

### Nooksack Dace

*Rhinichthys cataractae - Chehalis lineage*

This member of the family Cyprinidae (“carps, true minnows”) is considered a subspecies of the widespread and common Longnose Dace. An artefact of geographic isolation, the Chehalis lineage form evolved in Washington State’s Chehalis River Valley sometime during the Pleistocene glaciations later spreading into other watersheds that opened up as ice retreated.



Adult Mike Pearson



Close up of head Mike Pearson



Adult Mike Pearson



Preferred riffle habitat Mike Pearson

## Characteristics

Nooksack Dace is a small (<10.5 cm) streamlined fish, with a sub-terminal mouth (the snout overhangs the mouth), sometimes with a black stripe in front of the eyes. Scales are small with pale markings visible at the back and front of the dorsal fin when viewed from above. The tail is forked. The rounded back is olive-grey; the belly is silvery-white with a dull brassy stripe along the sides. Lower sides often splashed with dusky speckles. Sexes are alike, but males tend to have longer and darker pectoral fins. Juveniles have a very conspicuous black line on their sides, from snout to base of tail.

## Status

<b>Global Status:</b>	G3
<b>Provincial Status:</b>	S1
<b>SARA Status:</b>	Endangered
<b>BC List Status:</b>	Red (Candidates for- Extirpated, Endangered, or Threatened status)

## Similar Species

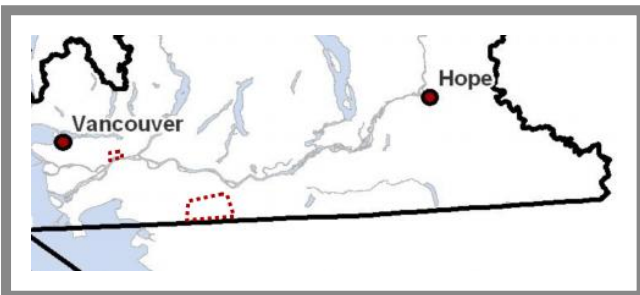


Longnose Dace Peter Koetsier

As a subspecies of Longnose Dace, close scrutiny is required to distinguish the two. Nooksack Dace has approximately 54 scales along the lateral line and 24 around the caudal peduncle (muscle area just before the tailfin), compared to 67 and 31, respectively, for Longnose Dace. Juveniles of the two forms are harder to distinguish with both having a dark line extending from nose to tail. However adult Longnose Dace are generally an olive-green colour interspersed with brassy or gold scales, especially on the head and ventral area.

## Ecology

### Range



Elevations: 50-75 m. This subspecies occurs in about 24 waterbodies between northwest Washington State and Canada. It is extirpated from some tributaries within Canadian (BC) watersheds where it was abundant in the 1960's. Presently it is restricted to 3 small streams within the Nooksack River drainage system (Pepin Brook, Fishtrap and Bertrand Creeks), in the Abbotsford, Aldergrove and Clearbrook areas and one other river system, the Brunette River in the Brunette Basin in Burnaby.

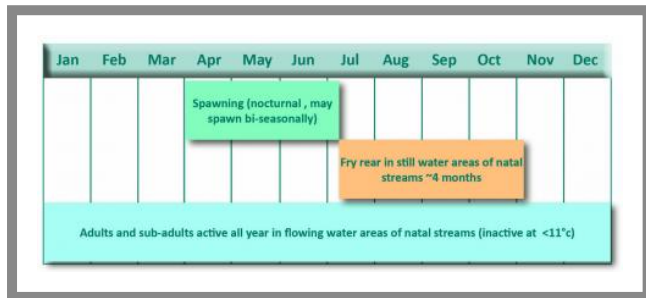
### Habitat

The species is considered a habitat specialist dependent on stream riffles with loose gravel, cobble or boulder substrate. It can be found in both larger mainstem as well as smaller tributary systems. Adults inhabit riffles and fast glides with loose substrates where they feed on benthic invertebrates. They select shallow, turbulent, waters and rarely occur in reaches with less than 10 percent riffle by length, or in reaches where long stretches of deep pool habitat separate riffles. Juveniles prefer shallow, slow flowing pools with mud or sand bottoms, near riffles. Though Nooksack Dace prefers high quality riffle areas with cool temperatures and adequate riparian cover, it can be found in sections of stream with poor vegetative or instream cover (e.g. where streams flow through agricultural or industrial areas). This subspecies has high home range fidelity, most adults appear to range less than 50 m annually

## Diet

This subspecies form forages on benthic macroinvertebrates associated with flowing waters such as the larvae of caddis, mayfly, midges and adult riffle beetle as well as annelids (worms).

## Life Cycle



Sexually mature by end of second summer (live 4-6 yrs.).

