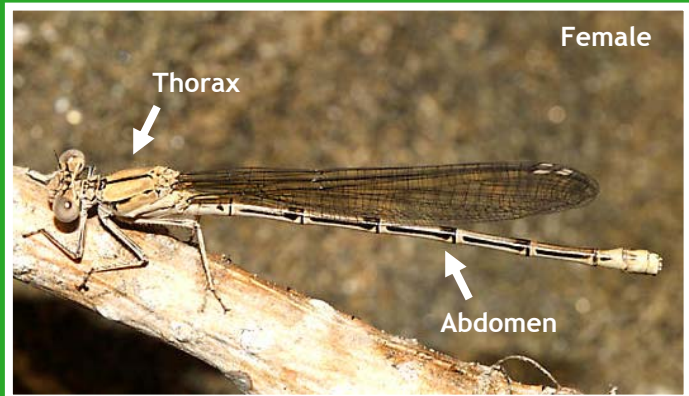


## BC's Coast Region: Species & Ecosystems of Conservation Concern

### Emma's Dancer (*Argia emma*)

Global: G5 Provincial: S3S4 COSEWIC: N/A BC List: Blue



Notes on *Argia emma*: A member of the family Coenagrionidae (“Closed-winged, Narrow-winged” or “Pond” damselflies), with approximately 1,100 species. Members of the genus *Argia* are collectively referred to as “Dancers.” Wings are held closed and tight to the body when resting. *Argia* species are often associated with flowing water.

#### Description

*Length: males 3.3–3.9 cm, females 3.4–3.8 cm.* Male Emma's Dancer have a violet head, thorax and abdomen with a distinct “pruinescence” (dusty or frosty appearance). The thorax has thin, black, mid-dorsal stripes (lower stripe can be broken). Each abdominal segment has a patch of black, becoming mainly black in the last two segments near the tip (violet-blue on males, tan or brown on females). Patterning on immature adults and females is similar to that of males, however violet colouration and pruinescence is lacking and body colour tends to be light brown, olive, slate or tan. The 2-2.1 cm larvae (“nymphs”), have antennae slightly longer than the head, are light brown with dark brown patterning and have light mid-dorsal and lateral striping edged with black. Damselfly larvae are more slender than those of dragonflies and have three external, feathery gills extending from the tip of the abdomen, used to breath. Dragonfly larvae have gills inside the abdomen.

#### Diet

Damselflies, like their close relatives, the dragonflies, are carnivorous throughout their life history. Adults capture prey (a range of other flying insects from mosquitoes to moths). Depending on size, damselfly larvae can prey on a range of organisms found in their aquatic rearing habitats (e.g. aquatic invertebrates).

