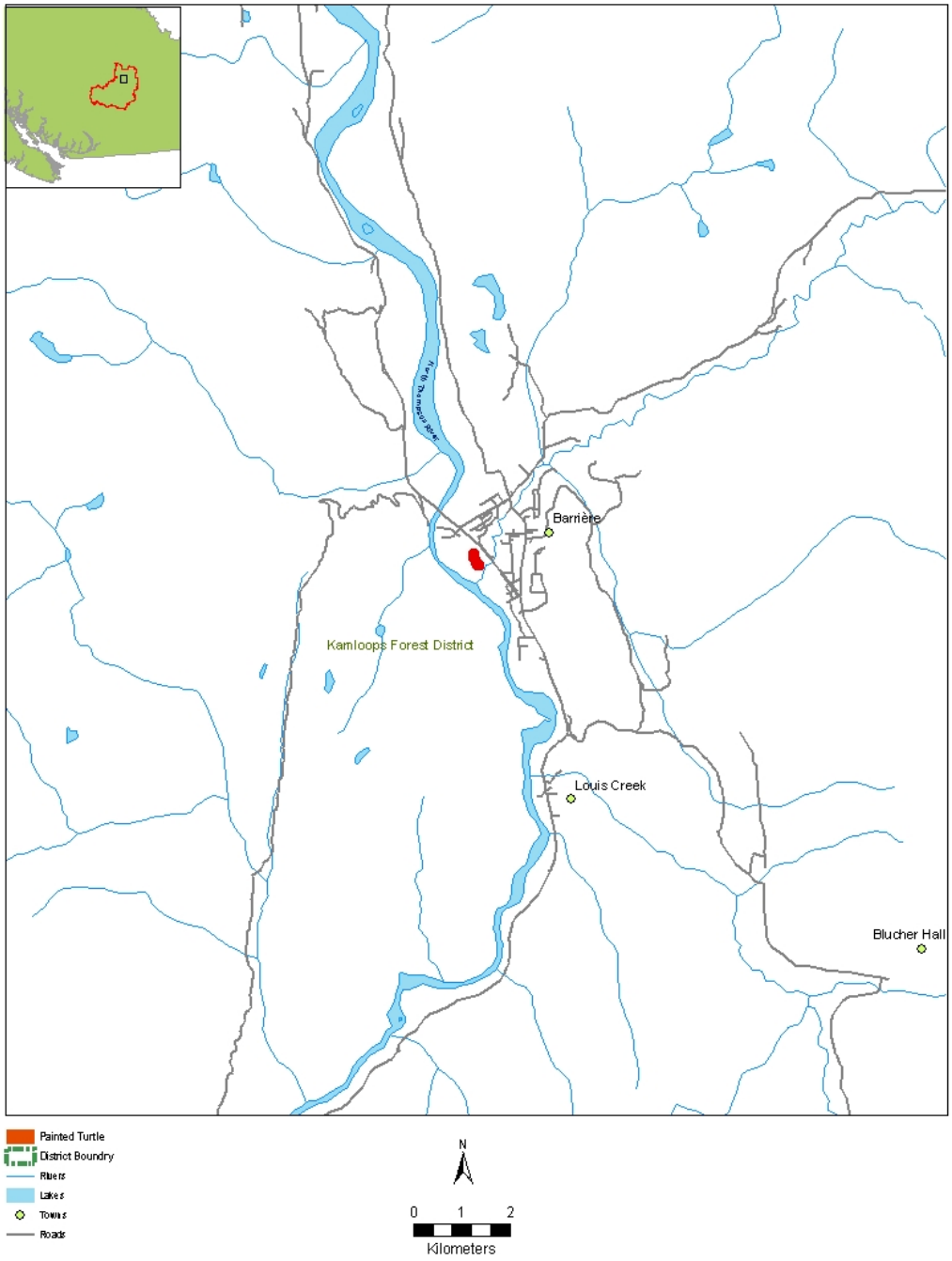
Biogeoclimatic Units[4]

- BG – Bunchgrass
- CWH – Coastal Western Hemlock
- ICH – Interior Cedar—Hemlock
- IDF – Interior Douglas Fir
- PP – Ponderosa Pine

Elevation

Found up to approximately 1000 metres[5]

Map of Known Locations



Known locations for Painted Turtle (*Chrysemys picta*), in the Kamloops Forest District as of September 2005 (data source: Conservation Data Centre).

Note: No occurrence data was available from the Conservation Data Centre for the Cascades Forest District although this species has been identified in this area.

Biology

Painted turtles are the only native freshwater turtle species in British Columbia. Most Painted Turtles occur in the Interior where their ponds may be frozen from November to April. The turtles winter in shallow waters (10-100 cm deep) within 10 m of the shore, on top of the mud[1].

Reproduction

In British Columbia, females lay clutches of about 6 to 18 leathery, white eggs from early June to early July. Exposure to warm summer temperatures is necessary for egg development and hatching. Nests incubate for 70 to 80 days and the eggs hatch in late August or early September. In British Columbia, most hatchlings stay in the nest until May or June of the following year, despite winter temperatures which may fall to -5°C in the shallow nest. Eggs or hatchlings may therefore be present at a nest site nearly year round[1].

