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Birds of the Nakusp, New Denver, and Burton region of Southeastern British Columbia, 1975 to 2010 – Part 1: Nonpasserines (Introduction and waterfowl through woodpeckers)

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Abstract

One hundred and forty-six species of non-passerine birds were recorded in the Nakusp, New Denver, and Burton region of British Columbia between August 1975 and December 2010. The author collected over 60,000 bird sightings, year-round, during this period. Accounts for regularly occurring species include sections on status, migration chronologies (*i.e*., early arrival, peak movement, and late departure), changes in distribution between years, descriptions of non-breeding and breeding habitats, and specific breeding information. As no detailed works exist for this part of the province, information presented in this paper will serve as a baseline study of the birds of the region.

Introduction

This paper is a compilation of previously unknown information on the nonpasserine birds (waterfowl through woodpeckers) of the Nakusp, New Denver, and Burton areas in the West Kootenay region of southeastern British Columbia. The second component, covering the passerines (flycatchers through Old World sparrows), will follow in the next issue of *Wildlife Afield*. Each section contains its own "Literature Cited," although some duplication will occur. Acknowledgements, author's biography, and other pertinent summary information for all species will be included in the passerine component.

Most of the text is based on my extensive field

Figure 1. Osprey is the most familiar nesting bird in the Nakusp-New Denver-Burton area of southeastern British Columbia and one of the easiest species to monitor. For the past 17 years, up to 36 nests have been checked regularly for breeding success, with the number of large nestlings counted. *Photo by Linda M. Van Damme.*

work between 1975 and 2010 (Figure 1). Where appropriate, data from other individuals have been incorporated for species with very few records. Details of status, habitat, occurrence, and breeding are included for all regularly occurring species, whereas details for individual records are listed for rare species. Additional information for many species has been included in a comments section. Relevant material from earlier publications, especially Kelso (1926c, 1931), has been included in an ornithological history section.

History of Ornithological Investigation in the Arrow Lakes

The Upper Arrow Lake and Lower Arrow Lake area of the West Kootenay region, situated between Revelstoke in the north and Castlegar in the south, and spanning about 200 km (Figure 2), is one of the least known ornithological districts in British Columbia (see Brooks and Swarth 1925, Munro and Cowan 1947). The region was never a prime collecting destination nor was it on a direct route to more favoured sites such as Mount Revelstoke National Park (Cowan and Munro 1944-1946), the Creston valley (Munro 1950, Butler et al. 1986, Van Damme 2009), and Cranbrook in the East Kootenay district (Johnstone 1949). Hence, the region remained relatively unexplored until the mid-1970s when I moved to Nakusp (see Campbell et al. 1979, 1988). Over the next 25 years, noteworthy information on birds, especially in the vicinity of Nakusp, was contributed to *The Birds of British Columbia* project (Campbell et al. 1990a, 1990b, 1997, 2001) to help put the region in context provincially.

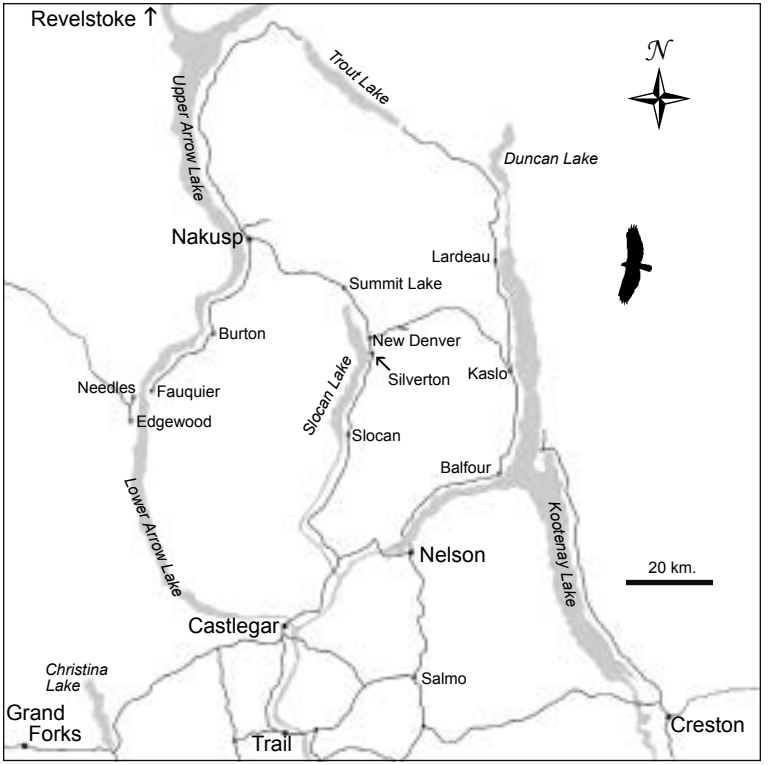

Figure 2. West Kootenay region of southeastern British Columbia showing major towns and lakes. *Map prepared by Mark Nyhof.*

The most notable early ornithological investigations in the Arrow Lakes district occurred in the early 1900s. In 1913, J. E. H. Kelso (Figure 3), a medical doctor, moved to Edgewood on Lower Arrow Lake located about 56 km southwest of Nakusp (see Figure 2), and about 25 km south of the study region. He collected and recorded birds as he travelled throughout the district, and published the first major work on birds of the Arrow Lakes (Kelso 1926c). He also published at least eight other articles in various North American journals in the 1920s on behaviour, foods, and status of birds of the Arrow lakes (Kelso 1922a, 1922b, 1923, 1924, 1925, 1926a, 1926b, 1926c, 1931). Kelso died at Edgewood on 5 August 1932 (Campbell et al. 1990a).

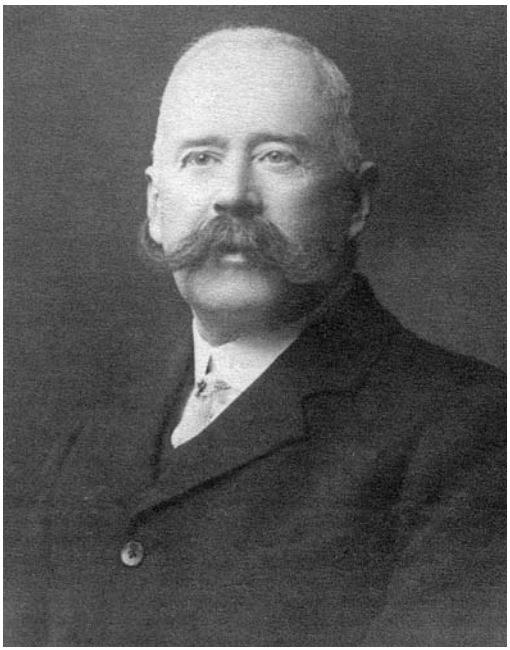

Figure 3. J.E.H. Kelso, a medical doctor with a keen interest in observing and collecting birds, arrived in Edgewood on the west side of Lower Arrow Lake in 1913. Over the next two decades, he documented the region's bird life, providing early baseline information used in this article.

Kelso's early intentions and description of the Edgewood region are worth noting. He wrote in the British Ornithologists' Union journal *Ibis* (1926c): "In the spring of 1913, I settled in Edgewood on the Lower Arrow Lake in British Columbia and began to make observations on, and collect specimens of, birds on the Lakes and the surrounding country.

"Edgewood might then, and even now [1926], be described as a pioneer settlement. In those days, with the exception of waterfowl, a very large proportion of the birds belonged to strictly woodland species. Nowadays, with the slow but steady clearing of forest-land in certain areas, hardly a year passes without adding new species which inhabit open country to our bird-list."

In 1910, Walter B. Johnstone moved from England to Edgewood; he had a keen interest in birds, and became the first registered big game guide in British Columbia (Campbell et al. 1990a). He soon met Kelso, who showed him how to prepare specimens and who also encouraged him to start recording bird observations. Between 1924 and 1929, Johnstone travelled extensively throughout the West Kootenay region as an engineer supervising the building of roads, including the original passage from Edgewood to Vernon in the northern Okanagan valley. In 1937, he moved to Cranbrook and later produced a major treatise on birds of the East Kootenay (Johnstone 1949). While working in the Arrow Lakes district he recorded a few bird observations during his travels.

Historical ornithological information specifically for the Nakusp, New Denver, and Burton region of the Arrow Lakes is limited, so much so that there are insufficient data to be of any comparative use (see Campbell et al. 1979, 1988). When relevant, articles and unpublished notes by Kelso have been cited in the "Ornithological History" section for a species account to put the study area into context or help explain changes in distribution or abundance of birds in the West Kootenay region. In addition, the major works on birds in British Columbia (see Campbell et al. 1990a, 1990b, 1997, 2001) have been referenced for provincial information on a species' status and distribution.

Study Area

Boundaries and General Descriptions

The study area (Figure 4) is defined as a triangular region with the towns of Nakusp, Silverton, and Burton lying near the three corners of the triangle. The western boundary approximately follows the western edge of Arrow Lake, from two kilometres south of Burton to five kilometres north of Nakusp. The eastern boundary extends eastward from Nakusp to include Wilson Lake and then southeast down the eastern side of the Fitzstubbs Creek and Wilson Creek drainages. When Wilson Creek turns to flow south, the boundary continues in a southeasterly direction to include New Denver and Silverton. The southern boundary is an east-west line joining Silverton and Burton. The author's residence in Nakusp has produced a data bias toward the northern portion of the region. There are, however, sufficient data to allow all parts of the region to be discussed.

The region is generally mountainous and rugged. Most of the data are from the two main valleys of the region: the Arrow Lake valley and the Slocan Lake valley. Highway 6 in British Columbia originates at the United States border near Nelway and terminates at Vernon. It passes through the centre of this area from Silverton on Slocan Lake to Nakusp, and then along the western boundary south from Nakusp to Burton. Highway 23, Nakusp to Mica Creek, passes along the western boundary north of Nakusp. Highway 31, Kaslo to New Denver, enters the area down Seaton Creek at New Denver.

The only access away from these major valleys, outside the provincial parks, is via the region's many logging roads where conditions are variable and in recent years many have been de-activated (see http://www.th.gov.bc.ca/publications/planning/numbered_routes.htm). For many high-elevation species, data are inadequate and accurate status is hard to define (Figure 5).

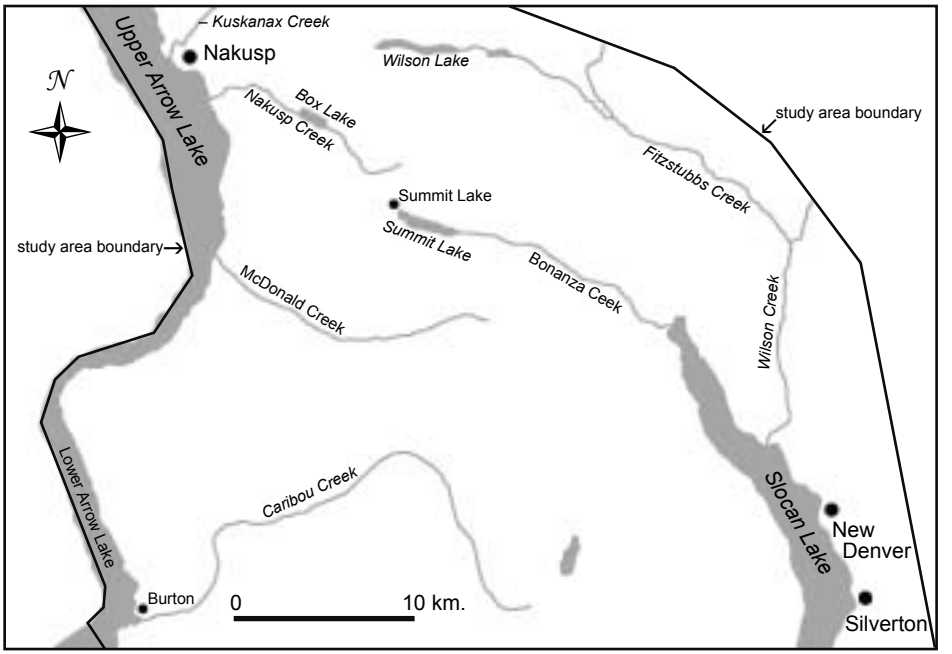

Figure 4. Map of entire Nakusp-New Denver-Burton study area. Most of the data were collected in the vicinity of Nakusp and other areas accessible by car and short hikes. Main towns, lakes, and rivers are included. *Map prepared by Mark Nyhof.*

Figure 5. Bird life in alpine regions of the Nakusp-New Denver-Burton area has not been well investigated due to limited access. For some high-elevation species, like Dusky Grouse, which venture to lower elevations in summer, the information available in this article for a species is seasonal. *Photo by R. Wayne Campbell.*

Two large protected areas have been established in or near the study area. These include Valhalla Provincial Park west of Slocan Lake on the east side of the Valhalla Range from Wee Sandy Creek south to Mulvey Creek. The northern portion of this park lies within the study area. The extreme western edge of Goat Range Provincial Park in the northeastern Slocan Ranges intersects the study area only at the junction of Fitzstubbs and Wilson creeks. Smaller parks and recreational campsites have been established along the major access roads.

The three largest communities are Nakusp (population 1,500), New Denver (population 600), and Silverton (population 250). There are several smaller permanent and recreational settlements along the east shore of Arrow Lakes reservoir and in the Slocan valley, the largest being Burton, with a population of 225. In addition, some people of the Sinixt (The Lakes) First Nation from Colville, Washington, have recently moved into the Slocan Lake area and are trying to re-establish a presence there after being displaced for more than a half century.

Early History

On 27 August 1811, David Thompson sent Finan McDonald up river past the Arrow Lakes to check for the supply canoes coming from Athabasca Pass. He thus became the first European to enter this part of the Columbia River system. Thompson soon followed on an up-river journey (Belyea 1998). This part of the Columbia River became the main route for fur traders moving from the Canadian prairies to the Columbia Basin, until the completion of the Canadian Pacific Railway in 1885. Prospecting, mainly for gold, began early in the 19th century, but was accelerated by the finding of gold in the Big Bend area of the Columbia River to the north in the 1860s. The Geological and Natural History Survey of Canada was acutely aware of the mineral prospects in the area and sent George M. Dawson to view the area in 1888 (Dawson 1890). At that time, several mines were operating south of the Kootenay River and on the west side of the North Arm of Kootenay Lake.

Prospecting, especially for silver, began in the early 1880s; prospectors no doubt covered the entire area, but the most valuable mines were located in Carpenter and Silverton watersheds east of New Denver and Silverton, and just outside the study area. All the lower slopes and accessible upper slopes outside of the areas now reserved as protected areas have been logged. Small-scale farming has occurred in the Slocan valley and along the eastern shoreline of Arrow Lake reservoir.

The Hugh Keenleyside dam at Robson, completed in 1968, raised the level of the Lower and Upper Arrow lakes, forming one lake and flooding many small communities including parts of Nakusp. This dam was built as part of the Columbia River Treaty between the United States of America and Canada and its intended purpose was for water storage for downstream hydro-electric power generation.

Geology

The study area has had a dynamic geologic history. It was an island terrane (Quesnelia) that along with others collided with the western foreland of the North American craton. That collision or interception resulted in the rising of the foreland into the Rocky Mountains and the super terrane (Omineca Belt) becoming the Columbia Mountains and the interior plateau. In the Columbia Mountains, geological units are separated on the basis of bedrock types and ages when first formed. The dominant rock types in the study area are intrusive granitic rocks and metamorphosed rocks, both formed under heat and pressure (Mathews and Monger 2005).

During the Pleistocene, many periods of glaciations occurred. Typically cold climates allowed small mountain ice-fields to grow and alpine glaciers to advance. With continued cooling, these glaciers expanded and coalesced as they met in the larger valleys. In our area a great lobe of ice moved down the Columbia River valley, meeting more ice coming from adjacent valleys, until the ice moved out onto the Columbia Basin. At its height the last great glaciation reached a depth of over 2,250 m. But with a rapid climatic amelioration these ice-sheets began to decay and the great ice-sheet began to diminish (Claque 1989). The only remaining vestige of ice in the study area is the New Denver glacier in Valhalla Park. When advancing the glaciers pushed great amounts of soil and rock either to their sides (lateral moraines), such as occurs along the south side of Bonanza Creek valley, or ahead of them (terminal moraines). When they were decaying great amounts of water sorted the valley bottom materials creating deep deposits of gravels, sands or silts depending on where the flow was stopped, as occurs along the lower slopes above Arrow Lakes reservoir and Slocan Lake, in the Bonanza Creek valley or the lower Wilson Creek valley (Wittneben 1980).

Physiography

The study area is located near the centre of the Columbia Mountains in the west-central portion of the Selkirk Mountains. In this area, the Selkirk Mountains consist of the southern Slocan Ranges, which occur in the north and east, and the Valhalla Ranges that occur south of Bonanza Creek and west of Slocan Lake. This area lies east of the Okanagan Highland and the Arrow Lakes reservoir and north of Slocan Lake. Upper Arrow Lake lies in the Columbia River fault that extends from the Rocky Mountain Trench in the north, south into Rodd Creek, and west of the narrows of the Arrow Lakes reservoir. Slocan valley lies in the Slocan Lake fault, which extends in an arc from Bonanza Creek south along the east side of Slocan Lake, south to the Columbia River at Castlegar and farther south across the uplands at Champion Lakes and then to the Columbia River east of Trail. The Slocan Lake fault separates gneiss rocks to the west from granitic rocks to the east. Between these two faults is the Valkyr shear zone, a fault that was formed when the rocks were still molten. It lies from Slocan Lake across the crest of the Valhalla Range southwestward to upper Koch Creek (Mathews and Monger 2005).

Elevations range from 425 m at low water on the Arrow Lake reservoir and 536 m on Slocan Lake, to over 2,440 m on Mount Ferrie north of Bonanza Creek and Big Sister Mountain. South of Bonanza Creek, higher mountains occur in the Slocan Ranges to the southern part of the study area and in the Valhalla Ranges to the south of the study area. Summit Lake, in the pass between Nakusp and New Denver, is just below 760 m.

Climate

The study area is part of the interior wet belt, an area of southern British Columbia that is characterized by mild temperatures and moderate precipitation. Temperatures in the region are fairly mild, particularly in the winter (Figure 6). Nakusp receives an average 842 mm of precipitation per year. This is considerably more than Kelowna to the west, with 409 mm, and Cranbrook to the southeast, with 383 mm. However, it is considerably less than locations within the interior wet belt to the north of the region. Revelstoke, for example, has an annual precipitation of 1278 mm.

Precipitation in Nakusp is fairly evenly distributed throughout the year (Figure 7). The area lacks a prolonged dry season that is more typical of

the Okanagan Valley to the west. Snowfall statistics show a similar pattern (Figure 8). Nakusp receives an average of 192 cm of snow per year (Figure 9) compared with 100 cm at Kelowna and 139 cm at Cranbrook. Revelstoke, however, records an annual snowfall of 448 cm.

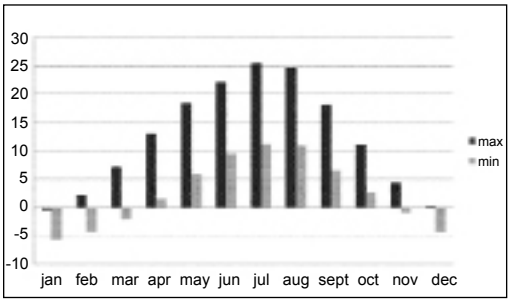

Figure 6. Average monthly maximum and minimum temperatures (°C) at Nakusp, BC.