#### Look's Like?

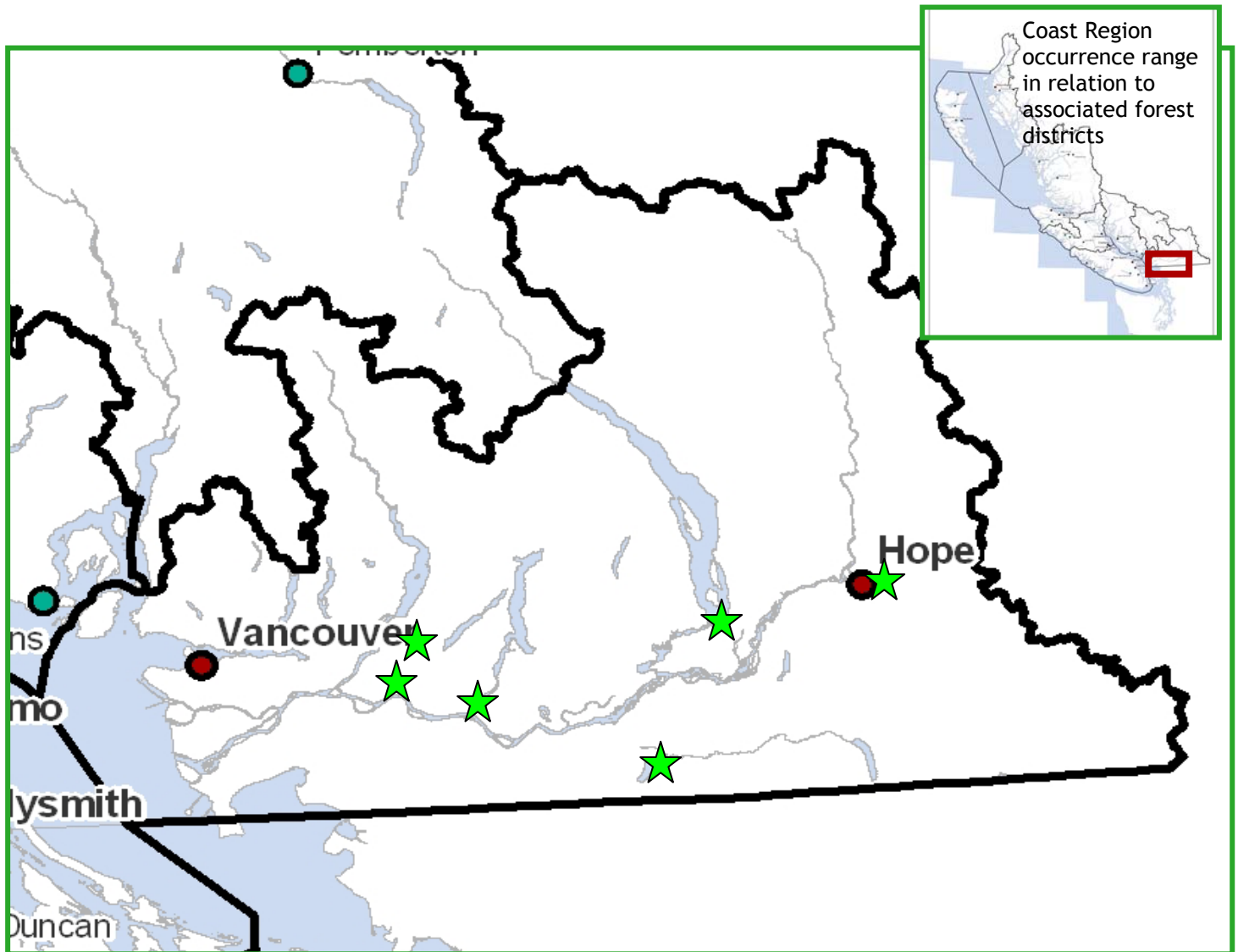
Damselflies are generally smaller and more delicate than dragonflies and usually hold their wings over their back. Many common damselfly species such as “Bluets” (*Enallagma* spp.) and “Forktails” (*Ischnura* spp.) have overlapping distributions on the Coast Region and some have similar colouration to that of Emma's Dancer. The thorax and abdomen of immature male Pacific Forktail can be somewhat violet on the thorax but males of this species always have the abdomen black with only the tip pale. The top of the thorax has two pairs of small pale spots rather than stripes. The female's thorax is sometimes coloured like the male's (dots elongated), but more often green or tan to pink with dark lines of variable thickness above; the abdomen has a blue tip. Species such as Tule Bluet have more similar thorax striping to Emma's Dancer, however mature males have a bright blue thorax and more black than blue on the abdominal segments; the female has a black stripe along the top of abdominal segment eight.



Tule Bluet (mating pair)

## Distribution

Found throughout the central and western US (California through Oregon and Washington State), and north into BC. Coast Region populations appear restricted to the South Coast (Fraser Lowlands). Occurrences have been documented on the north side of the Fraser River from the Haney area of Maple Ridge (UBC Research Forest in the Alouette River watershed), Mission (Stave Falls), east to Harrison Hot Springs and Hope (Kawwawa Lake). Occurrences documented on the south side of the Fraser River have been limited to the Chilliwack River Valley/Cultus Lake area.



Emma's Dancer (*Argia emma*), known occurrences - green stars (based on historic and recent accounts), for the Coast Region.

### Habitat Preferences

Adults are typically associated with riffle areas of flowing waters (ranging from large - to moderate-sized rivers as well as smaller streams), with or without coarse substrate. This species also frequents lakeshores in association with streams where they breed.

### Critical Features

Larvae can be found in woody debris and organic accumulations at the bottom of pools or under rocks in riffles and rapids. Little is known about the connectivity requirements or dispersal range for this species.

Unlike many other species of damselfly, Emma's Dancer prefers streams and flowing water habitats.



### 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.

Larvae usually take one year to mature. Adult flight period is early June to early September (BC and Washington State). \*Timing of adult emergence, egg deposition and period for larval maturation may vary throughout this species range.

### Threats

- Changes in hydrological regimes at breeding sites. Fluctuating water levels from diversion or extraction may be an issue in some watersheds where this species occurs.
- Overall lack of knowledge on this species general biology, habitat needs and specific threats.
- Encroachment from development into riparian and lake foreshore areas.
- Shoreline damage from wakes of boats and personal water craft.
- Impacts to water quality and aquatic habitats from road building and sedimentation (resource extraction activities) and broadcast spraying for insect pests or for noxious weed control (cosmetic pesticide use in urban and rural areas or for agriculture or silviculture management), 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 and 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 River Jewelwing).
- 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 investigated<sup>1</sup>.

<sup>1</sup> 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.



## Specific activities should include:

- Conduct outreach to raise awareness of this species and how to identify it to improve distribution knowledge. A targeted inventory is needed to determine if undiscovered populations exist elsewhere within 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, resource extraction 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.
- 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. flooding), that may have provided off-channel and breeding habitats used by this species.
- Ensure adequate siltation and erosion control for roads and access corridors used for resource extraction and recreational activities.
- 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 the 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](mailto:info@sccp.ca). Content updated March 2011.

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