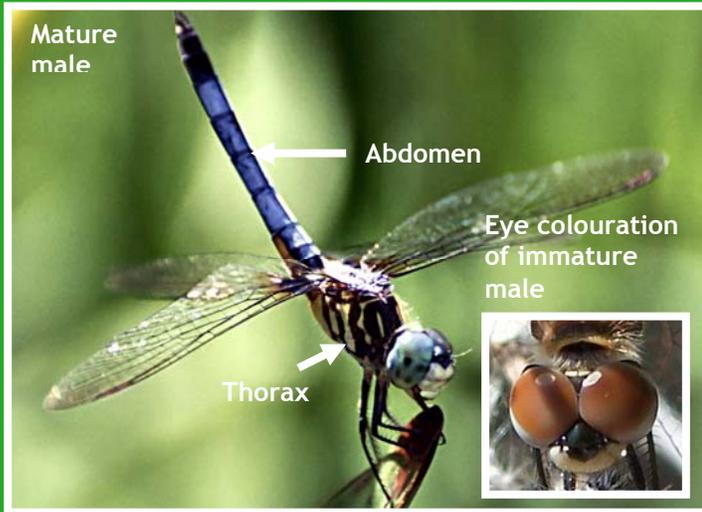


BC's Coast Region: Species & Ecosystems of Conservation Concern

Blue Dasher (*Pachydiplax longipennis*)

Global: G5 Provincial: S3 S4 COSEWIC: N/A BC List: Blue



Notes on *Pachydiplax longipennis*: A member of the family Libellulidae (“Skimmer” dragonflies), which along with its subfamilies and allies forms the largest dragonfly family in the world. In North America the genus *Pachydiplax* contains only one species - *longipennis*.

Description

Length: males 3.6 – 4.1 cm, females: 3.5 – 4.0 cm. Sexes are similar in size but are dimorphic in colour.

Adult males have large, blue-green eyes that meet across the top of the head. Eyes of females and immature males are light green with the upper part of the eye reddish-brown (more extensive on immature males). The face of both sexes is white. On males the wing base is tinted with blue and gold, on females the wing base can be brown or without colour. The thorax is yellow with heavy dark stripes. Striping is paler on females and immature males and the thorax is pale green. Mature males have distinct “pruinose” (dusty or frosty looking) blue abdomens, with the ventral area of the upper abdominal segments yellow and the lowest abdominal segments blue-black. Females have yellow abdomens with dull brown patterning. The lower abdominal segments can be completely brown. Immature males are similar to females in colouration on the abdomen (though patterning can be darker and shows a slight pruinescence as they mature). The pterostigma (coloured, thickened cell on the leading edge of each wing membrane near the tip), is long and narrow. Wings are often cocked downward when perching. The 1.8-2.1 cm larvae have prominent eyes with a dark ridge running inward from the back of each eye. Larvae are cream coloured dorsally with distinct dark bands and brown spotting. The ventral area of the abdomen is bright green. Larvae have a single, rear-facing spine on each side of the eighth and ninth abdominal segments. Dorsal hooks on the abdomen are absent.

Diet

Members of the Order Odonata (dragonflies and damselflies) are carnivorous. Adults capture prey (a range of insects from mosquitoes to moths as well as other dragonflies or damselflies), through hawking (flying back and forth over open areas), or perching (“salliers” who dart out from perch and grab prey or glean off nearby vegetation). Blue Dasher are perchers. Dragonfly larvae can prey on a range of organisms (e.g. small fish, amphibian larvae, other aquatic invertebrates - including their own species or those of other dragonflies or damselflies).

Look's Like?