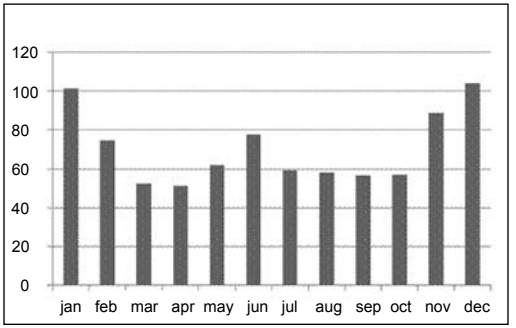

Figure 7. Average monthly precipitation (mm) at Nakusp, BC

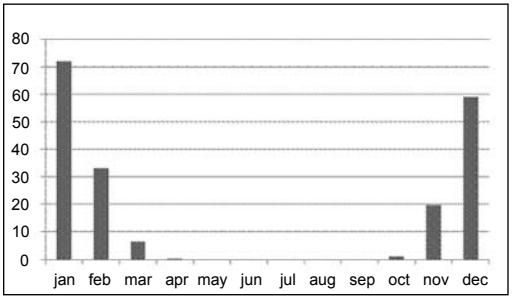

Figure 8. Average monthly snowfall (cm) at Nakusp, BC.

Figure 9. The vicinity of Nakusp receives an average of 192 cm of snow per year. *Photo by R. Wayne Campbell, Nakusp, BC, 29 January 1990.*

Vegetation

The vegetation in the area is typified by dense, closed-canopy forest stands, which result from the mild and wet climate. There are four vegetation zones (Biogeoclimatic subzone/variants) in the study area. At the lowest elevations, from lake level at 425 m to 1,450 m in the Arrow Lakes valley and the Slocan Lake valley is the Columbia - Shuswap Moist Warm Interior Cedar - Hemlock Variant (ICHmw2). Above that zone from 1,450 to 1,650m is a narrow band called the Columbia Wet Cold Engelmann Spruce - Subalpine Fir Variant (ESSFwc1). Dominating the mid-to-upper slopes from 1,650 to 1,950 m is the Selkirk Wet Cold Engelmann Spruce - Subalpine Fir Variant (ESSFwc4); this zone also contains the thinly forested parkland forests below the alpine. The highest zone, occurring only on summits higher

than 1,950 m, is the alpine zone called the Interior Mountain-Heather Alpine Zone (IMA). It may contain stunted and scattered subalpine fir (*Abies lasiocarpa*) as a minor krumholtz belt (Braumandl et al. 1992, Clement 1981, Wittneben 1980).

The ICHmw2 subzone/variant has a mixture of tree species, depending on aspect and soil materials. Except along the small streams entering the Arrow Lakes reservoir, most of the riparian vegetation was destroyed with the damming of the Columbia River at Robson. In the Slocan valley, the narrow riparian area is the prime area for agriculture. In the 1960s, the Hugh Keenleyside dam was built at the southern end of Lower Arrow Lake near Castlegar and the level of the two lakes was raised by approximately 12 metres. Consequently, water levels vary greatly between summer, when the reservoir is full (Figure 10), and late winter when levels are much lower (Figure 11). As a result of these ever-changing water levels, aquatic and shoreline vegetation has no opportunity to become established. Much of the shoreline is gravel or impoverished sand. With so little food available in the shallow water and around the lake's edge, groups such as shorebirds during migration and ground-nesting ducks during the breeding season are quite scarce. Other valleys and lakes in the region are steep-sided; coniferous forests often extend to the lake shore. In such cases, deciduous riparian habitat is almost completely absent.

Figure 10. Upper Arrow Lake at high water. Each year, the lake level reaches a maximum towards the end of June and remains relatively constant until late August. *Photo by Gary S. Davidson, near Nakusp, BC, 24 July.*

Figure 11. Upper Arrow Lake at low water. Each year, the lake level reaches a minimum in early winter and remains low until March or April. *Photo by Gary S. Davidson, near Nakusp, BC, 27 April.*

In the study area, the Columbia - Shuswap Moist Warm ICH Variant has hot, moist summers and very mild winters with light to moderate snowfall. Snowfall is relatively light when compared to other locations within the interior wet belt, but is significantly heavier than that of the Okanagan valley to the west and the Rocky Mountain Trench to the east. Snowpacks are generally of moderate depth and duration (Figure 12), which combined with the mild climate, prevents the soils from freezing to any significant depth. Climax sites have stands of western hemlock (*Tsuga heterophylla*) and western redcedar (*Thuja plicata*); however, mixed stands that also include Douglas-fir (*Pseudotsuga menziesii* var. *glauc*a), western larch (*Larix occidentalis*; Figure 13), lodgepole pine (*Pinus contorta*), western white pine (*Pinus monticola*), and Englemann spruce (*Picea englemannii*) are more common. Falsebox (*Pachistima myrsinities*) and black huckleberry (*Vaccinium membranaceum*) are common shrubs. Dry south-facing rocky sites, which are quite scarce in the region, may have Douglas-fir, western larch, lodgepole pine, and beaked hazelnut (*Corylus cornuta*). Moisture-receiving sites have more western hemlock and western redcedar, but less pine and larch. The ground cover is more diverse and includes bracken (*Pteridium aquilinum*), lady fern (*Athyrium filix-femina*) and thimbleberry (*Rubus parviflorus*). Succession caused by fire is usually through western hemlock, Douglas-fir, and western redcedar on north-facing slopes, but involves a wider

mix of species including lodgepole pine on south-facing slopes. In all cases, deciduous species such as paper birch (*Betula papyrifera*) also occur.

Figure 12. During winter months, the snowpack on mountains is usually of moderate depth. *Photo by R. Wayne Campbell, Crawford Bay, BC, 15 February 1993.*

Figure 13. Western larch is one species that grows in association with other coniferous trees. *Photo by R. Wayne Campbell.*

Above the ICH zone is the narrow Columbia Wet Cold Engelmann Spruce - Subalpine Fir variant (ESSFwc1). It is wetter and colder with more snow than the ICHmw2, but is warmer than the ESFwc4 zone above it. Forest stands are often very shrubby and climax forests have Engelmann spruce (*Picea engelmannii*) and subalpine fir, white-flowered rhododendron (*Rhododendron albiflorum*) and black huckleberry.

Above the narrow ESSFwc1 zone is the Selkirk Wet Cold Engelmann Spruce - Subalpine Fir variant (ESSFwc4); this is a broad zone that occupies the middle slopes of all the mountains in the study area. This zone is colder and wetter than either the ICHmw2 or the ESSFwc1 zones below it, with deeper, more persistent snowpacks. Climax forest stands have subalpine fir and Engelmann spruce, white-flowered rhododendron, black huckleberry and gooseberry (*Ribes* spp.). The transition to the parkland starts at about 1900 m. The presence of mountain-heathers and scattered tree islands indicate the parkland, called krummholz.

Above the forested habitats is the alpine or Interior Mountain-Heather Alpine Zone (IMA). Mountain-heather (*Phyllodoce* sp.) is the dominant shrub, and low growing herbs, grasses and sedges (*Carex* sp.) predominate, often interspersed with lichen-covered rocks and bare soil. At the highest elevations, lichen-covered rocks and bare soil are common with only a few scattered, low-growing herbs. Snow persists in small patches here well into summer, especially on north and east-facing slopes.

Site Descriptions

Some of the sites and locations mentioned frequently in the paper are as follows:

Brouse – an area of agricultural farmland used primarily for grazing or hay production (Figure 14). This area provides habitat variety not available in much of the study region. In addition to the open fields, Nakusp Creek passes through the middle of the area, providing riparian habitat (Figure 15). Other habitat is provided by the area's large black cottonwoods (*Populus balsamifera*) (Figure 16), and the plantings of residents. In spring, melt water ponds in fields (Figure 17) form and attract a variety of species. There is also abundant edge habitat where the farmland meets the natural forest. The Brouse loop road leaves Highway 6 a few kilometers from Nakusp and then re-joins it a short distance to the south. Walking this road and then returning along the abandoned railway right-of-way that parallels the highway makes a pleasant five or six kilometre loop.

Figure 14. The agricultural land in Brouse is used mainly for hay production and the habitat is one of few sites in British Columbia where Bobolink is known to breed. *Photo by Gary S. Davidson.*

Figure 15. Riparian habitat, important for breeding and foraging passerines, borders Nakusp Creek, which flows from Box Lake through Brouse to Upper Arrow Lake. *Photo by Gary S. Davidson.*

Figure 16. Small mature stands of black cottonwoods provide hunting and resting perches for resident and migrating raptors. *Photo by Gary S. Davidson.*

Figure 17. In early spring, hollows in agricultural lands around Brouse collect melt water and provide temporary foraging and resting habitat for migrating waterfowl and shorebirds. *Photo by Gary S. Davidson.*

Summit Lake – a small lake, about four kilometres long, situated along Highway 6 between Nakusp and New Denver (Figure 18). The lake is fed by numerous small creeks entering from the mountainsides adjacent to the lake. The lake is drained by Bonanza Creek (Figure 19) which flows from the southeastern end of the lake down to Slocan Lake at the town of Hills. Patches of riparian habitat can be found at several locations around the lake; the most accessible are in the Summit Lake Provincial Park campground and the Department of Highways rest area, both on Highway 6. There is a private campground and some agricultural land at the northwestern end of the lake. An extensive marsh bordered by excellent riparian habitat at the southeastern end of the lake provides some of the best birding of the region during the breeding season. The abandoned railway right-of-way (Figures 20) passes along the northern shore of the lake (the highway is on the south side). This allows one to walk from one end of the lake to the other without the noise of the traffic along the highway (Figure 21). The route provides access to marshland, riparian habitat, areas of mature mixed woodlands, lakeshore, numerous beaver ponds and coniferous mountainside. It is also possible to follow the railway right-of-way south along Bonanza Creek to Hills, either on foot or by bicycle.

Figure 18. Summit Lake is a mid-elevation mountain lake, just under 760 m above sea level. It has a six-hectare provincial park that was established in 1964. *Photo by Gary S. Davidson*.

Figure 19. Dense and mixed riparian habitat along Bonanza Creek, at the outlet of Summit Lake, is frequented by a variety of warblers, vireos, and flycatchers during migration, many of which remain to breed. *Photo by Gary S. Davidson*.

Figure 20. The abandoned railway line along the north side of Summit Lake is now used as a walking trail, mainly by visitors to the lake. *Photo by Gary S. Davidson*.

Figure 21. Summit Lake, with rocky and shrub-draped beaches and associated habitats, make it one of the best birding spots in the study area. *Photo by Gary S. Davidson*.

Bonanza Creek marsh – an area of wetland formed where Bonanza Creek enters the north end of Slocan Lake (Figure 22). Unfortunately, this is private land making access difficult. However, the previously mentioned railway right-of-way at Summit Lake continues south to Hills and New Denver. This trail passes the edge of the marsh and provides fairly good views into the area.

Figure 22. Bonanza Creek marsh, located at the north end of Slocan Lake, provides one of the very few wetlands in the region. *Photo by Gary S. Davidson*

Figure 23. In late summer, creeks flowing into Upper Arrow Lake are filled with bright red spawning Kokanee. By early autumn, hosts of fish-eating birds are attracted to the food source. *Photo by R. Wayne Campbell*.

Burton – a small town situated on Arrow Lake about 30 kilometres south of Nakusp. Three creeks, Burton Creek, Caribou Creek, and Snow Creek flow into Arrow Lake at the south edge of Burton. Each creek has a spawning run of Kokanee (*Oncorhynchus nerka*) in late summer (Figure 23). This phenomenon produces a bountiful food supply for fish-eating and scavenging birds in September. Furthermore, the water levels start dropping at this time of year, exposing mudflats, gravel bars, shallow ponds, and grassy areas used by autumn migrants (Figure 24).

Figure 24. As Upper Arrow Lake recedes in autumn, ponds are created and grassy flats are exposed that provide temporary habitat for a variety of migrating birds. *Photo by Gary S. Davidson*.

Nakusp townsite – is situated on a delta produced by the Kuskanax Creek, on the eastern shore of Arrow Lake. The town provides a variety of habitats resulting from residential plantings, open areas, lake shore, sewage lagoons (Figure 25), and the creek mouth. In winter, Nakusp has greater bird diversity than any other part of the region. To a lesser extent, the smaller towns of New Denver and Silverton also provide some habitat diversity.

Figure 25. Recent development at the sewage works in Nakusp has resulted in deeper ponds and less marshy habitat for wetland species. *Photo by Gary S. Davidson*.

Species Accounts

Descriptions for a species' status and seasonality, that is, its frequency and relative abundance during the four seasons, follow Campbell et al. (1990), with minor modifications. The four categories, separated into "Regular Occurrence", "Irregular Occurrence", "Status", and "Seasons" are:

Regular occurrence (reported annually)

Abundant – seen most days in appropriate habitat, typically more than 50 per day.
Very common – seen most days in appropriate habitat, typically 10 to 50 per day.
Common – seen most days in appropriate habitat, typically 3 to 10 per day.
Uncommon – occurs annually but may not be seen every day of season, typically 1 to 2 per day in appropriate habitat when present.
Rare – generally present in very small numbers, or only for a very few days each year, may not be recorded every year.

Irregular occurrence (not reported annually)

Very rare – over 6 records, but of very infrequent occurrence.
Casual – 2 to 6 records all time.
Accidental – only 1 record.

Seasons

Spring – March to May
Summer – June to August
Autumn – September to November
Winter – December to February

Species taxonomy (Figures 26 and 27) and sequence follows the American Ornithologists' Union *Check-list of North American birds* (American Ornithologists' Union 1998) and the nine supplements through 2009 (*e.g.*, Banks et al. 2000, 2002, 2003, 2004, 2005, 2006, 2007, 2008, Chesser et al. 2009).

Figure 26. Some recent changes have occurred in scientific names at the species level. For example, two subspecies of the former Winter Wren (*Troglodytes toglodytes pacificus* and *T. t. hiemalis*) have been elevated to separate species. In British Columbia, the Winter Wren (*T. hiemalis*) now occurs only in the northeast while Pacific Wren (*T. pacificus*) occurs throughout the rest of the province. *Photo by Marcia Long.*

Figure 27. Some recent taxonomic changes occurred in scientific names. Orange-crowned Warbler has changed from *Vermivora celata* to *Oreothlypis celata*. *Photo by R. Wayne Campbell.*

Each species account has purposely been organized into "compartments" for extraction of specific information, not for ease or flow of reading. The paper is intended to be a functional reference document. The full format for a species that breeds and has "Comments" includes six major headings and up to eight sub-headings. Briefly these include:

Status: A leading summary statement assigned for each species closely follows Campbell et al. (1990a).

Ornithological History: A brief summary and overview of historical information on the occurrence and breeding records for the Arrow Lakes region. Most of the information has been gleaned from J. E. H. Kelso's article published in *Ibis* (Kelso 1926c) and his original unpublished manuscript (1931). Even though most of his observations were made outside the study region, they were made in the Arrow Lakes valley and provide a useful historical perspective. Other pertinent material, when applicable, is included.

Habitat: The principal habitat(s) frequented by a species during its occurrence in the study area. When different, habitats are included for spring and/or autumn migration, breeding season, and for resident species (Figure 28).

Figure 28. Shrubby fence lines are an example of a specific habitat used by migrating sparrows, especially in spring, in the Nakusp-New Denver-Burton area each year. *Photo by Gary S. Davidson*.

Occurrence: Includes detailed summaries of arrival and departure dates, as well as peak periods, for migrants as well as specific dates for rare species.

Breeding: Identifies the breeding range within the study area and details of phenology for nests, eggs, and young.

Figure 29. Due to the forested habitat and lack of wetlands in the study region, nests of most birds, including Mallard, are difficult to find. *Photo by R. Wayne Campbell.*

Comments: A wide variety of topics are included that complements or clarifies information in the individual species accounts or updates new information for the province, especially the West Kootenay region.

Photographs of noteworthy occurrences have been deposited and catalogued in the British Columbia Photoduplicate File for Wildlife Records (see Campbell and Stirling 1971).

All observations were made by the author unless they are credited in the text to another observer.

GEESE, SWANS AND DUCKS

Greater White-fronted Goose
Anser albifrons

Status: *Casual in spring and autumn and accidental in winter.*

Ornithological History: Greater White-fronted Goose was recorded once, in the vicinity of Edgewood, on 23 April 1916 (Kelso 1926c).

Habitat: ***Migration and Non-breeding*:** All sightings have been from the grassy fields in Brouse and Crescent Bay.

Occurrence: ***Spring*:** There are three occurrences: 6 to 10 May 1979 (Campbell et al. 1990a), 15 April 1989 and 7 to 12 April 2002. ***Autumn*:** Two records: 16 September 2010 and 26 October 2003. ***Winter*:** A single record on 11 December 1983.

Breeding: There are no breeding records.

Comments: The 1989 record was of a flock of 50 birds seen flying north overhead. All other sightings were of one or two birds in the company of Canada Geese.

The photograph of the Greater White-fronted Goose published in Campbell et al. (1990a) for Nakusp is incorrect and is of unknown origin.

In the West Kootenay region, there is a significant passage of spring and autumn migrants of Greater White-fronted Goose through the Creston valley but elsewhere the species is considered of casual occurrence (Campbell et al. 1990a, Van Damme 2009).

Snow Goose
Chen caerulescens

Status: *Casual spring and autumn migrant.*

Ornithological History: Kelso (1926c) listed Snow Goose as a "Not uncommon passing winter migrant, a few are seen in spring." In May, 1921, he noted that a Snow Goose "joined a flock of tame geese on Lower Arrow Lake near Needles, remained with them until the fall, and lost much of its natural wildness. It was by no means a crippled bird." Later, Kelso (1931) recorded Snow Goose as a "not uncommon…migrant" in April, May, July, and October.

Habitat: ***Migration*:** Spring records have been from grassy fields and lakes; all autumn records have been from Arrow Lake.

Occurrence: ***Spring*:** In 1990, one or two birds were observed several times between 31 March and 22 April. Single birds have been reported on three occasions during May. ***Autumn*:** A group of two adults and seven immatures were observed on 17 October 2006 (Figure 30) and a single bird was observed between 23 and 25 November 2006.

Breeding: There are no breeding records.

Comments: Many of the single birds have been mixed with groups of Canada Geese.

Figure 30. Small numbers of Snow Geese migrate irregularly through the interior of British Columbia each year, but specific corridors have not been determined. *Photo by Gary S. Davidson, Burton, BC, 17 October 2006*. BC Photo 3759.

Ross's Goose
Chen rossii

Status: *Casual spring migrant.*

Ornithological History: Kelso (1926c, 1931) did not record Ross's Goose. The species has been reported infrequently, however, in spring and autumn migration in the Creston valley since 1967 (Butler et al. 1986, Van Damme 2009).

Habitat: ***Migration*****:** Two of the sightings were in a grassy field, the third from Arrow Lake.

Occurrence: ***Spring*****:** There are two records, both of single birds. The first was in Crescent Bay on 19 April 2007 and the second bird was seen twice, in a field in Glenbank on 30 April and on Arrow Lake at Nakusp on 2 May 2009.

Breeding: There are no breeding records.

Comments: The birds feeding in the grassy fields were in the company of Canada Geese.

Cackling Goose
Branta hutchinsii

Status: *Casual spring and autumn migrant.*

Ornithological History: Kelso (1926c, 1931) did not list this species, which was considered a subspecies of Canada Goose until 2004 (Banks et al. 2004).

Habitat: ***Migration*****:** All records were from grassy fields.

Occurrence: ***Spring*****:** There is one record for spring but the precise date is unknown (see *Comments* below). ***Autumn*****:** There are two records: 5 October and 2 November 2010.

Breeding: There are no breeding records.

Comments: The difficulty of separating Cackling Goose from Canada Goose has contributed to the lack of records since Cackling Goose was elevated to a separate species in 2004. The spring sighting was of a bird in Crescent Bay, observed prior to the species being split. At the time it was recorded as a Canada Goose, but its diminutive size was remarkable.