Foraging

In the spring, Painted Turtles become active when the water temperature reaches 10°C, but they do not start feeding until it is about 14°C. Feeding occurs almost entirely in the water. Research has shown that these turtles eat both aquatic plants (e.g. milfoil and algae) and animals (e.g. freshwater insects and larvae, snails, earthworms, frogs, tadpoles) matter; however, the percentage that each makes up their diet may vary between populations[1].

Habitat

Important Habitats and Habitat Features

Painted Turtles prefer the margins and shallows of lakes and ponds, ditches and slow moving streams with muddy bottoms and aquatic plants. These areas provide important habitat for feeding, basking, shelter from predators, and hibernation[5].

Nesting

Site selection has a profound effect on the young since their gender is determined by the temperature of the nest. Nest sites are usually within 150 meters of ponds and may include non-natural environments like dikes, road shoulders or parking lots. Nest sites are usually warm, unvegetated south-facing sites with soils that are dry, light in texture and free of roots or large stones[1]. Soil texture, temperature and moisture are three interrelated factors influencing nest cavity conditions, as is soil exposure, which determines the soil heat budget. Optimum conditions would include sufficient moisture (but not saturation or flooding) and temperatures. Solar exposure and soil heat budgets are influenced by nest site aspect and shading by both large and small plant cover[6].

Photos courtesy of Morgan Brown

Conservation and Management

Status[3]
Provincial Rank: S3S4 (Provincially Vulnerable/Apparently Secure)
BC List: Blue (Special Concern)

Threats
Alteration or destruction of its habitat is probably the main threat faced by the Painted Turtle in British Columbia. The wetlands favoured by this turtle are almost all in valleys or lowlands in the southern part of the province, the same locations favoured for human habitation. Particularly in past years, many wetlands, ponds and slow moving channels were drained, filled or modified to meet human needs. Uplands around many wetlands have been developed, leaving little or no nesting habitat[1]. Traffic mortality on roads adjacent to wetlands is also a major concern[4].

Management Recommendations

Consult with a Registered Professional Biologist prior to implementing the following management recommendations because certain situations may require custom solutions based on specific site characteristics.

- Budget permitting, develop a habitat model to help identify high value habitat found within your areas of interest. The complexity of the model, and therefore its accuracy, will be dependent on budgetary constraints.

- Identify locations where this species is known to occur: obtain occurrence data from the Conservation Data Centre (http://srmwww.gov.bc.ca/cdc/) and if necessary conduct surveys to confirm presence or absence of this species.

In areas where this species is identified:

- Do not harvest in and around wetland areas between March and October when this species is most active.

- Do not disturb potential Painted Turtle nesting habitat (generally warm, unvegetated south-facing areas with soils that are dry, light in texture and free of roots or large stones[1]). These areas are usually found within 150m of a wetland.

- If road construction must occur in Painted Turtle habitat, efforts should be made to place new roads where they will not separate a wetland and potential nesting habitats. If this is not possible, reduce road mortality of females by constructing suitable nesting sites on the wetland side of existing roads[6]. Fencing can be used to direct turtles away from existing roads.

- Maintain natural vegetation along banks and shorelines. Buffers of trees, saplings, shrubs, ferns, and other natural plants not only offer food and cover for turtles but help protect water quality by reducing erosion and runoff.

- Leave fallen debris in streams, rivers, ponds, and wetlands. Maintain snags near these habitats. Such debris is important to aquatic and wetland habitats as a source of nutrients. Logs, branches, and root masses also provide structures for turtles, fish, and other wildlife to hide from predators and seek refuge from strong currents or direct sunlight. Such structures are also essential to the natural formation of pools and riffles in streams.

- Prevent erosion and runoff from roads into nearby streams or other wetlands where Painted Turtles are identified.

References

[1] Blood, D.A., and M. Macartney. 1998. Painted Turtle. Species at Risk Brochure. B.C. Minist. Environ., Lands and Parks, Wildl. Branch. 6pp.
[2] The Reptiles of British Columbia: Western Painted Turtle, Chrysemys picta bellii. 2004. Univ. Coll. of the Cariboo, and B.C. Minist. Water, Land and Air Prot. Online. Website: http://www.bcreptiles.ca/turtles/westernpaint.htm
[3] BC Conservation Data Centre: Website: http://srmapps.gov.bc.ca/apps/eswp/.
[4] *Chrysemys picta* in Rare Amphibians, Reptiles, and Mammals of British Columbia, B.C. Minist. Environ., Lands and Parks, 1999.
[5] Habitat Atlas for Wildlife at Risk: South Okanagan and Lower Silmilkameen. Website: http://wlapwww.gov.bc.ca/sir/fwh/wld/atlas/introduction/intro_index.html
[6] Maltby, F.L. 2000. Painted Turtle Nest Site Enhancement and Monitoring, Red Devil Hill Nest Site at Revelstoke, BC. Columbia Basin Fish and Wildlife Compensation Program, BC Hydro, B.C. Minist. Environ, Lands and Parks, B.C. Fish. in partnership with Arrow Heights Elementary School, City of Revelstoke. 18pp.