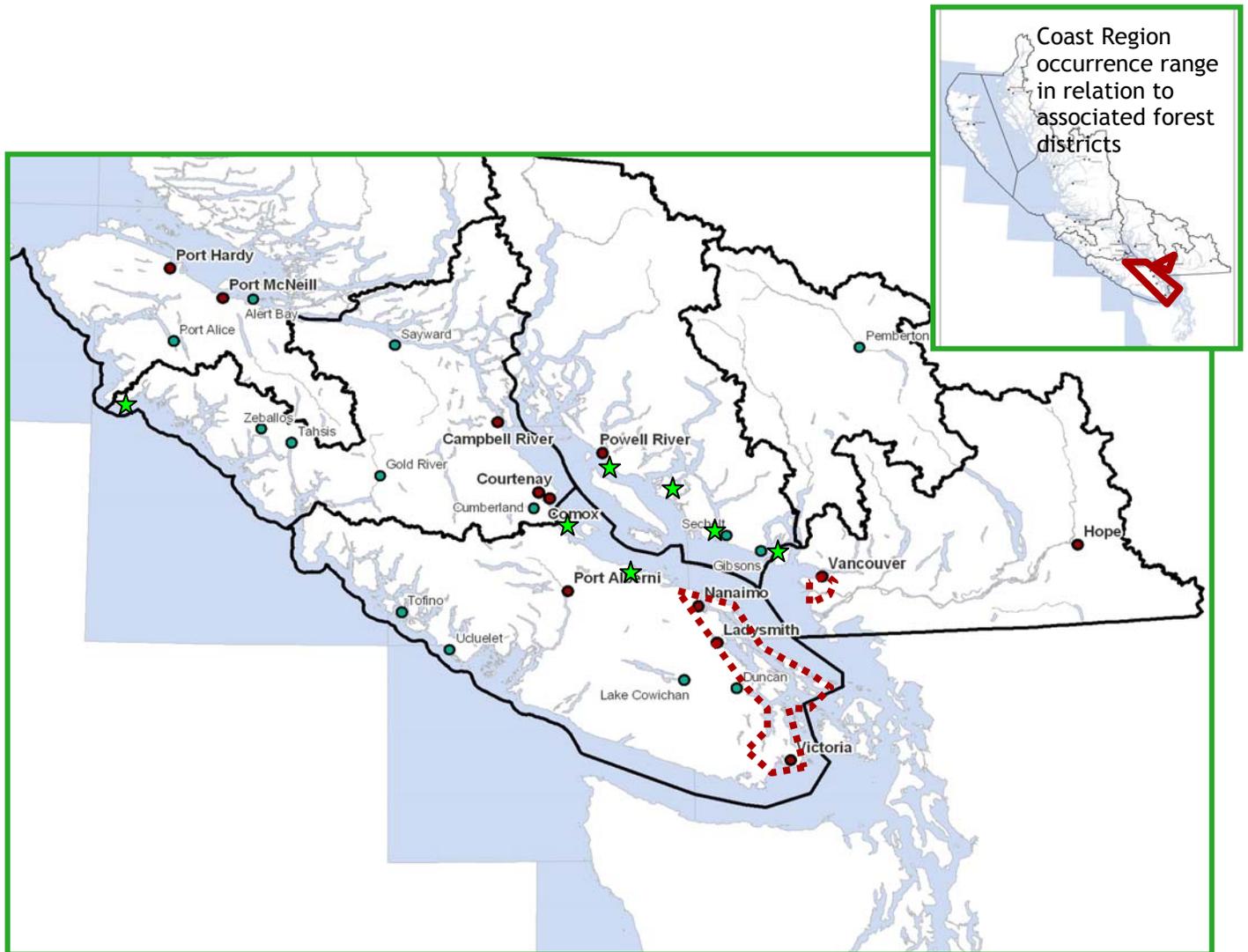
Blue Dasher could be mistaken for Western Pondhawk (see Western Pondhawk factsheet). Mature Western Pondhawk males have similar colouration (pruinose blue), but the abdomen is thicker and lacks the darkened tip. Female and immature male Western Pondhawk have a dark dorsal stripe running the length of the abdomen, lacking in Blue Dasher. Conversely, Western Pondhawk (both sexes) lack the distinct dark stripes found on the thorax of Blue Dasher.



Western Pondhawk (male)

Distribution

Found throughout the continental US including the Pacific Northwest (California, Oregon, Washington State and north into southwestern BC, including the Okanagan Valley). On the Coast Region this species has been observed on the South Coast (Fraser Lowlands including Burnaby, Vancouver and the Fraser Estuary), north to Howe Sound (Bowen Island), the Sunshine Coast (Sechelt Peninsula) and as far north as Powell River. Vancouver Island occurrences range from Greater Victoria to Denman Island on the east coast of the island and as far north as the Brooks Peninsula on the west coast. This species is also found on the southern Gulf Islands (Saltspring, Galiano and Saturna islands).



Blue Dasher (*Pachydiplax longipennis*), known areas of occurrence - red dotted line and green stars (based on historic and recent accounts), for the Coast Region.

Habitat Preferences

This species is most often associated with still waters such as marshes and ponds with abundant emergent vegetation. Blue Dasher can be found in large numbers where suitable habitat occurs. Males are highly territorial and clash frequently with other males, both sexes defend feeding perches.