Canada Goose
Branta canadensis

Status: *Abundant in spring and autumn, very common in summer, and rare in winter; breeds.*

Ornithological History: Kelso (1926c, 1931) considered this species a "common resident" that breeds in "small numbers" in the district. During severe winters, when food is scarce and large areas of the Arrow lakes are frozen, "small flocks are present off Robson [well to the south of Edgewood] in the swift, broken water."

Habitat: ***Migration*****:** The large migrating flocks are most frequently seen in open fields in agricultural areas throughout the region (Figure 31). Smaller groups are observed on Arrow and Slocan Lakes.

Figure 31. During spring and autumn migration, small flocks of Canada Geese stop to rest and feed in agricultural fields in the Nakusp-New Denver-Burton area. *Photo by Gary S. Davidson, Brouse, BC, 27 October 2010.*

Breeding: Occurs most often on smaller lakes and wetlands; there are very few records of broods on Arrow Lake.

Occurrence: ***Spring*****:** A few birds may remain in the area through the winter so determining arrival dates is difficult, but migrants typically start to arrive in late February. The large spring flocks, which may approach 200 in number, begin arriving in mid-March and continue passing through until mid-April. Smaller groups continue to move through until the end of the season. ***Summer*****:** Canada Goose remains in the area through June and early July but in smaller numbers, typically less than 20 in a group. By mid-July, larger flocks begin forming and remain through the rest of the season and well into autumn. ***Autumn*****:** Flocks of up to 200, occasionally larger, are seen regularly in September and early October. Birds begin leaving as the season progresses but departure dates vary considerably from year to year; these dates seem to be weather related. In mild years, large flocks may stay well into December. ***Winter*****:** Birds may be seen throughout the winter but are not present every year.

Breeding: A regular breeding bird in the region. Adults with broods have been seen on or along most lakes; many broods are observed grazing along the shore. This is particularly true of Summit Lake, where at least a dozen broods are present most years. Nests with eggs have been reported between 10 April and 13 May (Figure 32) and adults with young between 9 May and 25 July.

Figure 32. Canada Goose breeds throughout the region and prefers isolated raised structures, including clumps of vegetation with height, on which to build its nest. *Photo by Gary S. Davidson.*

Comments: The agricultural fields in Brouse and Crescent Bay are the favourite sites for migrating birds. It is here that many of the large flocks occur in both spring and autumn.

Canada Goose has been reported on the Nakusp Christmas Bird Count 19 times (63%) in 30 years.

Trumpeter Swan
Cygnus buccinator

Status: *Casual in spring and autumn and very rare in winter.*

Ornithological History: The only record mentioned by Kelso (1926c) was of a crippled bird shot on Lower Arrow Lake opposite Edgewood on 30 April 1914.

Habitat: ***Migration and Non-breeding*****:** All records have been from Arrow Lake except a single record of two adults and three immature birds on Summit Lake.

Occurrence: ***Spring*****:** There are two records: 23 March and 12 April. ***Autumn*****:** There are three records between 11 and 29 November. ***Winter*****:** Several records between 4 December and 17 January.

Breeding: There are no breeding records.

Comments: Trumpeter Swan is a relatively recent arrival to this region. There are no records for the study area prior to 1992.

Trumpeter Swan has been reported on the Nakusp Christmas Bird Count once (3%) in 30 years.

In 2000, a mixed flock of 13 swans was reported wintering on the Slocan River a few kilometres south of Slocan Lake. The area is about 30 km south of Silverton and therefore out of the study area, but its proximity is significant. Beginning in 2001, the flock was monitored more closely. Between 2001 and 2010, the number of Tundra Swans remained fairly constant and varied between eight and 18 birds. The number of Trumpeters, however, has shown a steady increase from six in 2001 to 25 in 2010 (Peter McIver pers. comm.)

Tundra Swan
Cygnus columbianus

Status: *Accidental in spring; casual in summer and autumn; accidental in winter.*

Ornithological History: Kelso (1926c) comments "A few [Whistling Swan] seen in winter and spring passing up or down the lakes [Upper and Lower Arrow lakes], sometimes staying a few days in one locality." In his 1931 report, he noted that Whistling Swan "may be occasionally seen on the lakes in fall and spring" and in April noted a flock of 10 swans.

Habitat: ***Migration and Non-breeding*:** All records have been from Arrow Lake.

Occurrence: ***Spring*:** A single record, 13 April 1985. ***Summer*:** Two records, both for mid-June. ***Autumn*:** There are several records between 26 October and 29 November. ***Winter*:** One record on 31 December 1988.

Breeding: There are no breeding records.

Comments: All records were prior to 1999. This is the complete reverse of the situation described above for Trumpeter Swans.

Tundra Swan, formerly known as Whistling Swan, has been reported on the Nakusp Christmas Bird Count once (3%) in 30 years.

The main spring and autumn passage of migrants avoids the Arrow Lakes region but Tundra Swan is a common migrant in the Creston valley from February to mid-April and October and November each year (Van Damme 2009).

See *Comments* in Trumpeter Swan for recent changes in winter populations of Tundra Swan.

Wood Duck
Aix sponsa

Status: *Uncommon in spring, rare in summer, uncommon in autumn, and accidental in winter; breeds.*

Ornithological History: Kelso (1926c) termed this species "Very rare" having only seen it once between 1913 and 1932. A pair was present in a Beaver (*Castor canadensis*) pond between 15 and 27 April 1928 near Edgewood.

Habitat: ***Migration*:** Favours small, shallow ponds. Many of the sightings have been from the Nakusp sewage lagoons (Figure 33). Wood Duck also occurs on larger lakes of the region but much less frequently. ***Breeding*:** Broods have been found on a small, woodland pond near Summit Lake and in the marsh at the north end of Slocan Lake.

Figure 33. During spring migration, most Wood Ducks are seen in passage as pairs at the sewage lagoon. Occasionally a pair remains to breed. *Photo by Gary S. Davidson, Nakusp, BC, 20 May 2009.*

Occurrence: ***Spring*:** First spring migrants arrive in late March or early April, (early date 19 March 2005). Birds continue to be present in small numbers throughout the season (*e.g.*, Nakusp, 5 April 1982, Campbell et al. 1990a). ***Summer*:** One or two birds may remain into and through the summer in some years. ***Autumn*:** There is a small autumn migration, primarily in September, with occasional birds found in October and November. ***Winter*:** There are two records, both in early January.

Breeding: No active nests have been found but broods of young have been reported twice, on 12 May 1984 and 2 July 2000.

Comments: On 3 September 1999, a flock estimated at 100 Wood Ducks was observed at Burton. This is the only record of any group larger than 15 birds.

Wood Duck has been reported on the Nakusp Christmas Bird Count once (3%) in 30 years.

Gadwall
Anas strepera

Status: *Rare in spring, very rare in autumn, and accidental in winter.*

Ornithological History: Kelso (1926c, 1931) considered this species as "very rare" based on a single bird he collected.

Habitat: ***Migration and Non-breeding*****:** Gadwall has been reported from a wide variety of aquatic locations throughout the region, including small lakes such as Box Lake and Summit Lake, large lakes such as Arrow Lake and Slocan Lake, Bonanza Marsh and the Nakusp sewage lagoons.

Occurrence: ***Spring*****:** It passes through the region irregularly in small numbers through April and May. A record from 11 March 2001 was exceptional**.** ***Autumn*****:** Most records fall between 30 August and 26 September with two late reports from mid-November. ***Winter*****:** There is one record on 2 January 1984.

Breeding: There are no breeding records.

Comments: Gadwall has been reported on the Nakusp Christmas Bird Count once (3%) in 30 years.

Eurasian Wigeon
Anas penelope

Status: *Rare in spring.*

Ornithological History: Kelso (1926c, 1931) did not record Eurasian Wigeon. The species was first reported in the West Kootenay region, in the Creston valley, on 19 March 1976 (Butler et al. 1986).

Habitat: ***Migration*****:** All records have been from wet grassy fields in Brouse, with the exception of one bird seen on Arrow Lake at Nakusp.

Occurrence: ***Spring*****:** In recent years, from one to three birds have been reported annually. All records fall between 17 March and 21 April.

Breeding: There are no breeding records.

Comments: Prior to 2001, Eurasian Wigeon (Figure 34) was reported just twice: a male from 16 to 21 April 1979 and a male from 28 to 30 March 1993. Since that time, Eurasian Wigeon has become almost an annual visitor. All birds have been in mixed flocks with American Wigeon. In 2005, a hybrid American Wigeon x Eurasian Wigeon was observed in Brouse.

See Edgell (1984) for details on the spread of this species in North America (including British Columbia) through the early 1980s.

Figure 34. Since 1993, Eurasian Wigeon has been reported almost annually in the study area. *Photo by R. Wayne Campbell*.

American Wigeon
Anas americana

Status: *Abundant in spring, rare in late summer, very common in autumn, and casual in winter.*

Ornithological History: Kelso (1926c) listed American Wigeon as "Not uncommon on migration, when it may be seen in small flocks" and only recorded it in February, March, April, and May.

Habitat: ***Migration and Non-breeding*****:** The large spring flocks feed extensively in wet fields. Smaller groups may be seen on most waterways of the region. Most autumn birds are observed on lakes.

Occurrence: ***Spring*****:** American Wigeon (Figure 35) arrives in mid-March (early date 11 March 2000), with numbers increasing to the end of the month and into early April, peaking at about 200 birds. A small number remain through May and into early June. ***Summer*****:** There are no actual summer records, but a few late spring migrants remain in the area until early June. Similarly, a few autumn migrants may appear in the region prior to the end of August. ***Autumn*****:** American Wigeon begin arriving in late August, peaking in mid-to-lateSeptember. Their numbers do not approach those of spring, but flocks of up to 25 have been observed. A small number linger into October and November, the latest date being 27 November 1979. ***Winter*****:** There are two records: 27 December and 10 January.

Figure 35. In spring migration, American Wigeon prefers melt water areas in fields where it feeds on vegetation. *Photo by R. Wayne Campbell.*

Breeding: There are no breeding records.

Comments: Following the winter snowmelt, the fields in Brouse and Crescent Bay are very wet. Spring birds divide their time between these large wet fields and local lakes. As the fields dry up, large flocks move on and smaller groups remain on local lakes.

Mallard

Anas platyrhynchos

Status: *Abundant in early spring, very common in late spring and summer, abundant in autumn, and very common in winter; breeds.*

Ornithological History: Kelso (1926c, 1931) termed this species "Common resident; breeds freely." The largest single flock he noted was 40 to 50 birds on the lake off Edgewood on 21 April 1913. The earliest brood was seen on 1 June 1913.

Habitat: ***Migration*****:** Occurs in all lakes, ponds and marshes of the region and also makes extensive use of agricultural fields. ***Breeding*****:** On lakes, ponds, and marshes throughout the region up to about 1,000 m elevation.

Figure 36. In June and July, moulting male Mallards are widely distributed in wetlands throughout the area. *Photo by R. Wayne Campbell.*

Occurrence: ***Spring*****:** Flocks begin arriving in mid-March with peak movement in late March and early April. Numbers during this period may exceed 100 birds; a flock of 105 was observed 29 March 2000. Most migrants have passed through by early May with only breeding birds remaining. ***Summer*****:** Occurs regularly in small numbers through June and July (Figure 36). Larger aggregations begin to appear before the end of August. A group of 25 was observed on 29 August 1993. ***Autumn*****:** Most of the flocks occurring in late August and September appear to be birds that bred in the region. Migrant flocks begin

arriving in late September; peak movement is in November, when numbers may exceed 200 birds. A flock of 250 was observed at Burton on 16 November, 2005. ***Winter*:** A few remain in the region every winter but numbers vary from year to year. In recent years numbers seem to be lower (Figure 38).

Breeding: Adults with broods have been reported at most wetlands and lakes in the region (Figure 37). Broods have been reported from 12 May to 20 August.

Comments: This species is by far the most common of the waterfowl in the region. It is one of the very few duck species that regularly over-winters in the Nakusp region.

Mallard has been reported on every Nakusp Christmas Bird Count since 1980 in numbers varying from 240 birds in 1987 to 17 birds in 2008.

Figure 37. Mallard is most common during the non-breeding seasons but a significant number breed in the region. Each year, a pair raises a family on a small pond on the Nakusp golf course. *Photo by Gary Davidson, 9 May 2010.*

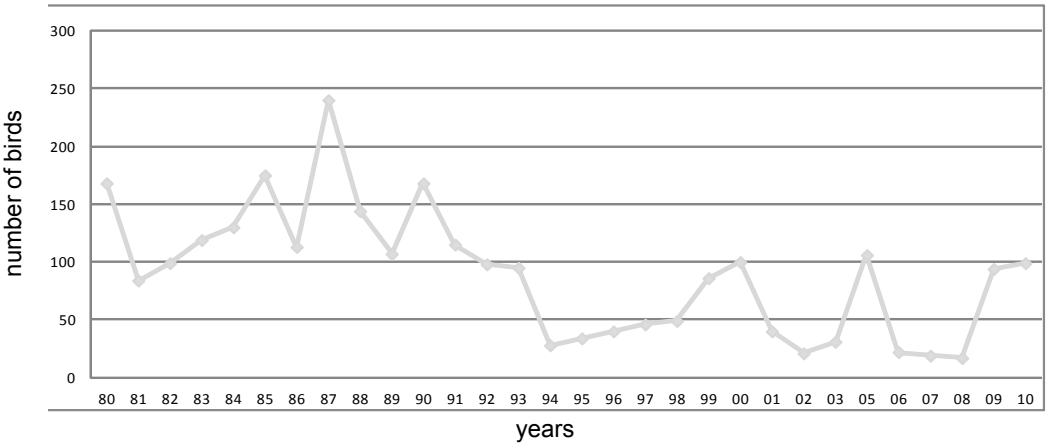

Figure 38. Numbers of Mallard tallied on Christmas Bird Counts in the vicinity of Nakusp, BC, 1980-2010.

Blue-winged Teal
Anas discors

Status: *Uncommon in late spring and rare in summer and autumn.*

Ornithological History: Kelso (1926c) noted a single record of a courting pair on 8 June (year unknown).

Habitat: ***Migration*:** Most spring records are from Arrow Lake with a few from Box Lake, Summit Lake, and Bonanza marsh. All autumn records are from the Nakusp sewage ponds or the small ponds and pools at Burton. This species apparently shuns large water bodies in autumn in favour of smaller ponds and marshes. The scarcity of such habitat in the region may account for the small number of autumn migrants that stop over.

Occurrence: ***Spring*:** Typically arrives in May (early date 28 April 2002). Numbers are small, rarely reaching 10 individuals at one time. ***Summe*r:** Occurs occasionally in early June, and again in August; these birds likely represent late spring and early autumn migrants. ***Autumn*:** Numbers are fairly small, with most passing through in early September. The latest date is 16 October 1999.

Breeding: There are no breeding records.

Comments: In spring, Blue-winged Teal is usually the last duck species to arrive and one of the earliest to depart in autumn. All but two records fall between 1 May and 16 September.

Cinnamon Teal
Anas cyanoptera

Status: *Uncommon in spring and rare in summer and autumn.*

Ornithological History: Keslo (1926c) did not record Cinnamon Teal in the Edgewood area.

Habitat: ***Migration*:** The species occurs most often on Arrow Lake or at the Nakusp sewage ponds. It very rarely uses upland lakes such as Box Lake and Summit Lake.

Occurrence: ***Spring*:** Cinnamon Teal (Figure 39) usually arrives in late April with an early date of 17 April 1993, and occurs irregularly through to the end of May. ***Summer*:** Occurs in small numbers in early June and late August. A group of 33 counted on 6 June 1999 was exceptional. June and August birds likely represent late spring and early autumn migrants. ***Autumn*:** Migration is unremarkable with a few small groups passing through in September. The latest departure date was 1 October 2000

Breeding: There are no breeding records.

Comments: Some observers have difficulty separating this species from other teal species in autumn, which may result in Cinnamon Teal being under-reported in this season.

Figure 39. In spring, Cinnamon Teal are often found in pairs on a variety of wetlands in the region. *Photo by R. Wayne Campbell.*

Northern Shoveler
Anas clypeata

Status: *Very common in spring, very rare in summer, and common in autumn.*

Ornithological History: Kelso (1926c) referred to Northern Shoveler as a "Common summer migrant; breed sparingly" and noted that in the Edgewood area it was "the commonest surface duck."

Habitat: ***Migration*:** Northern Shoveler (Figure 40) primarily in the large valley bottoms of the Arrow and Slocan lakes. There are very few records of this species using the smaller upland wetlands such as Box and Summit Lake.

Figure 40. Northern Shoveler is a regular spring migrant in the region but is not known to breed. *Photo by Gary S. Davidson.*

Occurrence: ***Spring*:** Typically arrives in early April (early date 29 March 2000). Some April and early May flocks may number up to 100 birds, but flocks of 20 to 30 are more typical. Later in May, groups are much smaller. ***Summer*:** Occurs in small numbers in late August, which may represent early autumn migrants. ***Autumn*:** Small numbers, typically fewer than 10, continue to pass through until mid-November. The latest date was 16 November 1996.

Breeding: There are no breeding records.

Comments: Spring flocks often gather well out into Arrow Lake. The deep water habitat is not ideal for feeding so it is presumed that these flocks are merely resting before continuing their northward journey.

Northern Pintail
Anas acuta

Status: *Common in spring, very rare in late summer, and common in autumn.*

Ornithological History: Kelso (1926c) considered this species as "Not uncommon. No winter records." In spring, Kelso (1931) recorded Northern Pintail from 28 March 1922 (earliest date) to 25 April 1922 (latest date) and in autumn from 20 August 1917 (earliest date) to 15 September 1914 (latest date).

Habitat: ***Migration*:** Most March records are from agricultural fields in Brouse. April and May records are primarily from Arrow Lake. Autumn records of Northern Pintail (Figure 41) are mostly from Arrow Lake or the Nakusp sewage lagoons.

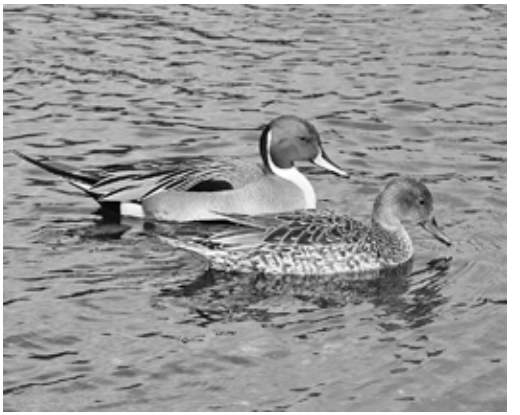

Figure 41. Northern Pintail is a common migrant in the region and is one of the earliest of waterfowl to appear in spring. *Photo by Mark Nyhof.*

Occurrence*: Spring*: Arrives in late March (early date 18 March 1995). Most birds have passed through by the end of April with a few birds lingering into May. There is one record for early June, 8 June 1992. ***Summer*:** A few late August records likely represent early autumn migrants. ***Autumn*:** Occurs from late August to early November, but most pass through in September. Larger flocks of 25 or more birds are occasionally seen, but numbers are typically much smaller.

Breeding: There are no breeding records.

Comments: Northern Pintail rarely occurs in large flocks in the region. The average group size in spring is less than 10 birds and in autumn less than five birds. The largest group ever seen consisted of 40 birds.

Green-winged Teal
Anas crecca

Status*: Common in spring, uncommon in summer (although may be absent some years), very common in autumn, and rare in winter; breeds.*

Ornithological History: Kelso (1926c) considered Green-winged Teal as "Common; breeds sparingly" and noted a few winter in the sloughs and Beaver dams near Edgewood. On 30 July 1921, Kelso (1931) found a nest with a clutch of seven eggs that was being incubated, according to a local rancher, since 16 July. He noted that this was a very late date. On 9 August, the clutch was collected and found to be addled although the hen was still incubating.