## Threats

- Habitat loss and degradation from floodplain dyking, stream dredging, channelization and infilling.
- Seasonal low flows in late summer often exacerbated by reduced recharge capability or disruption of groundwater from development reduce useable wetted habitat and increase temperature stress.
- Degradation of habitat and infill's riffle areas due to sediment deposition from agricultural or development runoff.
- Beaver dams impound flows eliminating riffle habitat.
- Restricted access to usable habitats and isolation of individual populations due to artificial barriers (culverts, diversions) that prevent or inhibit fish from traversing stream reaches. This increasing population vulnerability to extirpation.
- Exposure to contaminants and pollution events from point or non-point sources.
- Direct mortality or reduced fitness from episodes of extreme low oxygen (hypoxia) caused by low flows or contaminated runoff.
- Enhancement of or introduction/colonization of competitive, invasive or predacious fish species (e.g. Salmon, Bass, Sunfishes, Brown Bullhead species).

## Conservation and Management

Apply conservation and management objectives as set out in the “Recovery Strategy for the Nooksack Dace (*Rhinichthys cataractae* spp.) in Canada” and “An Assessment of Potential Critical Habitat for Nooksack Dace (*Rhinichthys cataractae* ssp.) and Salish Sucker (*Catostomus* sp.).” Assess and inventory using methodology set out in “Guidelines for the Collection of Nooksack Dace (*Rhinichthys cataractae* spp.).” This species is listed under the Federal Species at Risk Act (SARA) and is subject to protections and prohibitions under the BC Wildlife Act. Habitat for this species is also governed under other provincial and federal regulations including the Fish Protection Act and Federal Fisheries Act and potentially Regional and local municipal bylaws.

## Resources

### Guidelines for the Collection of Nooksack Dace

**For further information see**

## Aquatic Species at Risk - Nooksack Dace

### BC Species and Ecosystems Explorer: Species and Ecosystems Search

A source for authoritative conservation information on thousands of plants and animals and hundreds of ecological communities in BC. From here connect to all provincial and federal recovery plans (including the SARA Registry), COSEWIC (Committee on the Status of Endangered Wildlife in Canada), Identified Wildlife guidance and conservation requirements for specific species and ecological communities of conservation concern impacted by forestry activities) and links to E-Flora and E-Fauna (the Electronic Atlas of the Plants and Wildlife of British Columbia).

### British Columbia's Coast Region Species & Ecosystems of Conservation Concern

A joint venture resource providing comprehensive information on a range of species and ecological communities specific to the Coast Region of BC (including the South, Central and North Coast, Vancouver Island and Haida Gwaii).

### Develop With Care Guidelines (see Lower Mainland Region section)

Environmental guidelines for urban and rural land development in BC.

### Species at Risk & Local Governments a Primer for BC

Learn what species are at risk in your area, search by name, habitat type, regional district and forest district.

## Sources

BC Conservation Data Centre. 2010. [Internet] [Updated May 17 2010] Conservation Status Report: *Rhinichthys cataractae* - Chehalis lineage. - COSEWIC 2000. COSEWIC assessment and status report on the nooksack dace *Rhinichthys* sp. in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 8 pp. - Pearson, Mike. 2009. [Internet] Guidelines for the Collection of Nooksack Dace (*Rhinichthys cataractae* spp.). Prepared for the Non-Game Freshwater Fishes Recovery Team (BC). - Pearson, M.P., T. Hatfield, J.D. McPhail, J.S. Richardson, J.S. Rosenfeld, H. Schreier, D. Schluter, D.J. Snee, M. Stejpovic, E.B. Taylor, and P.M. Wood. 2008. [Internet] Recovery Strategy for the Nooksack Dace (*Rhinichthys cataractae*) in Canada. Species at Risk Act Recovery Strategy Series, Fisheries and Oceans Canada, Vancouver. vi + 31 pp. - Pearson, Micheal. 2007. [Internet] An Assessment of Potential Critical Habitat for Nooksack Dace (*Rhinichthys cataractae* ssp.) and Salish Sucker (*Catostomus* sp.). Fisheries and Oceans Canada. C S A S Canadian Science Advisory Secretariat Research Document 2007/058. - Pearson, Michael. 2000. [Internet] The Biology and Management of the Salish Sucker and Nooksack Dace. Proceedings of a Conference on the Biology and Management of Species and Habitats at Risk, Kamloops, B.C. Volume Two. B.C. Ministry of Environment, Lands and Parks, Victoria, B.C. and University College of the Cariboo, Kamloops, B.C. 520pp. - Proulx, Gilbert et al. 2003. A Field Guide to Species at Risk in the Coast Forest Region of British Columbia. Published by International Forest Products and BC Ministry of Environment. Victoria (BC).

## Credits

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## Links

[1] <http://www.dfo-mpo.gc.ca/species-especes/species-especes/nooksackdace-naseauNooksack-eng.htm>

[2] <http://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre/explore-cdc-data/species-and-ecosystems-explorer>

[3] <http://www.geog.ubc.ca/biodiversity/factsheets/>

[4] [http://www.env.gov.bc.ca/wld/documents/bmp/devwithcare2006/develop\\_with\\_care\\_intro.html](http://www.env.gov.bc.ca/wld/documents/bmp/devwithcare2006/develop_with_care_intro.html)

[5] <http://www.speciesatrisk.bc.ca/>

[6] <http://www.sfiprogram.org/>

[7] <mailto:info@sccp.ca>