Appendix 5.4.9A
Olive-sided Flycatcher Species Account

Project Name: Blackwater
Scientific Name: *Contopus cooperi*
Species Code: B_OSFL
Status: Blue-listed species by the British Columbia Conservation Data Centre; Threatened under COSEWIC and *SARA*.

1.0 DISTRIBUTION

Provincial Range

Olive-sided flycatchers are found throughout British Columbia (BC), with the exception of Haida Gwaii.

Elevational Range

Sea level to 2,200 metres (m) elevation (Campbell et al., 1997).

Provincial Context

The Canadian population of olive-sided flycatcher is estimated to be 450,000; however, no population estimates are available for BC (COSEWIC, 2007). Some of the highest densities of olive-sided flycatchers in Canada have been reported from the coastal forests of BC (2.39 birds per Breeding Bird Survey route) (COSEWIC, 2007).

Project Area:

Ecoprovince:	Central Interior
Ecoregions:	Fraser Plateau
Ecosections:	Nazko Upland
Biogeoclimatic Zones:	Sub-Boreal Spruce Sub-Boreal Pine – Spruce Englemann Spruce – Subalpine Fir Boreal Altai Fescue Alpine
Project Map Scale:	Project-specific

2.0 ECOLOGY AND KEY HABITAT REQUIREMENTS

Olive-sided flycatchers are summer breeding residents of BC and are typically found between June and August (Bird Studies Canada, 2012; Campbell et al., 1997). Areas of higher elevation appear to be preferred, with greater numbers reported above 900 m in elevation, although olive-sided flycatchers have been found nesting down to sea level and along valley bottoms (Campbell et al., 1997). This species requires areas with low canopy cover within coniferous forest for nesting and is not typically associated with alpine, subalpine scrub, or grassland areas (Atlman and Sallabanks, 2000). Several studies have found that this species has a high preference for edge habitat along areas of burned forest; however, bogs, beaver meadows, clearcuts, and areas of open forest are also used (Atlman and Sallabanks, 2000). In areas where

fire suppression has reduced the availability of burned forest, riparian meadows and wetlands appear to be the preferred habitat, whereas mature forest is typically selected against unless canopy closure remains below 40% (COSEWIC, 2007). Areas of harvested forest, such as clearcuts, particularly those adjacent to late-seral forest, are preferred as this habitat provides areas of high contrast forest edges (Campbell et al., 1997). Landscapes with harvested forest have been found to increase the amount of available habitat in areas that were previously unsuitable or had little suitable habitat, such as rainforests and mature forest (COSEWIC, 2007). In addition, olive-sided flycatchers are less common or absent in harvested areas of open mature forest. While the widespread creation of fragmented forest by logging provides increased habitat availability, the suitability of this habitat is thought to be poor (COSEWIC, 2007). Harvested forest is thought to create an ecological trap where it resembles a forest post-fire; however, the ecological function is quite different, and flycatchers nesting in harvested areas have lower rates of reproductive success (Atlman and Sallabanks, 2000).

Territory size is large (10 hectares (ha) to 45 ha) and pairs are usually spaced well apart, with natural features typically separating territories (Altman and Sallabanks, 2000). Nests are characteristically located several hundred metres from any adjacent nest. Males and females both share the breeding territory equally, and most pairs are thought to be monogamous during the breeding season (COSEWIC, 2007). Nests are typically placed on the outer branches of mature conifers, under over-hanging branches to provide some security and weather protection, and in trees that are shorter than the surrounding canopy (Altman and Sallabanks, 2000). Overall nest height is thought to be related to the height of available trees and is typically 10 m to 30 m high (COSEWIC, 2007).

Olive-sided flycatchers are thought to migrate through the province fairly quickly and are likely not as selective in habitat use during migration (Campbell et al., 1997). Riparian forest and non-coniferous forest are reportedly used more frequently than other habitats, particularly in mountainous areas (Atlman and Sallabanks, 2000).

3.0 HABITAT USE: LIFE REQUISITES

Living (LI)

The Living life requisite for olive-sided flycatchers is satisfied by the presence of suitable reproductive, feeding, and security/thermal habitat, which are described in detail below.

Reproducing (eggs)

Reproductive habitat provides olive-sided flycatchers with the ability to build a nest, incubate eggs, and raise young safe from predators, precipitation, wind, and hot temperatures. Nests are placed on the outer branches of mature trees typically 10 m to 30 m high, with overhanging branches or canopy to provide shelter; nest trees are typically 0.9 times shorter than the surrounding canopy (COSEWIC 2007). Optimal habitat is provided by late successional coniferous forest (structural stages 6–7) with canopy closure <40%; by non-forested areas (structural stage 1–3a) with scattered mature trees adjacent to late successional coniferous

forest (structural stages 6–7); or by edges (<100 m) of late successional coniferous forest with canopy closure >40% and adjacent to no forest (structural stages 1–3a).