Habitat: ***Migration*****:** Green-winged Teal (Figure 42) are found in a wide range of aquatic habitats including large and small lakes, ponds, and marshes. ***Breeding*****:** Broods have been reported from shallow water habitats including marshes and on lakes near creek mouths.

Figure 42. Green-winged Teal is most common as a spring and autumn migrant in the region. *Photo by R. Wayne Campbell*.

Occurrence: ***Spring*****:** Occurs from late March (early date 23 March 2003) through the end of May with peak movement evident in late April and early May. ***Summer*****:** Occurs irregularly throughout the summer but is not reported every year. A flock of 150, on 18 August 1997, was exceptional. ***Autumn*****:** First migrants arrive in August and continue through to mid-November. Peak numbers occur in late August and early September with numbers occasionally exceeding 40. Rarely are groups larger than 10 birds reported after the end of September. ***Winter*****:** A small number of birds over-winter in some years.

Breeding: There are three breeding records for the region (Figure 43). A brood of seven (class 1B; 8-13 days of age – see Campbell et al. 2010) was at the Nakusp sewage ponds on 19 June 1992; a brood of eight young (class 1A; 1-7 days of age) was at Bonanza Marsh on 23 June 1979; and a brood of three young (class III; feathered but incapable of flight) was at Burton on 10 August 2003.

Figure 43. Nests with full complements of eggs can be found in mid-May in the Nakusp-New Denver-Burton area. *Photo by R. Wayne Campbell*.

Comments: The number of birds varies considerably from year to year. In some years, no groups of more than two or three are reported and in other years, 20 or more are reported regularly.

Green-winged Teal has been reported on the Nakusp Christmas Bird Count five times (17%) in 30 years.

Canvasback
Aythya valisineria

Status: *Casual in spring and autumn*.

Ornithological History: Between 1913 and 1926, Kelso (1926c) only recorded Canvasback twice: 12 April 1916 – a flock of 19 males and one female, and 3 November 1921 – three males.

Habitat: ***Migration*****:** All spring records are from Arrow Lake near Nakusp. Similarly, autumn records are from Arrow Lake except for two very late birds seen on Summit Lake in on 4 November 2001.

Occurrence: ***Spring*****:** Occurs sporadically between 8 April and 14 May. ***Autumn*****:** There are three records for September, a single bird on 8 October 1975 and two on 4 November 2001.

Breeding: There are no breeding records.

Comments: All sightings have been of single birds or small groups of up to six individuals. Canvasback does not occur most years and are reported, on average, once every five years.

Redhead
Aythya americana

Status: *Rare in spring, casual in autumn, and accidental in winter.*

Ornithological History: Kelso (1926c) mentions that Redhead "appears to be very rare." There are two records: An adult male was collected on 12 April 1916 from a flock of 15 or 20 birds, all males except one female, and a flock of three males was seen on Lower Arrow Lake on 3 November 1921.

Habitat: ***Migration*****:** Redhead (Figure 44) occurs on both large and small lakes of the region, including Arrow Lake, Box Lake, and Summit Lake.

Occurrence: ***Spring*****:** Occurs irregularly from 28 March to 14 May. ***Autumn*****:** There are three records between 25 September and 18 October. ***Winter*****:** The lone winter record was a single bird observed 5 December 1990 on Arrow Lake near Burton.

Figure 44. Redhead, a scarce bird in the region, is usually seen as one or two birds on area lakes. *Photo by Gary S. Davidson.*

Breeding: There are no breeding records.

Comments: Redhead does not occur annually and is reported, on average, once every two years. All records have been of small groups of up to six birds.

Ring-necked Duck
Aythya collaris

Status: *Common in spring, very rare in summer, uncommon in autumn, and very rare in winter; breeds.*

Ornithological History: It is noteworthy that Kelso (1926c, 1931) did not record this species in the district between 1913 and 1931.

Habitat: ***Migration*****:** Ring-necked Duck (Figure 45) is reported on most waterways in the region, including sewage ponds, river mouths, marshes, and both small and large lakes. ***Breeding*****:** Small, woodland lakes.

Occurrence: ***Spring*****:** Arrival dates are variable, ranging from 12 March to mid-April. Most migrants, however, arrive in early April. Although most Ring-necked Ducks have passed through by the end of May, in some years a few linger well into summer. ***Summer*****:** It has occurred in only six different years

on dates scattered throughout the season. ***Autumn*:** The movement begins in late August and continues well into November. In 1998 one flock of 10 birds on Summit Lake lingered into early December. ***Winter*:** There are four winter records, all from December.

Figure 45. Ring-necked Duck, like many other waterfowl, are mainly migrants in the study area. *Photo by R. Wayne Campbell.*

Breeding: There is one confirmed breeding record. A female with seven young was observed on Box Lake on 27 July 2010.

Comments: In addition to migrants that pass through in spring and autumn, a flock of up to 30 birds, forming in mid-September, spends several weeks on Summit Lake every autumn and remains until the lake freezes.

Ring-necked Duck has been reported on the Nakusp Christmas Bird Count twice (7%) in 30 years.

Greater Scaup
Aythya marila

Status: *Rare in spring, accidental in summer, rare in autumn, and casual in winter.*

Ornithological History: Kelso (1926c) does not include this species in his list of birds for the Arrow Lakes and later (1931) says "I have secured no specimens or had definite records of this species on the lakes."

Habitat: *Migration*: Most spring records have been from Arrow Lake. Autumn records are more scattered and also include Summit Lake and Nakusp sewage ponds. ***Winter*:** Reported only from the open water of Arrow Lake.

Occurrence: *Spring*: Occurs in small groups, up to 10 birds, from 4 April to 30 May. ***Summer*:** One record on 14 June 1980. ***Autumn*:** All records are between 6 and 28 October with the exception of one late record on Summit Lake 21 November 1998. ***Winter*:** The only winter records are from 2006. Three birds, in a mixed flock with a similar number of Lesser Scaup, were reported irregularly during January and February.

Breeding: There are no breeding records.

Comments: Both Greater and Lesser scaup migrate through the region. A great many of these birds remain well off shore on Arrow Lake, making identification difficult. The status given here is based on those that were identifiable. Actual status may be slightly higher than that stated.

Greater Scaup has been reported on the Nakusp Christmas Bird Count once (3%) in 30 years.

Lesser Scaup
Aythya affinis

Status: *Uncommon in spring, casual in summer, rare in autumn, and casual in winter.*

Ornithological History: Kelso (1926c, 1931) regarded Lesser Scaup as "common on the lakes in the spring, early summer, fall, and early winter. It is one of our commonest ducks." He recorded it in the district from 12 April to 3 June in spring and 13 August to 8 November in autumn.

Habitat: *Migration*: Early spring records are restricted to larger ice-free lakes. Once ice on the smaller lakes thaws, they are also used. Birds may also visit smaller ponds and the Nakusp sewage lagoons in both spring and autumn. ***Winter*:** Reported only on Arrow Lake.

Occurrence: ***Spring*****:** Occurs sporadically from 20 March to 23 May. Groups rarely exceed three or four birds. ***Summer*****:** There are three records, two in June and one in early July. ***Autumn*****:** Small groups of up to 10 birds occur irregularly throughout the season. ***Winter*****:** The species has occurred in December on three separate occasions. In 2006, three birds, in a mixed flock with a similar number of Greater Scaup, were reported irregularly during January and February.

Breeding: There are no breeding records.

Comments: Both Greater and Lesser scaup pass through the region in migration. A great many of these birds remain well offshore on Arrow Lake making identification difficult. The status given is based on those that were identifiable at close range; actual status may be elevated from that stated.

Harlequin Duck
Histrionicus histrionicus

Status: *Rare in spring and casual in summer and autumn; breeds.*

Ornithological History: Kelso (1926c, 1931) recorded this species as "Not uncommon." He observed it from 16 April (earliest arrival) to 15 October (latest departure) and mentions it "breeds on some of the creeks" in the district.

Habitat: ***Breeding*****:** Fast-moving creeks and streams or near the mouths of those streams as they enter Arrow Lake or Slocan Lake. ***Migration*****:** Reported only from Arrow Lake and Slocan Lake.

Occurrence: ***Spring*****:** Occurs throughout May, with one record on 28 April 1992. All records represent one or two birds, with the exception of a group of six on 2 May 1976. ***Summer*****:** There are two records, on 9 June 1980 and 19 August 2000. ***Autumn*****:** There are two records, on 24 September 2000 and 15 October 2005.

Breeding: There is one breeding record. A female with five young was observed on Wilson Creek on 19 August 1980. In addition, pairs have been seen on Kuskanax Creek, Wilson Creek, and Silverton Creek in late spring suggesting that breeding may occur more regularly than has been documented.

Comments: Harlequin Duck (Figure 46) has been reported occasionally on several of the area creeks, but sightings have been much more frequent on Silverton Creek. The only sighting of birds significantly upstream from major lakes was a male and female seen standing on rocks in Kuskanax Creek, about 10 kilometres upstream from Arrow Lake, on 28 April 1992. All of the creeks mentioned flow through largely inaccessible forested land that makes confirmation of breeding difficult.

Figure 46. The numerous clear and fast-flowing creeks in the region may support a small breeding population of Harlequin Duck. *Photo by Mark Nyhof.*

Surf Scoter
Melanitta perspicillata

Status: *Casual in spring and autumn.*

Ornithological History: Kelso (1926c, 1931) considered Surf Scoter "Very rare on the Arrow lakes." He only recorded the species twice, both on Lower Arrow Lake. An adult male was seen flying up the narrows at Robson on 17 May 1922 and on 7 October 1921 an immature female was collected off Edgewood.

Habitat: ***Migration*:** All sightings are from open water on Arrow Lake.

Occurrence: ***Spring*:** There are two records: 10 May 1986 and 17 May 1978. ***Autumn*:** There are three records, of one or two birds, between 15 September and 24 October.

Breeding: There are no breeding records.

Comments: Most sightings have been birds well offshore on Arrow Lake. It is quite possible that this species uses the lake more regularly than records indicate as birds in the middle of the lake are very hard to detect from shore.

White-winged Scoter
Melanitta fusca

Status: *Very rare in spring, accidental in summer, and casual in autumn.*

Ornithological History: During the 1920s, Kelso (1926c, 1931) recorded White-winged Scoter in every month except September and stated "Often numerous in late autumn and spring, and often noted in small flocks during the winter. Its numbers vary, some years it is very common, in others it appears to avoid the lakes on migration." Clearly, this is a change in status from the 1920s to the present. Even in Kelso's home area near Edgewood, White-winged Scoter is not being reported now with anything like the frequency he reported.

Habitat: ***Migration*:** Two spring records from open water of Summit Lake and all other records are from Arrow Lake.

Occurrence: ***Spring*:** Occurs between 2 and 18 May. Although not reported every year, the species may occur in fairly large flocks as on 7 May 1979 when a flock of 60 birds was counted. ***Summer*:** There is one record, presumably a late spring migrant, on 1 June 1980. ***Autumn*:** Three records scattered between 13 September and 7 November.

Breeding: There are no breeding records.

Comments: Many of the sightings of White-winged Scoter have been of birds well offshore on Arrow Lake. It is quite possible that this species uses the lake more regularly than records indicate as birds in the middle of the lake are difficult to see from shore.

Long-tailed Duck
Clangula hyemalis

Status: *Accidental.*

Ornithological History: Kelso (1931) reported that a male and female were shot (date not specified) near Edgewood.

Occurrence: ***Winter*:** One record of six birds on Arrow Lake, 15km south of Nakusp at the mouth of MacDonald Creek, on 5 January 2002.

Breeding: There are no breeding records.

Comments: On 28 May 1993, a lone Long-tailed Duck was seen from the Galena Bay ferry, which crosses Arrow Lake about 40 km north of the study area.

Bufflehead
Bucephala albeola

Status: *Very common in spring, accidental in summer, very common in autumn, and uncommon in winter; possibly breeds.*

Ornithological History: Kelso (1926c) mentions that Bufflehead "is resident and very common during most of the year, but is somewhat scarce between June and September; it breeds sparingly in the district."

Habitat: ***Migration*****:** Spring records of Bufflehead (Figure 47) are from lakes and ponds. Autumn records are often from the smaller lakes, particularly Summit Lake. ***Winter*****:** Occurs most often on Arrow Lake or the Nakusp sewage ponds.

Figure 47. Bufflehead is primarily a very common spring and autumn migrant in the region. *Photo by R. Wayne Campbell.*

Occurrence: ***Spring*****:** The presence of a few over-wintering birds sometimes makes it difficult to determine precise arrival dates for migrants. Earliest confirmed date is 19 March. Flocks are generally small but may reach 50 birds. These groups occur on and off until the end of May. ***Summer*****:** There are no June or July records; autumn migrants begin appearing in late August. ***Autumn*****:** Occurs from late August through November. Flocks approach 100 birds at times. ***Winter*****:** Small groups over-winter in some years. Generally flocks number less than 20 individuals. A flock of 51 at Burton on 3 January 2003 and another of well over 50 on Summit Lake on 18 December 1998 were exceptional.

Breeding: There are no breeding records within the study area, but broods have been reported from two small lakes just north of the region near Galena Bay.

Comments: This is one of several duck species that gather on Summit Lake in September and remain until the lake freezes. On a few occasions, Bufflehead numbers have approached 100 in this location. In mild years, when the lake stays open a little longer, Bufflehead remains into the winter season.

Bufflehead has been reported on the Nakusp Christmas Bird Counts 19 times (63%) in 30 years.

Common Goldeneye
Bucephala clangula

Status: *Common in spring, rare in summer, common in autumn, and uncommon in winter; breeds.*

Ornithological History: Kelso (1926c) listed Common Goldeneye as "very common in winter" in the district and recorded it from January to 21 May and 24 September to 31 December.

Habitat: ***Migration*****:** Uses all lakes and ponds. ***Breeding*****:** Generally frequents smaller lakes and ponds away from the main valley bottoms. ***Winter*****:** Occurs primarily on the larger lakes and at the Nakusp sewage lagoons.

Occurrence: ***Spring*****:** Arrives in late February or early March but confusion with over-wintering birds makes dates uncertain. Numbers fluctuate through April and taper off during May. ***Summer*****:** Occurs sporadically throughout the season but is not reported every year. ***Autumn*****:** There is only one September record, 4 September 2000. The south-bound autumn movement begins in mid-October and continues through to early December. Confusion with wintering birds makes departure dates uncertain. ***Winter*****:** Some years, significant numbers remain all winter, in other years there are no birds present. A flock of over 100 birds on Box Lake on 8 December 2001 was exceptional.

Breeding: There are several breeding records from Summit Lake and one from Beaver Lake. All records are of females with young (Figure 48). The earliest record is 13 June 1992 when a female with six class 1B young were observed on Summit Lake. The latest is 23 July 1981 when a female with seven "half-grown" young were observed on Beaver Lake (see author's note below).

Comments: It is very difficult to assign a status to this species. Groups of birds are seen almost daily during spring and autumn but numbers vary considerably from day to day and from year to year.

Common Goldeneye has been reported on the Nakusp Christmas Bird Count every year.

Author's note: It has been my experience that many observers, including me, sometimes have difficulty separating female and subadult Barrow's and Common goldeneye. To the west of Arrow Lake, in the Okanagan valley, virtually all breeding goldeneyes are Barrow's Goldeneye (Cannings et al. 1987). But to the east, in the Creston valley, most are Common Goldeneye (Van Damme 2009). My personal experience within the study region suggests that Barrow's Goldeneye is the more common breeder. However, the British Columbia Nest Record Scheme includes 12 cards for Common Goldeneye, but only three for Barrow's Goldeneye. I suspect some of the reported Common Goldeneye broods may have been Barrow's Goldeneye.

Barrow's Goldeneye
Bucephala islandica

Status: *Uncommon in spring, very rare in summer, uncommon in autumn, and very rare in winter; breeds.*

Ornithological History: Barrow's Goldeneye is listed by Kelso (1926c) as "very rare" in the district.

Habitat: ***Migration*****:** Spring records are primarily from smaller lakes such as Summit and Box lakes. Autumn records are from a wider variety of locations and include Arrow Lake and the sewage lagoons. ***Breeding*****:** All confirmed breeding records are from Summit Lake. Actively courting pairs have also been observed on other smaller, wooded lakes of the region. ***Winter*****:** Occurs on Arrow Lake and the Nakusp sewage lagoons. One exception was a small group that lingered at Summit Lake in 1998 when the lake remained unfrozen later than it normally would have.

Occurrence: ***Spring*****:** Occurs from late March (early date 23 March 1990) through late May. Numbers rarely exceed five or six birds. ***Summer*****:** All but one of the summer records fall between 1 June and 10 July. It is unclear where the breeding birds go later in the summer. ***Autumn*****:** There are a small number of records for September but most occur between mid-October and the end of November (Figure 49).

Figure 48. Adult female Common Goldeneye with class IA ducklings. *Photo by Linda M. Van Damme.*

Figure 49. In autumn, Barrow's Goldeneye may gather in small flocks of mixed sexes at the mouth of creeks at Burton, BC. This aggregation, part of a group of 87 birds, was photographed on 25 October 2010 and consisted of 21 males and 49 females. *Photo by Gary S. Davidson.*

At times, the species may briefly be very common in November. ***Winter*:** Most records are from December or early January. There are no records between 20 January and 23 March.

Breeding: There are three breeding records, all from Summit Lake. Broods have been reported between 18 June and 10 July.

Comments: Barrow's Goldeneye has been reported on the Nakusp Christmas Bird Count six times (20%) in 30 years. See author's note for Common Goldeneye above.

Hooded Merganser
Lophodytes cucullatus

Status: *Uncommon in spring, casual in summer, common in autumn, and very rare in winter; probably breeds.*

Ornithological History: Kelso (1926c, 1931) reported that on Lower Arrow Lake, Hooded Merganser was "Not common; breeds sparingly" and was recorded between April and September." He found a female with a brood of 10 ducklings (Class IA) on 24 June 1919 of which one was collected.

Figure 50. Hooded Merganser is mainly a migrant in the region and is most often found on Summit Lake in autumn. *Photo by Gary S. Davidson.*

Habitat: ***Migration*****:** Most spring records of Hooded Merganser (Figure 50) are from Box Lake, Summit Lake, or the marshes at the north end of Slocan Lake. The species is rarely found on Arrow and Slocan lakes. This is not the case in autumn. As the water levels on Arrow Lake fall, small ponds appear on the adjacent flats and are often used by Hooded Mergansers. ***Breeding*****:** Although there are no confirmed breeding records, this species does occur on some of the smaller, usually wooded, lakes and ponds during the summer. ***Winter*****:** All records are from larger lakes.

Occurrence: ***Spring*****:** Occurs from late March (early date 19 March 2005), to early May (*e.g.*, Nakusp, 11 April 1979; Campbell et al. 1990a). The species is not reported every year and numbers rarely exceed five birds. ***Summer*****:** There are six records scattered through June, July and August. ***Autumn*****:** Occurs regularly from early September to the end of November. Numbers in September are small and birds are seen in a variety of locations. By early October most records are from Summit Lake where a flock of up to 20 will remain until the lake freezes in late November or early December. ***Winter*****:** Most winter records are of autumn birds that remain until the smaller lakes freeze.

Breeding: There are no confirmed breeding records but the appearance of a family of class III young on 23 July 1995 suggests this species breeds occasionally within the region or nearby.

Comments: Hooded Merganser breeds in small wooded ponds and marshes north of Nakusp toward Trout Lake. This type of habitat is scarce within the study area and probably accounts for the lack of breeding records. In the Creston valley, it is a common breeder in stands of riparian black cottonwood (Van Damme 2009).