Critical Features

Preferred perches are stems or twigs of shrubs and trees from ground to canopy level. Little is known about this species dispersal or connectivity requirements.

Blue Dasher will utilize natural as well as constructed wetlands.

Seasonal Life Cycle

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					Adult emergence, Breeding / Egg Deposition						

Larval development and maturation stages. Larvae (nymphs) have several “instars” (growth periods between each molt), prior to emergence as winged adults.



Adult flight period in BC ranges from late May to August. In Washington State this species has been documented from June to October.

*Timing of adult emergence, egg deposition and period for larval maturation may vary throughout this species range.

Threats

- The preferred habitat associations of this species are subject to dewatering and reduction in structural complexity from various land use activities (e.g. dredging, dyking and infilling).
- Suppression of natural or historic maintenance regimes (e.g. fire, flooding), along with potential changes from climate change, may increase loss of wetland habitats from succession to shrub thicket and forest.
- Agricultural land uses (livestock access to breeding ponds and wetlands), can impact habitat and water quality.
- Impacts to water quality and aquatic habitats from contaminated stormwater runoff (urban development), road building and sedimentation (resource extraction activities) and broadcast spraying for insect pests or for noxious weed control (urban/rural land uses, silviculture management, utility corridor maintenance) may have significant impacts to invertebrate species at all life history stages.
- Spread and colonization of invasive plant species (aquatic and terrestrial) can impact structural diversity and hydrology of breeding habitats as well as availability and access to prey items.
- Introduction or enhancement of native or invasive fish species increases predation pressure on local Odonata populations (i.e. larval stages) and can impact aquatic habitat values (e.g. emergent vegetation used for cover).

Conservation & Management Objectives

- Apply conservation and management objectives for this species as identified in resources such as the Royal BC Museum’s “Living Landscapes - Insects and Their Relatives (the Odonata Investigate recommendations for conservation for other Odonata species in BC (e.g. those found in provincial or federal status reports for species such as Western River Cruiser or Olive Clubtail).
- Inventory and assessment methods should follow those set out in the RISC Standards #40 “Inventory Methods for Terrestrial Arthropods.” More recent survey and assessment guidelines and recommendations as well as identification and inventory resources for Odonata and their habitat have been developed and should be investigated¹.

¹ Contact the provincial Invertebrate Specialist or the Royal BC Museum. A number of survey and assessment protocols have been developed for Odonata management outside of Canada and are listed at the end of this factsheet. Others like the Wetlandkeepers Handbook and the Wetland Evaluation Guide adopted by the BC Provincial Wetland Working Group focus on habitat associations.

Specific activities should include:

- Conduct outreach to raise awareness of this species and how to identify it to improve distribution knowledge. This species appears to be colonizing new habitats on the Coast Region. A targeted inventory is needed to fully determine the extent of Blue Dasher distribution on the Coast Region.
- Improve understanding of larval lifecycle requirements and vulnerabilities.
- Where suitable habitat occurs, work with land managers and land owners to ensure development or recreational activities do not impact local populations.
- Encourage landowners and land use authorities to dedicate conservation covenants and easements to protect and buffer sensitive aquatic habitats. Increase awareness about the role and value that wetlands play locally and internationally.
- Effective long-term control and reduction in competition from invasive or aggressively spreading vascular plants (e.g. invasive aquatic plants, terrestrial shrubs and grasses) that impact habitat quality must form part of strategies to protect and recover populations. Disturbance to native rare plant species and communities must be minimized during control activities.
- Work to reduce the need for broadcast and cosmetic pesticide use that may be impacting non-target species through instituting integrated pest management programs.
- Consider restoration of historic maintenance regimes (e.g. seasonal flooding in lowland wetlands and floodplain off-channel areas, where feasible) that may have sustained wetland communities and species associations.
- Implement integrated stormwater planning and management approaches that reduce and eliminate potential sources for contaminated non-point source runoff entering local wetlands and waterways.

Habitat for this species may be subject to protections and prohibitions under the BC Wildlife Act and Forest and Range Practices Act and may also be governed under provincial and federal regulations including the Fish Protection Act and Federal Fisheries Act as well as Regional and local municipal bylaws.

Content for this Factsheet has been derived from the following sources

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Every effort has been made to ensure content accuracy. Comments or corrections should be directed to the South Coast Conservation Program: info@sccp.ca. Content updated March 2011.

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