Feeding

Feeding habitat provides olive-sided flycatchers the ability to forage for flying insects by sallying from the outer branches of mature trees into open areas (Campbell et al. 1997). Optimal habitat is provided by late successional coniferous forest (structural stages 6–7) with canopy closure <40%; non-forested areas (structural stages 1–3a) with scattered mature trees adjacent to late successional coniferous forest (structural stages 6–7); or edges (<100 m) of late successional coniferous forest with canopy closure >40% and adjacent to no forest (structural stages 1–3a).

Security/Thermal

Security and thermal habitat, typically mature coniferous trees either found in open areas or along forest edges, provide olive-sided flycatchers with protection from predators, precipitation, and wind. Optimal habitat is provided by late successional coniferous forest (structural stages 6–7) with canopy closure <40%; non-forested areas (structural stages 1–3a) with scattered mature trees adjacent to late successional coniferous forest (structural stages 6–7); or edges (<100 m) of late successional coniferous forest with canopy closure >40% and adjacent to no forest (structural stages 1–3a).

4.0 TERRITORIALITY

Olive-sided flycatcher territories are generally large and well spaced apart, with territory sizes varying from 10 ha to 45 ha. Territories are smaller in Alaska (10.5 ha to 26.4 ha) and larger (25 ha to 45 ha) in the Sierra Nevada of California (Altman and Sallabanks, 2000). An estimate of one pair per 1.6 km of shoreline in Washington was also reported (Altman and Sallabanks, 2000). Most territories use natural borders of unsuitable habitat, such as dense stands of trees or riparian areas, and few territories have been found to border others (COSEWIC, 2007).

5.0 SEASON OF USE

Olive-sided flycatchers are present in BC only during the growing season (summer). The growing season is rated based on the habitat requirements identified in this species account and the location of the Project (**Table 1**).

Table 1: Monthly Life Requisites for Olive-sided Flycatcher

Month	Season	Life Requisites
January	Winter	-
February	Winter	-
March	Winter	-
April	Early Spring	-
May	Late Spring	-
June	Summer	Reproductive/Feeding/Security and Thermal
July	Summer	Reproductive/Feeding/Security and Thermal
August	Summer	Reproductive/Feeding/Security and Thermal
September	Fall	-
October	Fall	-
November	Winter	-
December	Winter	-

6.0 HABITAT USE AND ECOSYSTEM ATTRIBUTES

Table 2 outlines how each life requisite relates to specific ecosystem attributes (e.g., site series / ecosystem unit, plant species, canopy closure, age structure, slope, aspect, terrain).

Table 2: Relationship between Terrestrial Ecosystem Mapping (TEM) Attributes and the Life Requisite for Olive-sided Flycatcher

Life Requisite	TEM attribute
Living (reproduction, feeding, security/thermal)	• Site – site series, site disturbance, elevation, structural stage • Vegetation – % cover by layer, species list by layer, structural stage modifier, stand composition modifier

7.0 RATINGS

There is an intermediate level of knowledge of the habitat requirements of olive-sided flycatcher in BC. Therefore, a four-class rating scheme is used (**Table 3**).

Table 3: Habitat Suitability Rating Scheme used for Olive-sided Flycatcher

% of Provincial Best	Rating	Code
100% – 76%	High	H
75% – 26%	Moderate	M
25% – 1%	Low	L
0%	Nil	N

Habitat Suitability Ratings

Habitat suitability is defined as the ability of the habitat in its current condition to provide the life requisites of a species (Resources Information Standards Committee, 1999). When a suitability rating for olive-sided flycatcher is assigned to a particular habitat, that habitat is assessed for its potential to support the species for a specified season and life requisite compared with the best habitat in the province (i.e., the provincial benchmark) for the same season and life requisite. Each biogeoclimatic zone, site series, and structural stage (stages 1–7) is evaluated and assigned a suitability rating class based on its ability to provide the life requisites for olive-sided flycatcher for the growing season (summer).

Provincial Benchmark (Interior BC)

Ecosection: Leeward Island Mountains (LIM); Nechako Lowland (NEL)

Biogeoclimatic Zone: Sub-Boreal Spruce

Habitats: Open forest (<40% canopy cover), burns, meadows, wetlands, and clearcuts surrounded by mature forest

Ratings Assumptions

1. Units with structural stages 6 and 7 with low canopy closure (<40%) will be rated up to high.
2. Units with coniferous forest will be rated higher than deciduous or mixed forest.
3. Structural stages 1–3 will be rated up to high when adjacent to units with structural stages 6 and 7.
4. Edges (100 m) of units with structural stages 6 and 7 will be rated up to high when adjacent to units with structural stages of 1–3.

Table 4: Summary of General Habitat Attributes for Olive-sided Flycatchers

Season	Life Requisite	Structural Stage	Requirements
Summer	Living (Reproduction, Feeding, Thermal/Security)	1–3, 6–7	Open coniferous forest (canopy closure <40%), clearings, wetlands, burns, or clearcuts adjacent to mature coniferous forest

8.0 RATINGS ADJUSTMENTS

Mapping adjustments to habitat ratings are suggested to reflect the extent of suitable habitat and to reflect knowledge about the potential of clearcuts acting as population sinks. Units with structural stages 1–3 that are known to have been harvested will be down-rated to low.

9.0 REFERENCES AND BIBLIOGRAPHY

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