Common Merganser
Mergus merganser

Status: *Common in spring, uncommon in summer, very common (at times abundant) in autumn, and uncommon in winter; breeds.*

Ornithological History: Kelso (1926c, 1931) considered this species a "Very common resident; breeds freely" and "is without doubt our commonest waterfowl of the duck tribe." He noted that winter "flocks of seven to eight birds do not break up into pairs until the beginning of April and by early June females appear on the lakes with their broods."

Conflicts between sports fishermen and fish-eating mergansers have been documented in British Columbia (Munro 1937) and early amateur ornithologists were concerned about indiscriminate shooting of mergansers. Kelso (1926c) noted early that on Upper Arrow and Lower Arrow lakes, the principal food of Common Merganser was "the coarse Squawfish [*Ptychcheilus* sp.] and Sucker [*Catostomus* sp.]." He verified this by a number of dissections: no trout remains were found.

Habitat: ***Migration*****:** Common Merganser (Figure 51) occurs regularly on all lakes and rivers and occasionally on smaller ponds and sewage lagoons. ***Breeding*****:** On the larger lakes of the region including Arrow, Slocan, and Summit lakes. ***Winter*****:** Large lakes.

Figure 51. Common Merganser occurs throughout the year but numbers are highest at the mouth of creeks in autumn when Kokanee are spawning. *Photo by Mark Nyhof*

Occurrence: ***Spring*****:** Small numbers are present on Arrow Lake throughout March but it is unclear how many are over-wintering birds or migrants. New birds are definitely arriving by the end of March and continue to pass through until at least early May. Small numbers of birds remain on Arrow Lake and

Summit Lake through May and into the summer. ***Summer*:** A few pairs remain in the region all summer. Post-breeding flocks begin forming on Arrow Lake in mid-August, particularly at Burton, where flock size may exceed 100. ***Autumn*:** One or two larger flocks remain near creek mouths through much of the season. Elsewhere, numbers are generally small. ***Winter*:** Most years a few remain on Arrow Lake throughout the season. A flock of 50 at the mouth of MacDonald Creek on 4 January 2003 was exceptional.

Breeding: Common Merganser breeds on Arrow Lake, Slocan Lake, and occasionally on the smaller lakes. No actual nests have been recorded but females with broods are reported regularly. The earliest recorded date for an adult with young is 24 May (seven class IB young; 18 to 13 days old), whereas the latest date is 1 September (six class III young).

Comments: The tree-nesting habits of this species make it one of the few that can tolerate the ever changing water levels of Arrow Lake and successfully breed. This is one of several species that congregate at the creek mouths in autumn to take advantage of the bounty provided by spawning Kokanee (*Oncorhynchus nerka*). Other than this situation, birds are rarely seen on Arrow Lake in groups larger than five. This is in contrast to the situation on Summit Lake in spring and autumn when flocks of up to 20 are not uncommon.

Common Merganser has been reported on the Nakusp Christmas Bird Count 20 times (67%) in 30 years, with numbers up to 51.

Red-breasted Merganser
Mergus serrator

Status: *Very rare in spring and winter.*

Ornithological History: Kelso (1926c, 1931) reported this species three times: an immature male was collected among four others on 22 May 1918, a single bird was seen off Edgewood on 2 January 1923, and two males were showing their crests off Edgewood on 10 February 1925.

Habitat: *Migration*: All records have been from Arrow Lake.

Occurrence: *Spring*: Occurs irregularly from 5 March to 25 May (*e.g.*, Nakusp, 16 April 1978; Campbell et al. 1990a). All records were of one to eight birds. ***Winter*:** There are seven records, representing from one to five birds, all recorded between 28 December and 3 February.

Breeding: There are no breeding records.

Comments: Red-breasted Merganser has been reported on the Nakusp Christmas Bird Count three times (10%) in 30 years.

Ruddy Duck
Oxyura jamaicensis

Status: *Very rare in spring and casual in autumn.*

Ornithological History: Kelso (1926c) listed the species as "Rare. A few noted in summer and early fall." Single birds were recorded on 23 April 1916, 1 May 1927, 12 July 1915, and 25 October 1919 (Kelso 1931).

Habitat: *Migration*: All records have been from Arrow Lake except one individual reported from the Nakusp sewage lagoon on 11 October 2003.

Occurrence: *Spring*: Occurs irregularly in small groups, from one to 25 birds, between 1 April and 25 May; does not occur every year. ***Autumn*:** The few records, of one or two birds, have been reported between 12 September and 16 November.

Breeding: There are no breeding records.

Comments: Ruddy Duck is not reported most years and has occurred only once since 2003.

GROUSE, PTARMIGAN AND TURKEYS

Northern Bobwhite
Colinus virginianus

Ornithological History: Kelso (1926c) mentions that the introduced Bobwhite [Northern Bobwhite] "has appeared in the district" but does not provide specific information.

See *Comments* for Ring-necked Pheasant.

Gray Partridge
Perdix perdix

Ornithological History: Kelso (1926c) mentioned that the introduced Hungarian [Gray] Partridge "has appeared in the district" but does not provide specific information.

See *Comments* for Ring-necked Pheasant.

Ring-necked Pheasant
Phasianus colchicus

Ornithological History: Kelso (1926c, 1931) did not mention this species.

Comments: A few attempts have been made to introduce this species to the Arrow Lakes valley, but all seem to have failed. Excessive snow depth in the winter is the likely cause of the failures. There are no confirmed reports of truly wild birds in the study area.

Ruffed Grouse
Bonasa umbellus

Status: *Uncommon resident; breeds.*

Ornithological History: Kelso (1926c, 1931) considered Ruffed Grouse as "Resident." He noted the species to be very common around Upper Arrow and Lower Arrow lakes in 1913 and 1914, but a combination of a disease in 1914, years of excessive hunting during the closed season, and a very early opening to the hunting season reduced numbers. By 1928, however, "numbers appeared to be more numerous than it had been for years."

Kelso (1931) reported a nest with nine eggs on 5 May 1915 and the first brood on 2 June 1913, both near Edgewood.

Habitat: ***Breeding*****:** Nests and broods have been observed in a variety of woodland habitats where ground vegetation is sufficiently dense to provide cover. ***Non-breeding*****:** The woodland habitats used in the winter are generally more open than that used for breeding. The species may also occur in towns and gardens.

Occurrence: ***Spring*****:** Due to the quiet nature of Ruffed Grouse during the non-breeding seasons, reports are far more common in the spring and early summer when the males are displaying (Figure 52). Ruffed Grouse have been reported drumming throughout the spring season, with most records after mid-April. ***Summer*****:** It occurs regularly in June, with fewer records in July and August. ***Autumn*****:** Reported regularly in September, less frequently in October and November. ***Winter*****:** There are scattered records for December and January, but no February reports.

Figure 52. Ruffed Grouse is present year-round and in spring and early summer males can often be heard displaying. *Photo by R. Wayne Campbell.*

Breeding: Drumming occurs from late April through the end of May. Earliest known nest with eggs was observed near Summit Lake on 23 May 1972. The latest breeding evidence was a female with two half-grown young on 18 August 1976.

Comments: Only one nest with eggs has been documented within the region and fewer than 10 broods have been observed. This relative scarcity of breeding records suggests that more effort is needed to fully document the breeding chronology of this species in the region. The number of incidental records clearly indicates that the species is breeding far more commonly than existing data suggest.

Spruce Grouse
Falcipennis canadensis

Status: *Uncommon resident; breeds.*

Ornithological History: Kelso (1926c, 1931) considered Franklin [Spruce] Grouse "Resident" and "numerous at the higher elevations."

Habitat: ***Non-breeding and Breeding*:** All records are from mid-to-upper elevation coniferous and mixed forests from about 700 m to tree-line.

Occurrence: There are few records for Spruce Grouse (Figure 53) in the region, which is almost certainly due to lack of observer effort in appropriate habitat and limited access to higher elevations. ***Spring*:** Not reported. ***Summer*:** Occurs throughout the season in small numbers. Autumn: There is one record on 5 September 1986. ***Winter*:** Not reported.

Figure 53. Spruce Grouse is most often encountered along logging roads at higher elevations. *Photo by Gary S. Davidson, Summit Lake, BC, 18 June 2008.*

Breeding: Females with young have been observed on six occasions between 8 June and 20 August. No nests with eggs have been located.

Comments: The status has been estimated based on the limited records available from within the region and records from adjacent regions.

White-tailed Ptarmigan
Lagopus leucura

Ornithological History: Kelso (1926c, 1931) did not identify any *Lagopus* spp. but mentioned that a bird that was picked up on the lakeshore of Lower Arrow Lake, and died in captivity, was probably this species.

Comments: There are two or three records of this species within the study area. This is an alpine species and such habitat is virtually inaccessible in the study area. There are, however, a number of records for adjacent alpine regions where females with young have been observed between 23 July and 15 August. It seems likely that this species is an *uncommon resident* within the study area.

Dusky Grouse
Dendragapus obscurus

Status: *Uncommon resident; breeds.*

Ornithological History: Kelso (1926c) reports that Richardson [Dusky] Grouse is "resident" in the district and noted that "it was common, especially on the higher ground, until 1914, when its numbers were sadly reduced by a disease." On 24 August 1924, Kelso (1931) reported a Dusky Grouse in his garden at Edgewood, elevation 464 m. He also reported a nest with three eggs north of the study area on Mount St. Leon (elevation 732 m) and a brood with adults on 16 July 1922 at the top of Fire valley near Edgewood.

Habitat: ***Non-breeding*:** A lack of records makes it difficult to determine non-breeding habitat, but the absence of any low elevation records suggests that the majority of the population remains at higher elevations during the winter. ***Breeding*:** Dusky Grouse (Figure

54) occurs at a wide range of elevations from valley bottom to at least 2,250 m. Therefore, habitat is also quite variable. The species occupies both mixed and coniferous forests from lake level to mid-elevations, Englemann spruce/sub-alpine fir at upper elevations, and sub-alpine parklands near the tree-line.

Figure 54. Dusky Grouse, present year-round, occurs in a wide variety of habitats from wooded valley bottoms to subalpine meadows. *Photo by R. Wayne Campbell.*

Occurrence: ***Spring*****:** There are few actual records within the study area. Based on observations from adjacent areas, it is likely that Dusky Grouse is resident at higher elevations. ***Summer*****:** Occurs throughout the season in small numbers. ***Autumn*****:** One record from 10 September 2003. ***Winter*****:** Not reported.

Breeding: Adults with young have been observed between 4 July and 18 August. A nest with three eggs was reported about 10 km north of the study region on 23 May 1914.

Comments: Seventy percent of the broods reported were at elevations below 1,000 m, yet outside the breeding season there are no records at these elevations. It is likely that birds migrate upslope during winter. The status given has been estimated and is based on the limited records available from within the region and records from adjacent regions.

Wild Turkey
Meleagris gallopavo

Status: *Very rare, but may be increasing.*

Ornithological History: Kelso (1926c, 1931) does not mention Wild Turkey in the district.

Habitat: ***Non-breeding*****:** Sightings have been from small farms around Burton, along roadsides near Nakusp, and at the Nakusp landfill.

Occurrence: There have been a handful of records over the last five years, several from Burton, and more recently from the Nakusp area. Many of these are anecdotal and precise dates are not available. The Nakusp landfill observations were made on 2 October and 28 December 2008. The landfill operator reported that two birds had been there "all summer." There have been no further reports since the December sighting.

Breeding: There are no breeding records.

Comments: This species has spread northward in the West Kootenay region over the last couple of decades, probably from the well-established population in the Creston valley (Van Damme 2009). It is now well established and breeding at the north end of Kootenay Lake and up to Meadow Creek. In the Slocan valley, the northward movement has been less pronounced and seems to have reached a northern limit at the south end of Slocan Lake. In the Arrow Lakes valley, the spread northward has been more recent and so far very few birds have been reported.

LOONS

Pacific Loon
Gavia pacifica

Status: *Casual in autumn and accidental in winter.*

Ornithological History: Kelso (1926c) recorded Pacific Loon twice in the Edgewood area: 21 October 1914 (collected) and 8 May 1917.

Habitat: ***Migration and Non-breeding*:** All records have been on the open water of Arrow Lake with two off Burton and two from near Nakusp.

Occurrence: ***Autumn*:** Three records of single birds: on 26 September 1993, 18 October 2003 and 25 November 1990. ***Winter*:** A single record on 2 January 2000.

Breeding: There are no breeding records.

Comments: The winter record is the first for the West Kootenay region (Campbell et al. 1990, Van Damme 2009).

Common Loon
Gavia immer

Status: *Common in spring and summer, very common in autumn, and casual in winter; breeds.*

Ornithological History: Kelso (1926c, 1931) noted Common Loon "breeds sparingly on lakes in the district" and despite open water, the species is absent in winter. In spring, small flocks of seven or eight birds may form loose aggregations. He mentions that this species "Breeds on the Arrow and other lakes in the district." On 13 August 1913, an egg was found in the water near a nest on [Lower] Whatshan Lake.

Habitat: ***Non-breeding*:** Primarily on larger lakes. ***Breeding*:** Common Loon (Figure 55) requires a lake with undisturbed lakeshore and relatively stable water levels for breeding. It builds a nest immediately adjacent to the water, often on a moss-covered log. Breeding has been recorded at Box Lake, Summit Lake, and several of the other smaller lakes in the region. The unstable water levels on Arrow Lake make it unsuitable for nesting.

Figure 55. While recorded throughout the year, Common Loon aggregates in flocks in excess of 100 birds off creek mouths near Burton in September when Kokanee are spawning. *Photo by Gary S. Davidson. Little Wilson Lake, BC, 22 June 2009*

Occurrence: ***Spring*****:** Typically arrives in early April, occasionally in late March. Rarely are more than two or three observed at one time. ***Summer*****:** Remains in the region through the summer in pairs on smaller lakes. Small flocks begin to form on the larger lakes in early August. ***Autumn*****:** Birds continue to gather on the larger lakes through September, particularly near creek mouths where Kokanee are spawning. Most birds depart in October, with a few lingering into November and early December. ***Winter*****:** There are a few records scattered through the season.

Breeding: Nests with eggs (Figure 56) have been recorded between 15 May and 9 June and adults with young from 16 June to late August.

Figure 56. Common Loon breeds regularly on most smaller lakes in the region but not on Arrow Lake where water levels fluctuate greatly. *Photo by Gary S. Davidson*.

Comments: Arrow Lake is important as a food source even though Common Loons do not breed there. Loons are often seen moving between the smaller lakes and Arrow Lake during the breeding season to forage. Following nesting, adults and immature birds gather on Arrow Lake to feed in late summer where spawning Kokanee are apparently a major food source. In September, when the Kokanee enter the creeks to spawn, loons gather at the creek mouths. This is particularly apparent at Burton where up to 100 birds have been seen at one time.

Common Loon has been recorded on the Nakusp Christmas Bird Count three times (10%) in 30 years.

See Campbell et al. (2008) for a summary of the status and biology of the Common Loon in British Columbia, including the study area.

Yellow-billed Loon
Gavia adamsii

Status: *Accidental in spring and autumn.*

Ornithological History: Kelso (1926c, 1931) did not record this species.

Habitat: ***Migration*****:** Large lakes.

Occurrence: There are two confirmed records that may represent the same individual. ***Spring*****:** On 5 May 1991, an adult was seen at approximately the same location on Slocan Lake as reported the previous autumn (Siddle 1991). ***Autumn*****:** An adult bird, in breeding plumage, was photographed (Figure 57) on Slocan Lake, near Rosebery, on 1 September, 1990.

Breeding: There are no breeding records.

Comments: There have been one or two other unconfirmed reports of this species on Slocan Lake. The only other record for the West Kootenay region, as well as southeastern British Columbia, is from the Creston valley in November (Campbell et al. 1990a, Van Damme 2009).

Figure 57. Yellow-billed Loon, a high arctic nesting species, is very rare anywhere in the British Columbia interior. *Photo by Gary S. Davidson, Slocan Lake, BC. 1 September 1990*. BC Photo 3746.

GREBES

Pied-billed Grebe
Podylimbus podiceps

Status: *Rare in spring, casual in summer, rare in autumn, and very rare in winter.*

Ornithological History: Kelso (1926c, 1931) considered Pied-Billed Grebe "very rare" in the Edgewood area with a single record of a pair on 18 April 1922. The grebes remained to breed on a Beaver (*Castor canadensis*) dam. He did not see it on Upper or Lower Arrow lake.

Habitat: ***Non-breeding*:** Most records of Pied-billed Grebe (Figure 58) have been from Arrow Lake; exceptions are single birds seen at the Nakusp sewage lagoons and Bonanza marsh.

Occurrence: ***Spring*:** The species is not recorded every year but occurs irregularly between 11 March and 12 May. ***Summer*:** There are two late August records, perhaps representing early migrants. ***Autumn*:** Occurs throughout the season, but more than one or two individuals are rarely observed. ***Winter*:** Reported irregularly in all months about one year in every three.

Breeding: There are no breeding records.

Comments: Suitable habitat for this species is almost non-existent on Arrow Lake. While some of the smaller lakes would seem to offer more suitable habitat, there are no records from Summit or Box lake. Pied-billed Grebe has been reported on the Nakusp Christmas Bird Count six times (20%) in 30 years.

Figure 58. The lack of suitable wetland habitats in the region makes Pied-billed Grebe quite scarce. *Photo by Gary S.Davidson.*

Horned Grebe
Podiceps auritus

Status: *Very common (at times abundant) in spring, accidental in summer, common in autumn, and abundant in winter.*

Ornithological History: Kelso (1926c) listed Horned Grebe as "Resident. Very numerous" and noted "the vast majority leave the lakes and district during the nesting season." He also noted spring aggregations and reported "About the middle of April they begin to gather into flocks; sometimes these are very large. On 29 April 1920, close to Robson, I saw a flock containing two or three hundred." In his 1931 unpublished report, Kelso reported Horned Grebe as "very common on the lakes [Upper and Lower Arrow Lake], in fact one of, if not the commonest waterfowl, though its numbers vary a great deal." Each spring, he noted flocks of 200 or more Horned Grebes in the "swift water between Syringa Creek and Robson" along the east side of Lower Arrow Lake.

Habitat: ***Non-breeding*:** With the exception of a single bird seen on Summit Lake on 20 November 1993, all records are from Arrow Lake or Slocan Lake (Figure 59).

Figure 59. Some of the highest numbers of Horned Grebe in British Columbia in autumn and winter are reported from Upper Arrow Lake. *Photo by Gary S. Davidson.*

Occurrence: ***Spring*:** Most March sightings are of over-wintering birds. In late March, numbers grow as migrants begin passing through. Numbers are highest between 20 April and 6 May when there may be in excess of 200 birds on Arrow Lake. On 3 May 2003, 225 were observed from Nakusp. Departure is abrupt and by mid-May no birds remain. ***Summer*:** A single bird on 3 June 2001 and a group of three on 31 August 1992, which likely represent early autumn migrants. ***Autumn*:** Occurs throughout the season in flocks typically numbering less than 25 birds. Occasionally flocks are much larger, the maximum being 119 on 14 October, 2002. ***Winter*:** A single flock of varying size occurs annually at a narrowing of Arrow Lake about 15 km south of Nakusp. The largest number reported is 240 birds on 6 February 2006. Scattered individuals also occur in other portions of the lake.

Breeding: There are no breeding records.

Comments: The grebes that winter on Arrow Lake use the same stretch of lake every year and rarely move more than a few hundred metres during that time. Horned Grebes are not often seen anywhere else on the lake in winter.

The large, local aggregations in autumn and winter on Arrow Lake are among the highest reported for British Columbia (Campbell et al. 1990a).

Red-necked Grebe
Podiceps grisegena

Status: *Common in spring, very rare in summer, uncommon in autumn, and very rare in winter.*

Ornithological History: Kelso (1926c, 1931) found Red-necked Grebe "fairly common" in the Edgewood area from 20 April 1918 (earliest date) to 4 November 1916 (latest date) but did not consider it a wintering species nor did he record it in July. He also did not record in from January to March or in December. Kelso (1931) noted that of the five species of grebes he recorded, Red-necked Grebe was the only one to regularly "take wing" to escape. The other species mostly dived. Kelso never recorded flocks or aggregations of Red-necked Grebe; most records were of one or two birds.

Habitat: ***Non-breeding*:** Most records are from Arrow Lake with a few from Summit Lake.

Occurrence: ***Spring*****:** Single birds have been recorded on occasion in March. Small groups of up to 10 are seen regularly on Arrow Lake in April and May. Larger flocks may occur, such as a group of 58 birds on 19 April 2007. ***Summer*****:** There are three records for the June to July period. The first autumn migrants begin to arrive in mid-August. ***Autumn*****:** From one to three birds occur each year from mid-August to 15 November. ***Winter*****:** Recorded in eight different years between 1975 and 2010.

Breeding: There are no breeding records.

Comments: Although there are no breeding records, the species is known to breed on upland lakes just outside the study area (pers. obs.) and in the Creston valley (Ohanjanian 1986).

Red-necked Grebe has occurred on the Nakusp Christmas Bird Count five times (17%) in 30 years.

Eared Grebe
Podiceps nigricollis

Status: *Accidental in spring and summer.*

Ornithological History: Kelso (1926c, 1931) considered Eared Grebe "very rare on the lakes" and recorded it twice in the Edgewood area: two birds on 18 May 1917 and two birds on 22 April 1923.

Habitat: ***Non-breeding*****:** Recorded only on Arrow Lake.

Occurrence: There are three confirmed records. ***Spring*****:** One on 25 April 1989 and 7 May 1995. ***Summer*****:** One on 21 June 1992.

Breeding: There are no breeding records.

Comments: Large numbers of Horned Grebes pass through the region in autumn, many of which are in basic plumage. Many observers have difficulty separating the two similar species when they are floating well out in the lake. There have been a number of suspected Eared Grebe sightings in autumn, but none that are definitive.

Western Grebe
Aechmophorus occidentalis

Status: *Abundant in spring, very rare in summer, common in autumn, and casual in winter.*

Ornithological History: Kelso (1931) noted that Western Grebe does not breed on the Arrow lakes but he has noticed the species displaying in April and May and often as late as 24 June. An interesting comment, familiar to many birders, was Kelso's note that "Though I have been in constant touch with him [Western Grebe] for years I have never seen the bird in flight on the lakes."

Some noteworthy records from Lower Arrow Lake are: Spring: 24 April 1915 – big flock, spring arrival, 25 April 1921 – four, spring arrival, 5 May 1915 – 200 to 300, 22 May 1917 – 100 with two White-winged Scoters, and 23 May 1916 – 40 to 50. Autumn: 24 September 1914 – two birds, autumn arrival and 10 November 1913 – small flock. Winter: 1 January 1915 – 12 in flock and 2 December 1914 – 25 in a flock.

Habitat: ***Non-breeding*****:** All spring records of Western Grebe (Figure 60) have been from Arrow Lake and Slocan Lake. A few birds have also been seen on Summit Lake in autumn.

Figure 60. Western Grebe may aggregate in very large numbers on Upper Arrow Lake during spring migration in early May. *Photo by Gary S. Davidson*.

Occurrence: ***Spring*****:** Typically arrives during the third week of April but in some years may arrive earlier. In 2000, a group of nine birds was observed on Arrow Lake on 11 March. Peak numbers, sometimes in the thousands, occur in late April and early May. All have passed through by early June. ***Summer*****:** There are a few summer records most of which are one or two birds. A flock of 50 seen on 7 June 1977, however, was exceptional. ***Autumn*****:** Migration is much less pronounced than that in spring with migrating groups usually less than 10 birds. These small groups occur throughout the season and may linger into December. ***Winter*****:** Between 1975 and 2010, Western Grebe has been reported four different years.

Breeding: There are no breeding records.

Comments: Spring flocks, on average, number from 100 to 300 birds but may reach several thousand on occasion. On 5 May 1981, a flock estimated at 5,000 birds was observed on Arrow Lake off Nakusp. This is the largest spring staging flock reported for interior British Columbia (Campbell et al. 1990a).

Western Grebe has been reported on the Nakusp Christmas Bird Count four times (13%) in 30 years.

Kelso (1926c) recorded Western Grebe in every month of the year, as singles or in flocks of eight to 12 birds except in spring when flocks of 200 to 300 birds are present. On 18 May 1915, he estimated a flock "reaching from a mile and a half to two miles" at over 1,000 birds. It appears that open water of Upper and Lower Arrow lakes is an important spring staging area for Western Grebe in British Columbia.

PELICANS

American White Pelican
Pelecanus erythrorhynchos

Status: *Casual in spring and early summer.*

Ornithological History: Kelso (1926c, 1931) did not record this species between 1913 and 1932.

Habitat: ***Migration*****:** Large lakes and mouth of creeks.

Occurrence: ***Spring*****:** Small numbers are reported periodically from Arrow Lake in the spring. ***Summer*****:** The only significant number was a flock of 120 birds observed at the mouth of Caribou Creek in Burton on 16 June 1983. A slightly smaller flock, probably the same group, was reported on Slocan Lake near New Denver the following day.

Breeding: There are no breeding records.

Comments: The timing of these occurrences suggests that these birds are not part of the only known breeding colony at Stum Lake in central British Columbia (Campbell et al. 1990a).

Farther south, in the Creston valley of the West Kootenay, American White Pelican has become a regular, but uncommon non-breeding visitor each summer (Van Damme 2009).

CORMORANTS

Double-crested Cormorant
Phalacrocorax auritus

Status: *Casual in autumn.*

Ornithological History: Kelso (1926c, 1931) did not record Double-crested Cormorant between 1913 and 1932.

Habitat: ***Migration*:** Large lakes.

Occurrence: ***Autumn*:** In 1998, five birds were present on Arrow Lake at Burton from 19 to 26 September. The only other sighting was a single bird on Arrow Lake west of Nakusp on 11 November 1997.

Breeding: There are no breeding records.

Comments: Farther south, in the Arrow Lakes valley, I have observed that Double-crested Cormorant has become a regular visitor in recent years. This may be due to a newly established colony in the Creston valley in 2003 (Van Damme 2004) and its success in recent years; L. M. Van Damme pers. comm.).

BITTERNS, HERONS AND EGRETS

American Bittern
Botaurus lentiginosus

Status: *Casual.*

Ornithological History: Kelso (1926c) listed American Bittern as "A summer migrant, not common on the Arrow Lakes." He confirmed breeding when he photographed a female near Whatshan Lake sitting on five eggs on 9 June 1915. The adult was still incubating eggs on 20 June. Later Kelso (1931) called the species "very rare about Edgewood and the lake shores because there are few places to its liking." He lists two records: 28 July 1926 – 1 flushed from boathouse wharf and flew towards slough; 18 September 1914 – one in small creek "that remained stock still" until flushed.

Habitat: ***Migration*:** Marshy wetlands.

Occurrence: There are two records. ***Spring*:** A single bird was observed in a small marshy patch adjacent to the Nakusp airfield on 20 May 1979. ***Autumn*:** A dead bird was picked up in the Nakusp recreation park on 18 September 1986.

Breeding: There are no breeding records.

Comments: The lack of marsh habitat with significant emergent vegetation undoubtedly accounts for the few records. The marshes at the north end of Slocan Lake and the southeast end of Summit Lake, however, appear to be suitable, but the species has not been recorded there.

The extensive marshes in the Creston valley support one the highest concentration of American Bitterns in southeastern British Columbia and likely British Columbia (Campbell et al. 1990b, Cooper and Beauchesne 2003).

Great Blue Heron
Ardea herodias

Status: *Uncommon in spring and summer, locally common in autumn, and rare in winter; breeds.*

Ornithological History: Kelso (1926c, 1931) simply mentions "Herons are occasionally seen every summer."

Habitat: ***Breeding*:** There are no colonies, but a few individual pairs occasionally breed within the study area. Nests have been seen in live conifers beside shallow lakes. ***Non-breeding*:** All records are along waterways with most at the mouths of creeks entering Arrow Lake.

Occurrence: ***Spring*:** Small numbers begin arriving in late March and early April (early date 3 March 1995). One or two herons may occur irregularly throughout the season. The maximum number seen in one day was three. ***Summer*:** Numbers continue to be low and sightings are irregular throughout the season. ***Autumn*:** Numbers increase in late August and September, particularly at Burton, where up

to 15 may congregate when Kokanee are spawning in local creeks. Numbers decline after the end of September, but one or two birds may remain well into November. ***Winter*:** In some years, one or two will remain in the Burton area all winter. Elsewhere, herons are rarely seen.

Breeding: There are very few breeding records. In the early 1990s, two or three pairs built nests in live conifers adjacent to Box Lake. The nests were used for two years but not again. No other nests have been located. However, on 24 June 2010, a nestling Great Blue Heron was found wandering around a residential area in Glenbank, about 1.5 km northeast of Nakusp. The bird was nursed back to health by veterinarian Laurie Page and released at nearby Twin Lakes on 30 June.

Figure 61. Juvenile Great Blue Herons disperse into the region in July and August and remain in small numbers into early autumn. *Photo by R. Wayne Campbell.*

Comments: Juvenile Great Blue Herons (Figure 61) are sometimes seen in the area in July and August. The September congregation at Burton always includes several juvenile birds. This suggests that perhaps a few pairs do nest somewhere in the coniferous forests of the region. In other parts of the West Kootenay region, small colonies of two to four nests have been observed in conifers, usually besides lakes, while much larger colonies are established in riparian black cottonwood (Van Damme and Colonel 2007).

Cattle Egret
Bubulcus ibis

Status: *Very rare in autumn and accidental in winter.*

Ornithological History: Kelso (1926c, 1931) did not record this species.

Habitat: *Non-breeding*: All records are from grassy areas, mostly in agricultural fields in Brouse, and occasionally on playing fields at local schools.

Occurrence: ***Autumn*:** It has occurred from 14 October to the end of the season and does not visit annually. ***Winter*:** There is one record: an egret that arrived in Nakusp on 8 November 1981 was captured in an emaciated state on 15 December. It was tended over the winter and released the following spring.

Breeding: There are no breeding records.

Comments: Cattle Egret first appeared in the region on 9 November 1980 (Campbell et al. 1990a) and was again reported the following year on 16 November. There was then an 11-year gap before its next appearance on 31 October 1992. At least one was reported almost annually between 1992 and 1998, but the species did not visit again until 2009.

VULTURES

Turkey Vulture
Cathartes aura

Status: *Uncommon in spring and summer and rare in autumn; may breed.*

Ornithological History: Between 1913 and 1932, Kelso (1926c, 1931) listed Turkey Vulture as "very rare" in the district based on two records. On 17 July 1913, a vulture settled on a tree on the lakeshore near Edgewood and on 25 August 1918 one flew over Edgewood trying to avoid the stoops of an Osprey.

Habitat: ***Migration and Summer*:** Turkey Vulture (Figure 62) occurs throughout the region in all habitats at elevations up to at least 1,200 m, and is often seen at roadsides feeding on road-killed wildlife. Soaring birds are most often reported from Brouse and the Nakusp golf course.

Occurrence: ***Spring*:** Typically arrives in mid-April (early date 5 April 2007) after which up to six birds are seen irregularly through the season. ***Summer*:** The spring pattern continues through June and July, with a slight increase in reports in late August. ***Autumn*:** In most years, vultures have left the region by mid-September (late date 27 September 2008). Larger groups, up to eight birds, which may include juveniles, are occasionally seen in early September.

Breeding: There are no breeding records, but the presence of mixed groups of adults and juveniles in late summer suggests breeding.

Comments: There are no records in the region prior to 1995. Between 1995 and 2005, there were a few records each year. Since that time, numbers have continued to increase and Turkey Vulture is now seen quite regularly through the spring and summer (Campbell et al. 2005).

Figure 62. Formerly rare in the region, Turkey Vulture now occurs regularly from mid-April to mid-September. *Photo by Mark Nyhof.*

OSPREY, EAGLES AND HAWKS

Osprey
Pandion haliaetus

Status: *Very common in spring, summer, and autumn; breeds.*

Ornithological History: Kelso (1926c, 1931) found Osprey a "common summer migrant" that "breeds freely." It is usually present from 10 April to 15 October. Extreme dates recorded are 7 April and 14 November, the latter date had a "fall of deep snow on the ground."

He noted that "Every few miles on both shores of the Arrow and other lakes a nest may be seen on the "summit of a tall dead tree." Some of the nests have been used for years; one to my knowledge was in use seventeen years." Kelso noted nest-building commenced as early as 16 April (1923) and nests contained eggs on 3 May (1915). He recorded large nestlings being fed by adults as late as 3 August. All nests Kelso observed were in trees.

Habitat: ***Breeding*****:** Virtually all Osprey (Figure 63) nests are located on the towers supporting BC Hydro's transmission line between Nakusp and Fauquier (Figure 64). This corridor runs along the east side of Arrow Lake through coniferous and mixed forests within one kilometre of the lake. Nests in trees are very rare but a few have been noted. ***Non-breeding*****:** Occasionally observed on smaller lakes, even those on which no breeding has been noted.

Occurrence: ***Spring*****:** Typically arrives directly at nest sites in mid-April (early date 8 April 1993). ***Summer*****:** Seen regularly throughout the season. ***Autumn*****:** Departure dates vary from one individual to another, but numbers seem to show a steady decline through September with most having left by 30 September. The latest departure date is 10 October 1994.

Breeding: Breeds regularly along Arrow Lake. Due to the height of the nests, egg dates are difficult to determine, but based on adult behaviour on nests, it appears that eggs are most often laid in early May. One individual appeared to be incubating much earlier,

Figure 63. Osprey is a familiar sight in the region from about mid-April through September each year. *Photo by Alistair Fraser.*

Figure 64. Up to 20 pairs of Osprey nest on the cross arms of transmission poles along Upper Arrow Lake south of Nakusp. *Photo by Gary S. Davidson, near Nakusp, BC, 5 August 2007.*

on 25 April 2010. The earliest date for a nest with young visible from the ground is 3 July 2010; later nesting birds may still have young in the nest in late August.

Comments: For nine years between 1994 and 2010, 23 to 36 Osprey nests were monitored regularly between Nakusp and Fauquier in the West Kootenay region of British Columbia (see Campbell et al. 2010, 2011). The number of large young per successful nest ranged from a low of 1.42 in 2005 (n = 19 nests) to a high of 2.25 in 1998 (n = 12 nests) (Table 1).

See Poole (1989) for a comprehensive summary of the ecology and breeding biology of Osprey in North America.

Table 1. Summary of activity and contents for Osprey nests monitored from Nakusp to Fauquier in the West Kootenay region of British Columbia, 1994 to 2010.

	Year								
Osprey Nests	**1994**	**1995**	**1998**	**2002**	**2003**	**2005**	**2007**	**2009**	**2010**
Number active[1]	23	16	14	21	20	22	21	18	27
Number successful[2]	14	10	12	17	13	19	15	13	19
Total number of young[3]	27	20	27	25	19	27	23	25	30
Average number of young/successful nest	1.93	2.00	2.25	1.47	1.46	1.42	1.53	1.92	1.58

[1] A nest was deemed to be active if incubation or small young were observed.
[2] A nest was deemed to be successful if at least one large young was observed
[3] The total represents the sum of the maximum number of young observed in each nest

Bald Eagle
Haliaeetus leucocephalus

Status: *Uncommon in spring and summer, very common in autumn, and uncommon in winter; breeds.*

Ornithological History: Kelso (1926c) lists this species as "Not common, but resident, and breeds in the district." On 13 August 1913, Kelso (1931) checked a nest at Whatshan Lake, 15 km west of Burton, which had been occupied since 1907. The nest contained a large nestling and a recently fledge young.

Habitat: ***Breeding*****:** All nests have been along one of the area's lakes, with most located on Arrow Lake, Summit Lake, and Slocan Lake. Of the six active nests currently known in the region, all are in large black cottonwoods. ***Non-breeding*****:** Frequents lakeshores and agricultural areas.

Occurrence: ***Spring*****:** There is no evidence of any significant influx of migrants, with numbers of three to eight present throughout the season. ***Summer*****:** Adult and immature birds occur regularly through June and July. However, there is a noticeable increase in numbers toward the end of August. ***Autumn*****:** There is a marked increase in sightings in September as birds move into the area to feed on Kokanee that spawn in the area's creeks, when up to 50 may be seen in a day. By early October, numbers are beginning to diminish and by the end of the month only resident birds remain (Figure 65). ***Winter*****:** Although not seen daily, several pairs and a number of immature birds remain in the area right through the season.

Breeding: Several pairs nest in the study area. Based on the observation of sitting birds, incubation appears to begin in late March. The earliest record of a nest with young is 31 May 1995. The latest date for a nest with young is 15 July 1997, however, fledged young apparently return to the nest regularly until at least the end of July.

Comments: Bald Eagle is one of several species that congregate around the mouths of local creeks in September. The most productive area is Burton. Up to 50 eagles may gather there in autumn to take advantage of the abundant food supply provided by dying Kokanee.

Bald Eagle has been reported on the Nakusp Christmas Bird Count 23 times (77%) in 30 years.

Figure 65. Each autumn, Bald Eagles congregate at Burton, BC, to feast on dead and dying Kokanee. *Photo by Gary S. Davidson, 25 October 2010.*

Northern Harrier
Circus cyaneus

Status: *Rare in spring, very rare in summer, rare in autumn, and accidental in winter.*

Ornithological History: Kelso (1926c) considered this raptor a "rare summer migrant" in the district. He recorded single migrating birds between 10 August (1923) and 26 September (1923).

Habitat: ***Breeding*****:** The area offers little wetland or upland habitat suitable for nesting. ***Non-breeding*****:** Most foraging locations are along lakeshores or in agricultural fields of Brouse (Figure 66).

Occurrence: ***Spring*****:** There are a few records scattered through April and May each year with no clear migration pattern. ***Summer*****:** A few early June records are probably late spring migrants. In 2005, a single individual remained in the area through the summer. There are also a few late August records that probably represent early autumn migrants. ***Autumn*****:** The autumn movement is better defined than in spring, and peaks in the last half of September. However, records are still scarce, so patterns are hard to determine. In some years, individuals may linger well into November (late date 15 November 1986). ***Winter*****:** In 1998, an immature bird was observed twice in early January.

Breeding: There are no breeding records.

Comments: Although the study area is within the known breeding range for Northern Harrier, extensive marshes with emergent cattails and bulrushes and large tracts of shrubby upland habitat are not available.

Figure 66. Although of rare occurrence, Northern Harrier is occasionally attracted to the region where it hunts in agricultural fields at Brouse. *Photo by R. Wayne Campbell, Brouse, BC, 10 August 1996*.

Sharp-shinned Hawk
Accipiter striatus

Status: *Uncommon in spring, rare in summer, uncommon in autumn, and casual in winter.*

Ornithological History: Kelso (1926c) mentions this species as a "Common summer migrant; a few winter." In his 1931 manuscript he updates the status of Sharp-shinned Hawk as "Not uncommon in former years in the district, now rarer."

He also recounts an event of predation on domestic fowl: On May 5, 1921, "a friend gave me a female Sharp-shinned Hawk. It came down to a brood of his very small chicks [poultry]. My friend had left the frame over the little run open a bit & the hawk actually passed in & killed two or three of the chicks. The marauder was dispatched with a club."

Habitat: ***Breeding and Non-breeding*****:** Sharp-shinned Hawk (Figure 67) frequents a wide variety of wooded and semi-open habitats, including residential areas, throughout the region.

Figure 67. Sharp-shinned Hawk is often attracted to bird feeding stations in the region. *Photo by Gary S. Davidson, Nakusp, BC, 29 November 2007.*

Occurrence: ***Spring*****:** Single Sharp-shinned Hawks have occurred from 25 March to the end of May with no evidence of a significant migration through the region. ***Summer*****:** There are fewer than 10 records all-time of individuals scattered throughout the season. ***Autumn*****:** A slight increase in the number of records is evident during the middle of September, but still no sign of a significant migration. There are very few records after the end of September. ***Winter*****:** There are two records for December; 2 December 1990 and 10 December 2006.

Breeding: There are no breeding records within the study area but breeding has been documented elsewhere in the West Kootenay region (Campbell et al. 2011).

Comments: Farther south, in the Arrow Lakes valley near Castlegar, large numbers of Sharp-shinned Hawks have recently been tallied at a hawk watch site. No suitable site for observing migration has been located within the study region, so perhaps far more pass through than are being detected.

Sharp-shinned Hawk has been reported on the Nakusp Christmas Bird Count just once (3%) in 30 years.

Cooper's Hawk
Accipiter cooperii

Status: *Uncommon in spring, very rare in summer, rare in autumn, and very rare in winter.*

Ornithological History: The status of this species was the same as for Sharp-shinned Hawk "Common summer migrant; a few winter." (Kelso 1926c). Kelso (1931) noted two instance of predation: August 31, 1922, one at Fly Creek "shot out of the woods and seized & carried off a chipmunk" [*Tamias* spp] and on July 14, 1926, one near Burton "rose from the road with large bird…identified as half grown Ruffed Grouse."

Habitat: ***Non-breeding*****:** Cooper's Hawk (Figure 68) has been reported in a wide range of mixed wooded and semi-open habitats.

Figure 68. There are no known migration corridors in the region used by Cooper's Hawk. All observations are incidental. *Photo by R. Wayne Campbell.*

Occurrence: ***Spring*****:** Occurs sporadically from 4 April to the end of May. **Summer:** There are a few scattered records for July and August. ***Autumn*****:** All records fall between 27 August and 19 September. ***Winter*****:** There are a few scattered records between 11 December and 10 January.

Breeding: There are no breeding records.

Comments: Farther south in the Arrow Lakes valley near Castlegar, large numbers of Cooper's Hawks are observed in migration at a hawk watch site (pers. obs.). No suitable site for watching migration has been located within the present study region, so perhaps far more are passing through than are being detected.

Cooper's Hawk has been reported on the Nakusp Christmas Bird Count three times (10%) in 30 years.

Northern Goshawk
Accipiter gentilis

Status: *Very rare in spring, casual in summer and autumn, and very rare in winter.*

Ornithological History: Kelso (1926c) listed this species in the district as "Common in summer, but not so numerous as it used to be a few years ago. A few winter." He recorded Northern Goshawk in every month (Kelso 1931). Like other accipiters, this species is "Very destructive to poultry." Northern Goshawks were shot on March 9 and August 14, 1914 swooping at some domestic hens and in 1924 a farmer related that a goshawk had frequently visited his ranch and carried off 12 chickens.

Habitat: ***Non-breeding*****:** Most records are from mixed coniferous woodlands adjacent to marshes and lakes and in agricultural areas and towns.

Occurrence: ***Spring*****:** There are fewer than 10 records all-time, all scattered between 15 March and 23 May. ***Summer*****:** There are three records, 4 June 1988, 5 August 1979 and 9 August 1984. ***Autumn*****:** There are two records for early September, 5 September 1986 and 12 September 1993, and one for late November, 26 November 1983. ***Winter*****:** There is a small cluster of sightings between late December and late January during which half of all sightings occur.

Breeding: There are no breeding records but there are two records just south of the study area where nests with young have been reported near Edgewood and from Whatshan Lake.

Comments: Northern Goshawk has been reported on the Nakusp Christmas Bird Count eight times (27%) in 30 years.

Swainson's Hawk
Buteo swainsoni

Status: *Accidental.*

Ornithological History: Kelso (1926c) reported Swainson's Hawk was "very rare" in the Edgewood area and that a "specimen was obtained by a friend." No details were provided.

Occurrence: ***Summer*****:** The only occurrence was an injured bird found near Nakusp on 11 August 2002. The bird was taken to a rehabilitation facility and later released.

Breeding: There are no breeding records.

Comments: This species has been reported in nearby alpine areas during the summer, a habitat within the study area that is hard to access on foot and is little studied.

Red-tailed Hawk
Buteo jamaicensis

Status: *Common in spring, uncommon in summer and autumn, rare in winter; probably breeds.*

Ornithological History: Kelso (1926c, 1931) found this species to be a "summer migrant" that "breeds, but is not common in the district." He recorded it from 9 March to 14 November. Most Red-tailed Hawks leave the district by mid-September, a time that "coincides with the commencement of hibernation of the destructive Gopher [Columbia Ground Squirrel, *Spermophilus columbianus*], on which this bird feeds extensively.

Habitat: ***Migration and Non-breeding*:** Red-tailed Hawk (Figure 69) is a habitat generalist and occurs throughout the region in a wide variety of habitats from valley bottom to at least 2,200 m.

Figure 69. Red-tailed Hawk is most commonly seen in the region during spring migration between mid-March and early May. *Photo by R. Wayne Campbell.*

Occurrence: ***Spring*:** A regular spring migrant with a steady movement between mid-March and early May. ***Summer*:** Seen less frequently than in spring, but sightings continue on an irregular basis throughout the season. ***Autumn*:** Movement is not as pronounced as that in spring, but there is a small peak of migrants in the latter half of September. Single birds continue to trickle through until mid-November. ***Winter*:** Reported once or twice most winters and with increasing regularity in recent years.

Breeding: Despite the occurrence of these hawks in late spring and summer, there are no breeding records. On occasion, there have been repeated sightings of a single bird in the same location during the breeding season. There have also been a few sightings of adult and juvenile birds soaring together in late summer. Even though no breeding evidence exists, it seems likely that they do breed in small numbers.

Comments: Red-tailed Hawk has been reported on the Nakusp Christmas Bird Count 11 times (37%) in 30 years, eight of those have been within the last 10 years.

Ferruginous Hawk
Buteo regalis

Status: *Casual in spring.*

Ornithological History: Kelso (1926c, 1931) did not record this species.

Habitat: ***Migration*:** Agricultural fields.

Occurrence: ***Spring*:** There are two records of single birds: 5 May 1992 (Bowling 1992, Davidson 1993) and 13 April 2002. Both were observed in the same large agricultural field in Crescent Bay.

Breeding: There are no breeding records.

Comments: The Crescent Bay field has a viable population of Columbian Ground Squirrels (*Spermophilus columbianus*) upon which this hawk is known to feed.

The spring records are the first reported for the

West Kootenay region (Campbell et al. 1990b, Van Damme 2009).

Rough-legged Hawk
Buteo lagopus

Status: *Very rare in spring and autumn and casual in winter.*

Ornithological History: Kelso (1926c, 1931) did not record this species.

Habitat: ***Migration and Non-breeding*:** All records are from agricultural areas or open areas along lakeshores.

Occurrence: ***Spring*:** It has been reported between 4 April and 11 May. ***Autumn*:** The species occurs from 1 to 26 November. ***Winter*:** There is one record of a single bird, 5 December 1977.

Breeding: There are no breeding records.

Comments: The extensive agricultural lands in the Creston valley support one of the largest concentrations of migrating and wintering Rough-legged Hawks in British Columbia (L.M. Van Damme pers. comm.).

Golden Eagle
Aquila chrysaetos

Status: *Casual in all seasons at low elevations and probably more regular at higher elevations.*

Ornithological History: Kelso (1926c, 1931) mentions that the "wide-ranging" Golden Eagle is "occasionally seen" in the district. He lists three records for the Lower Arrow Lake region: 30 November 1915 – one perched on tamarack; 13 to 15 June 1919 – three hunting along hillside; and 25 July 1922 – two perched on a partially dead tree.

Habitat: ***Non-breeding*:** Most records are of birds flying so habitat was not delineated. In other parts of the West Kootenay region, this species is of more regular occurrence but generally at higher elevations.

Occurrence: ***Spring*:** Three records, of one or two birds, between 14 March and 24 April. ***Summer*:** There are no lowland records but a single bird was observed soaring over a ridge at 1,800 m in mid-July. ***Autumn*:** Two records of single immature birds, 2 October 1981 and 14 October 1990. ***Winter*:** Two records of immature birds, 6 December 1980 at Burton and 17 December 1980 at Nakusp.

Breeding: There are no breeding records.

Comments: Sub-alpine and alpine habitat, where Golden Eagles are assumed to be living in spring and summer, is difficult to access on foot so details for the study area are based on lowland sightings. The species is quite scarce anywhere in the heavily forested West Kootenay region.

Two of the records listed above, one each from November and December, represent immature birds that were found emaciated and unable to fly. They were captured and taken to rehabilitation centres for care.

FALCONS

American Kestrel
Falco sparverius

Status: *Uncommon in spring, rare in summer, uncommon in autumn, and very rare in winter; breeds.*

Ornithological History: Kelso (1926c, 1931) recorded this species as a "very common summer migrant in most seasons; last summer (1925) rare. I have one record for winter (12 December 1913)." He recorded the small falcon between 18 April (earliest date) and 6 October (latest date) in the district.

He reported three active nests: 2 June 1914 – nest hole at the top of a high tamarack with nestlings; 25 May to 16 July 1918 – pair nesting in a hole with nestlings on 15 June; and 23 May 1924 – a pair nesting in a black cottonwood in a new Pileated Woodpecker cavity that was excavated between 9 February and 13 April.

Kelso noticed American Kestrels catching, or attempting to capture, beetles (2 August 1913), a bat (1 June 1916), and grasshoppers (7 September 1919) in the Edgewood area.

Habitat: ***Breeding*****:** Most records of American Kestrel (Figure 70) are from agricultural areas, such as Brouse, or from transportation corridors where wide grassy verges are available for hunting. ***Non-breeding*****:** By late summer, habitat used also includes lakeshores and open areas around creek mouths, particularly at Burton.

Occurrence: ***Spring*****:** Typically arrives during the second week of April (early date 29 March 2000). Kestrels continue to occur irregularly through April and May with a slight peak in numbers in early May. ***Summer*****:** Does not occur every year. While June and July numbers are quite low, there is a noticeable increase in August. ***Autumn*****:** Migration begins in late August and continues through early October with a slight peak in mid-September. The latest departure date is 14 October 1990. ***Winter*****:** It does not occur every year and when present is reported irregularly throughout the season.

Breeding: No active nests have been documented, but recently fledged juveniles, with one or two attending adults, have been reported seven times between 23 June and 30 July.

Comments: The region lacks significant open areas and grasslands for foraging, and the dense coniferous forests that dominate the region are not favoured by this species for breeding.

American Kestrel has been reported on the Nakusp Christmas Bird Count five times (17%) in 30 years.

Figure 70. Since breeding and foraging habitat in the region is limited, American Kestrel is mainly a migrant in the region. *Photo by R. Wayne Campbell.*

Merlin
Falco columbarius

Status: *Common in spring and summer, uncommon in autumn, and very rare in winter; breeds.*

Ornithological History: Kelso (1926c, 1931) considered Merlin "Very rare." He collected a bird on 9 October 1925 near Edgewood. On another occasion (date unknown) he observed a Merlin "attack a Spotted Sandpiper & cause it to dive & thus escape being picked off the surface of the lake…the falcon showed no perseverance in its efforts to secure its prey."

Habitat: ***Breeding*****:** All records are from town parks and golf courses where Merlins take advantage of abundant nests of American Crow (*Corvus brachyrhynchos*) for breeding. ***Non-breeding*****:** Most often reported from town sites, golf courses, and nearby agricultural lands. Merlins are occasionally seen hunting birds at local residential feeders.

Occurrence: ***Spring*****:** Precise timing of spring arrivals is difficult to determine due to the presence of occasional over-wintering birds. It appears, however, that migrants are arriving by the second week of March. Birds are not often seen away from known breeding territories, which suggest that there may be very few passage migrants through the region. ***Summer*****:** Merlin is seen, or heard, daily through the summer, although less often in June during the incubation period. Birds become much more evident in July when adults and fledged young are present. Most August records are of single birds, suggesting that family groups have dispersed. ***Autumn*****:** Migrants occur regularly through September and early October. Most have departed by mid-October, but occasionally birds are reported through the end of November. ***Winter*****:** Not reported most years, but single birds have over wintered.

Breeding: At least three pairs have nested annually. One pair nests within the town site of Nakusp, one pair at the Nakusp golf course in Brouse, and a third

Figure 71. Merlin nest containing four downy chicks less than a week old. *Photo by Michael McMann, Nakusp, BC.*

pair in New Denver. Actual nests are not always located but the behaviour of adults in spring, and the presence of family groups later in the year, suggests annual breeding. Copulation has been observed as early as 29 March. A nest was found in Nakusp with four downy young in late May or early June (exact date unknown; Figure 71). Fledged young generally appear towards the end of June or early July. On 15 July 2002, four recently fledged juveniles were observed at the golf course. Two young seems to be the normal brood. All nesting has occurred in the abandoned nests of American Crows.

Comments: With the two Nakusp area nests annually producing young, one for at least 34 years, it is surprising that other descendants have not occupied new territories. American Crow, a potential predator of eggs, does not nest in the surrounding coniferous forests, preferring instead, the artificial parkland settings of human-altered habitats. Perhaps the golf course site and the Nakusp site are too small to support two breeding pairs, but there are other potential sites. Crows also nest in Brouse, for example, and no Merlins have attempted to breed in that area.

Merlin has been reported on the Nakusp Christmas Bird Count four times (13%) in 30 years.

Gyrfalcon
Falco rusticolus

Status: *Accidental in autumn.*

Ornithological History: Kelso (1926c, 1931) did not record this species.

Occurrence: ***Autumn*:** One bird was seen flying in Crescent Bay on 26 November 2006.

Breeding: There are no breeding records.

Peregrine Falcon
Falco peregrinus

Status: *Accidental in autumn and winter.*

Ornithological History: Kelso (1926c) listed Peregrine Falcon as "very rare" in the Edgewood area suggesting that he only saw the species once. No other details are available.

Occurrence: Only two records. ***Autumn*:** One on 11 November 1994. ***Winter*:** One on 2 January 1991.

Breeding: There are no breeding records.

Prairie Falcon
Falco mexicanus

Status: *Casual in summer and very rare in autumn.*

Ornithological History: Kelso (1926c, 1931) did not record this species.

Habitat: ***Migration and Non-breeding*:** Records are from the vicinity of creek mouths on Arrow Lake where a variety of birds congregate to take advantage of the Kokanee spawn in autumn. The species has been observed pursuing shorebirds.

Occurrence: ***Summer*:** With one exception, summer records have been from late August and likely represent early migrants. There is one July record on 10 July 1983. ***Autumn*:** There are eight records between 22 August (early migrants) and 14 October.

Breeding: There are no breeding records.

Comments: This species has been recorded in adjacent alpine areas in summer (pers. obs.), but not in the study area. The species has been reported in every month of the year except July in the Creston valley (Van Damme 2009).

RAILS AND COOTS

Virginia Rail
Rallus limicola

Status: *Casual in spring and summer.*

Ornithological History: Kelso (1926c, 1931) did not record this species.

Habitat: ***Non-breeding*:** All sighting have been from wetland locations at Bonanza marsh at the north end of Slocan Lake, marshes at the southeast end of Summit Lake, wet grassy areas in the agricultural fields in Brouse, and a small marshy pond near Box Lake.

Occurrence: ***Spring*:** There are four records: 27 April 1987, 8 May 1999, 12 May 1984 and 28 May 2005. ***Summer*:** There are two records of single birds, both from 1981: 5 June at Bonanza marsh and 18 June in Brouse (Campbell et al. 1990b).

Breeding: There are no breeding records.

Comments: Bonanza marsh and the marshes near Summit Lake appear to be suitable breeding habitat for Virginia Rail and Sora but surprisingly breeding has not been confirmed for either species at these locations.

Sora
Porzana carolina

Status: *Currently rare in spring and summer, casual in autumn; formerly uncommon in spring and summer.*

Ornithological History: Kelso (1926c, 1931) considered Sora a "rare bird…in marsh land" and was only seen twice (no details). He further states "one was killed on her nest by the explosion when a friend was blasting tree-stumps."

Habitat: ***Non-breeding*:** Most Sora (Figure 72) sightings are from the Nakusp sewage lagoons and Bonanza marsh. ***Breeding*:** Nest records are from the Nakusp sewage lagoons.

Figure 72. Sora was a regular breeding species in the region but since recent redevelopment of the sewage lagoons in Nakusp it is rarely seen. *Photo by Gary S. Davidson.*

Occurrence: ***Spring*:** Occurs irregularly from 25 April to the end of May. ***Summer*:** A few may remain through the end of August, although less so in recent years (see *Comments* below). ***Autumn*:** There are five records, all between 1 and 10 September.

Breeding: No nests have been discovered but adults with juveniles have been observed 8 August 1992 and 10 August 1979.

Comments: In the late 1990s, the Nakusp sewage lagoons were completely rebuilt, destroying the shallow marshy areas and leaving only deeper ponds. Sora has not been recorded at the site since. This was the only known regular breeding location in the study area. Sora has been heard during the breeding season in at least two other locations but both are on private property and regular monitoring is problematic. The habitat, however, appears suitable so it is possible that a small number may still breed in the region.

American Coot
Fulica americana

Status: *Very common in spring, rare in summer, very common in autumn, and rare in winter; breeds.*

Ornithological History: Kelso (1926c, 1931) noted this species as "Common…probably breeds" and was recorded in every month but February, March, July, and December. He never reported numbers in excess of eight birds.

Habitat: ***Non-breeding*:** In spring, migrant flocks are primarily observed on Arrow and Slocan lakes. In autumn flocks also regularly use smaller lakes such as Summit Lake. Winter sightings are from Arrow or Slocan lakes as smaller lakes are frozen. ***Breeding*:** All records are from Bonanza marsh or the Nakusp sewage lagoons.

Occurrence: ***Spring*:** American Coot (Figure 73) occurs from late March (early date 22 March 2007), through the end of May. Earliest records are of small numbers with the larger flocks occurring from 10 April to 7 May when flocks of up to 150 have been reported. By the second week of May, all flocks have disappeared and birds are seen in very small numbers through the remainder of the month. ***Summer*:** Very few coots, seen individually or in pairs, remain through the breeding season. ***Autumn*:** The summer pattern continues into early September with the first migrants appearing by the second week of September. Initially numbers are small, usually no more than a dozen birds. Larger flocks move through irregularly between late September and mid-November. Occasionally a flock may exceed 100 birds. Individual birds are sometimes seen in late November and into the winter season. ***Winter*:** One or two birds are reported some years.

Figure 73. In spite of loss of breeding habitat at the Nakusp sewage ponds, American Coot still remains a very common spring and autumn migrant in the region. *Photo by R. Wayne Campbell.*

Breeding: No nests have been reported but adults with young have been observed on three occasions between 1 and 15 July.

Comments: The same loss of habitat as reported in Sora applies to loss of the region's small nesting population of coots.

American Coot has been recorded on the Nakusp Christmas Bird Count 10 times (33%) in 30 years.

CRANES

Sandhill Crane
Grus Canadensis

Status: *Casual in spring, accidental in summer, and very rare in autumn.*

Ornithological History: Kelso (1926c) considered Sandhill Crane "Very rare." He lists a single record on 8 June 1922 – one on east shore of Lower Arrow Lake (Kelso 1931). Presumably the same bird was reported some days later near Syringa Creek.

Habitat: ***Migration*:** Small groups have been observed on the ground in agricultural fields, and occasionally larger flocks are seen passing overhead.

Occurrence: ***Spring*:** There are three records scattered between 30 March (*e.g.*, Nakusp, 30 March 1979 -15 birds, Campbell et al. 1990b) and 12 May. One flock numbered 130 birds on 16 April 1983. ***Summer*:** One record: Two birds were observed standing in a field in Crescent Bay on 24 June 1991. ***Autumn*:** There are several records of one to seven birds feeding in agricultural fields between 14 September and 15 November. The latest record is 65 birds flying over on 23 October 1976 (Campbell et al. 1990b).

Breeding: There are no breeding records.

Comments: The only breeding location in the West Kootenay region is at Creston (Van Damme et al. 2006). A small number also breed annually in the East Kootenay region (Leighton 2002).

PLOVERS

Arrow Lake is a reservoir and is subject to significant variations in water levels between the high water of summer and the low levels at the end of winter. As a result of the ever-changing levels, aquatic and semi-aquatic vegetation has no opportunity to establish. Therefore, much of the shoreline is gravel or impoverished sand. With so little food value in the shallow water, shorebird migration in the valley is almost non-existent.

Black-bellied Plover
Pluvialis squatarola

Status: *Casual in summer and autumn (formerly much more common).*

Figure 74. Black-bellied Plover was formerly an annual migrant in the region but since 1987 it has only been recorded five times. *Photo by R. Wayne Campbell.*

Ornithological History: Kelso (1926c, 1931) found Black-bellied Plover "Rare" with a "few seen occasionally in September." He recorded it four times between 5 September (1925) and 26 September (1914).

Habitat: ***Migration*:** Black-bellied Plover (Figure 74) utilizes muddy ponds and grassy patches along the shores of Arrow Lake; also seen in dry grassy fields.

Occurrence: *Summer*: A very small number of autumn migrants have been reported in the latter half of August. ***Autumn*:** It has been reported between 12 September and 16 October in groups of up to 22 recorded on 22 September 1985 (Campbell et al. 1990b).

Breeding: There are no breeding records.

Comments: The status of Black-bellied Plover is difficult to define. Between my arrival in Nakusp in 1975 and the end of 1982, I did not see this species. In 1983, three birds spent about a week feeding on the playing fields of Nakusp Secondary School. This was repeated in 1984. In 1985, the birds arrived much earlier and stayed for a month. Their numbers reached a maximum of 22 that year. In 1986, they moved from the school to a series of small muddy ponds beside Arrow Lake at Nakusp. Maximum number that year was seven and they stayed about two weeks. Each year they were joined briefly by a smaller number of American Golden-Plovers. Most records are from the 1980s when Black-bellied Plovers occurred annually. Since 1987 there have been only five records.

American Golden-Plover
Pluvialis dominica

Status: *Casual in autumn; formerly more common.*

Ornithological History: Kelso (1926c, 1931) did not record this species.

Habitat: *Migration*: Utilizes grassy fields and shorelines.

Occurrence: *Autumn*: Small groups of up to 20 individuals have occurred in Nakusp between mid-September and mid-October. For example, 20 birds were present in Nakusp from 15 to 20 September 1965 (Rogers 1966).

Breeding: There are no breeding records.

Comments: The unusual occurrence pattern described above for Black-bellied Plover is mirrored by American Golden-Plover. The species was a regular visitor in autumn from 1983 through 1986, but there have been no records since then.

Semipalmated Plover
Charadrius semipalmatus

Status: *Casual in spring, very rare in summer and autumn.*

Ornithological History: Kelso (1926c, 1931) did not record this species.

Habitat: *Migration*: All records have been from grassy fields or from shallow ponds adjacent to Arrow Lake.

Occurrence: *Spring*: There are four records, all between 3 and 16 May (*e.g.*, Nakusp, 3 May 1982 - 2 birds, Campbell et al. 1990b). **Summer:** Occurs sporadically from 6 to 31 August. ***Autumn*:** All records are from early September (late date 12 September 1993).

Breeding: There are no breeding records.

Comments: Like many shorebird species, there have been very few records for the study area in recent years; Semipalmated Plover has not been reported since 2000.

In British Columbia, the main northward passage in spring occurs along the coast (Campbell 2004), and in autumn the Creston valley is the only region in the West Kootenay where foraging habitat regularly attracts small numbers of this shorebird (Van Damme 2009).

Killdeer
Charadrius vociferus

Status: *Common in spring, summer and autumn and rare in winter; breeds.*

Ornithological History: Kelso (1926c, 1931) considered this species as "A common summer migrant. A few breed on the lakeshore and inland meadows." He recorded Killdeer from 9 March (1922) to 10 October (1922). There were no winter records.

Nests have been found from early April onwards and many lakeshore nests are destroyed each year by rising waters. Nests with a full complement of four eggs were found from 16 April (1923) to 3 June (1916).

Habitat: ***Non-breeding*****:** In early spring, small flocks occur in agricultural fields drenched by melting snow. Later in spring, lakeshores are also used by Killdeer (Figure 75). In autumn, mudflats that appear as the lake level drops are preferred habitat, but all water edges and agricultural fields continue to be important. The few birds that over-winter are always found along the shores of Arrow Lake or Slocan Lake. ***Breeding*****:** Nests on bare, open ground including lakeshore mudflats, lakeshore gravel patches, dry agricultural fields, gravel parking lots, and bare dirt in vegetable gardens.

Occurrence: ***Spring*****:** Birds begin arriving about mid-March. Migration is fairly steady for a few weeks with no obvious peak; small flocks of up to 10 birds have been reported in mid-April. Since breeding begins quite early, separating breeding birds from later migrants is difficult. ***Summer*****:** Adults with young begin appearing in May and continue through June and into early July, occasionally late July. Fewer birds are reported in late July and early August, but numbers begin to pick up again in mid-August. Since the young birds are now fully grown and difficult to separate from adults, early migrants are indistinguishable from breeding birds, but numbers suggest that migration begins before the end of August**.** ***Autumn*****:** Migration seems to peak between late August and mid-September. Most birds have left by the end of September, except at Burton, where a small number will sometimes linger until late October. ***Winter*****:** There have been 18 records during the last 20 years, most of these in January.

Breeding: Breeds regularly in the region. Nests with eggs (Figure 76) have been recorded between 9 May and 3 July. Adults with fledged young have been observed between 8 May and 29 July.

Figure 75. Killdeer is a common and widespread species that remains in the region in some winters. *Photo by R. Wayne Campbell.*

Comments: The rapidly rising water level on Arrow Lake in May probably results in some nests being flooded. The shoreline exposed when water levels are low is quite flat and ideally suited to Killdeer breeding habitat.

Killdeer has been reported on the Nakusp Christmas Bird Count 13 times (43%) in 30 years.

Figure 76. Killdeer lays its eggs on the ground with very little effort to make an actual nest. *Photo by Gary S. Davidson, Nakusp, BC, 1 June 2010.*

STILTS AND AVOCETS

Black-necked Stilt
Himantopus mexicanus

Status: *Accidental in spring.*

Ornithological History: Kelso (1926c, 1931) did not record this species.

Occurrence: *Spring*: There is one record. A male and female were observed at the Nakusp sewage lagoons on 14 May 1992 (Bowling 1992). The birds were gone by the next morning and were not seen again.

Breeding: There are no breeding records.

Comments: In the Creston valley, Black-necked Stilt is a rare spring transient (Van Damme 2009).

American Avocet
Recurvirostra americana

Status: *Casual in spring.*

Ornithological History: Kelso (1926c) listed American Avocet as "Very rare." In his later manuscript, Kelso (1931) wrote: On 5 May 1925, "In the morning I left in the launch [from Edgewood] to examine Fauquier School to vaccinate the children. There was a light north wind all day & it was very hot on shore. We ran a long way up midlake without seeing anything…On the mud we -espied 10 to 15 shore birds which ran about rapidly, fed & bobbed up & down like Yellow legs, every now and then extended their wings...They were exceedingly pretty." He collected two birds, both which later were determined to be adult females.

Habitat: ***Migration*****:** All sightings have been from the edge of Arrow Lake, close to the mouth of Kuskanax Creek.

Occurrence: ***Spring*****:** This species has been reported four times in the region, all in May (*e.g.*, Nakusp, 28 May 1978 - 1, Campbell et al. 1990b). Three of the sightings involved single birds; the other was a remarkable 28 birds on the shore of Arrow Lake at Nakusp on 5 May 2001.

Breeding: There are no breeding records.

Comments: In the Creston valley of the West Kootenay region, 165 km southeast of Nakusp, American Avocet is a rare, but fairly regular, spring migrant and has nested in the area (Campbell 1972, Van Damme 2009).

SANDPIPERS, PHALAROPES AND ALLIES

Spotted Sandpiper
Actitis macularius

Status: *Common in spring and summer and uncommon in autumn; breeds.*

Ornithological History: Spotted Sandpiper was considered an "abundant summer migrant and very common summer visitor" that "breeds freely" in the district (Kelso 1926c, 1931). He recorded it between 7 March (earliest date) and 6 October (latest date) but mentioned that the species usually "does not put in an appearance till early in April."

Six nests, with three or four eggs, were recorded between 18 June (1916) and 18 July (1918).

Habitat: ***Non-breeding*****:** It appears that most spring migrant Spotted Sandpipers (Figure 77) arrive directly at their breeding sites. In autumn, however, there does appear to be some movement along the major valley bottoms. ***Breeding*****:** Spotted Sandpiper is observed regularly during the breeding season along

Figure 77. Spotted Sandpiper is a common summer visitor that breeds in the region. *Photo by R. Wayne Campbell.*

all watercourses including rivers, lakes, small streams, ponds, marshes, and sewage lagoons. Breeding has been confirmed on several area lakes and from Bonanza marsh.

Occurrence: *Spring*: Arrival dates vary considerably from year to year; average date is mid-May, (earliest date 5 May 1992). ***Summer*:** Occurs regularly throughout the season. ***Autumn*:** Departure begins in August and all birds have left the region by mid-September; the only exception was a late bird seen 25 September 1977.

Breeding: The species breeds regularly along rivers and lakes throughout the region. Nests with eggs (Figure 78) have been observed from 6 June to 6 July; adults with dependent young from 4 July to 16 August. Most nests are built within a few metres of the water's edge, usually partially protected by an overhanging shrub or grasses.

Figure 78. Spotted Sandpiper nests regularly along the shore of Summit Lake, BC. *Photo by Gary S. Davidson*.

Comments: This is by far the most common shorebird of the region. Almost any walk along a lakeshore during breeding season will flush birds from the waterline or from potential breeding sites adjacent to the lake.

Solitary Sandpiper
Tringa solitarius

Status: *Very rare in spring, rare in summer and very rare in autumn.*

Ornithological History: Kelso (1926c, 1931) mentions this species as "common in the fall; a few occur in spring." He gave the same status to both subspecies, Eastern Solitary Sandpiper (*T. s. solitaria*) and Western Solitary Sandpiper (*T. s. cinnamomea*) that he collected in the district and later examined in detail. Both races have been confirmed as occurring in British Columbia (Munro and Cowan 1947, Moskoff 1995).

Kelso recorded the species in June, July, August, and September, the latest date being a specimen collected on 12 September 1914.

Habitat: *Migration*: Most records have been from small ponds or wetlands; it is rarely seen along the larger lakes of the valley bottoms. Elevation ranges from valley bottom to alpine meadows.

Occurrence: *Spring*: Occurs irregularly from 30 April to 21 May. ***Summer*:** Early autumn migrants first appear on 22 July. There is a small peak in numbers in late August when groups of up to eight birds have occurred. ***Autumn*:** By early September numbers are down to one or two birds (*e.g.*, Nakusp, 8 September 1975 - 1, Campbell et al. 1990b). The latest departure date is 17 September 1989.

Breeding: There are no breeding records.

Comments: Although not found breeding, agitated adults have been observed once or twice. It is possible that the species breeds occasionally. In the late 1990s, the Nakusp sewage lagoons were completely rebuilt. The shallow marshy areas were destroyed leaving only deeper ponds. Many of the autumn records for Solitary Sandpiper were from the sewage lagoons prior to 1990. Since then, the species has been rarely seen.

Greater Yellowlegs
Tringa melanoleuca

Status: *Very rare in spring, rare in summer and casual in autumn.*

Ornithological History: Kelso (1926c, 1931) mentions a few Greater Yellowlegs "pass on the spring and fall migration." He recorded the species, as single birds, on eight occasions between 25 June (1914) to 17 September (1913).

Habitat: ***Non-breeding*:** Spring records are from lakeshores and wet fields. All autumn records have been from lakeshores or the Nakusp sewage lagoons.

Occurrence: ***Spring*:** Occurs in very small numbers between 11 April and 10 May; most years the species is not seen. ***Summer*:** Early autumn migrants have occurred as early as 17 June, but June and July records are very scarce. The main movement occurs through August. Over 40% of all records are from this month but numbers remain low, the largest group reported is six birds. ***Autumn*:** Most birds have left before the end of August; there are four records of single birds between 1 and 4 September.

Breeding: There are no breeding records.

Comments: In late July 2005, an adult bird with two apparently dependent young was observed at a small lake west of the study region. The adult was very protective of the young and frequently alarm called when approached too closely. Based on the behaviour, I believe the birds may have bred at that lake.

In 2008, BC Hydro began maintaining higher water levels on the Arrow Lakes much later into autumn than had been their practice earlier. In a few selected areas, the falling water levels were exposing habitat suitable for shorebirds. With water levels now much higher in late August and through September, virtually no shorebird habitat exists. This species has not been reported since then.

Lesser Yellowlegs
Tringa flavipes

Status: *Casual in spring, rare in summer and casual in autumn.*

Ornithological History: Kelso (1926c, 1931) noted that Lesser Yellow-legs "Appears commoner than the Greater Yellow-legs and occurs on the fall migration." He recorded it from 27 July to 31 August.

Habitat: ***Non-breeding*:** Most records have been from the shallow edges of Arrow Lake, particularly near creek mouths. Other records are from the north end of Slocan Lake, the Nakusp golf course, and the Nakusp sewage lagoons.

Occurrence: ***Spring*:** Single birds have been recorded twice, on 5 May 1990 and 17 May 1993. ***Summer*:** Occurs in small numbers between 17 July and 31 August. ***Autumn*:** There are three records between 1 and 8 September.

Breeding: There are no breeding records.

Comments: See Greater Yellowlegs.

Long-billed Curlew
Numenius americanus

Status: *Very rare in spring.*

Ornithological History: Kelso (1926c, 1931) did not record this species.

Habitat: ***Migration*:** All records have been from agricultural fields or school playing fields.

Occurrence: ***Spring*:** It has occurred between 26 March (Nakusp, 1973-1, Campbell et al. 1990b) and 16 May. All records are of one or two birds.

Breeding: There are no breeding records.

Comments: In the southeast portion of the West Kootenay region in the Creston valley, Long-billed Curlew is a regular summer visitor and breeds (Van Damme 2009).

Ruddy Turnstone
Arenaria interpres

Status: *Accidental in summer.*

Ornithological History: Kelso (1926c, 1931) did not record this species.

Occurrence: ***Summer*****:** There is a single record of a male in breeding plumage observed in Nakusp in early August 1978 (Campbell et al. 1990b).

Breeding: There are no breeding records.

Comments: This bird was photographed by Brian Scott and a copy of the photo (BC Photo No. 3754; Figure 79) is on file in the British Columbia photoduplicate file for vertebrate records.

Sanderling
Calidris alba

Status: *Accidental in spring and very rare in autumn.*

Ornithological History: Kelso (1926c) reported that one or two Sanderlings were "Occasionally seen in the fall on the sandy parts of the lakeshore" of Lower Arrow Lake. The species was recorded from 30 August to 11 September (Kelso 1931).

Habitat: ***Migration*****:** There is one record from the muddy edge of a pond at the Nakusp sewage lagoons; all others are from sandy areas along the lakeshore of Arrow Lake.

Occurrence: ***Spring*****:** The only record is of a single bird seen on Arrow Lake at Nakusp on 12 May 1984. ***Autumn*****:** There are six records, all between 1 and 18 September. With the exception of a group of six birds on 1 September 2002, all records are of one or two birds.

Breeding: There are no breeding records.

Figure 79. Documenting the extra-limital or unusual occurrence of birds by photograph removes any doubt about the species presence. *Photo by Brian Scott, Nakusp, BC.* BC Photo 3754.

Semipalmated Sandpiper
Calidris pusilla

Status: *Very rare in summer and casual in autumn.*

Ornithological History: Kelso (1926c, 1931) recorded this species once (1913) and called it "Very rare" in fall.

Habitat: ***Migration*****:** Most records have been from the sandy edge of Arrow Lake, with one from the mud at the Nakusp sewage lagoons and one from the grass at the Nakusp golf course.

Occurrence: ***Summer*****:** All records are from August with an early date of 6 August 1994. All flocks have been eight or fewer birds except for one group of 19 seen in Burton on 10 August 1994. ***Autumn*****:** There are two records; 3 September 1989 and 3 September 2005.

Breeding: There are no breeding records.

Comments: See Greater Yellowlegs.

Western Sandpiper
Calidris mauri

Status: *Accidental in spring, very rare in summer, and casual in autumn.*

Ornithological History: Kelso (1926c, 1931) did not record this species.

Habitat: ***Migration*****:** Sightings have been fairly evenly distributed between the Nakusp sewage lagoons and the shores of Arrow Lake.

Occurrence: ***Spring*****:** The only record is of a single bird in Nakusp on 16 May 1984. ***Summer*****:** It has been reported from 6 August to the end of the month, generally in groups of four or less. A group of 20 on 8 August 1995 was exceptional. ***Autumn*****:** There are three records: 1 September 1982, 6 September 1982, and 6 September 1985.

Breeding: There are no breeding records.

Comments: See Greater Yellowlegs.

Least Sandpiper
Calidris minutilla

Status: *Casual in spring and rare in summer and autumn.*

Ornithological History: Kelso (1926c) noted that "A few occur on the fall migration." He recorded the passage from 7 August (1923) to 5 September (1925) (Kelso 1931).

Habitat: ***Migration*****:** Most records of Least Sandpiper (Figure 80) have been from the shores of Arrow Lake, with a few from grassy fields and the Nakusp sewage lagoons.

Figure 80. Foraging habitat for many species of migrating shorebirds, as in Least Sandpiper, is restricted in the region. *Photo by R. Wayne Campbell.*

Occurrence: ***Spring*****:** There are three records, of one or two birds each, between 9 and 12 May. ***Summer*****:** Small groups of up to a dozen birds have been reported from 6 August to the end of the month. ***Autumn*****:** Small groups continue through September, the latest date being 1 October 1986.

Breeding: There are no breeding records.

Comments: See Greater Yellowlegs.

Baird's Sandpiper
Calidris bairdii

Status: *Casual in spring, summer, and autumn.*

Ornithological History: Baird's Sandpiper was only recorded by Kelso (1926c) during south-bound passage in autumn when small flocks were sometimes seen in the Edgewood area between 11 August and 18 September.

Habitat: ***Migration*****:** All sightings have been from the shores of Arrow Lake or grassy fields.

Occurrence: ***Spring*****:** There are two records: 1 May 1976 (Campbell et al. 1990a) and 23 May 1992. ***Summer*****:** There are four records between 8 and 18 August. ***Autumn*****:** There are four records between 9 and 14 September.

Breeding: There are no breeding records.

Comments: Most records are of one or two individuals; the largest group was nine on 9 September 1978 on the Nakusp Secondary School playing fields.

Pectoral Sandpiper
Calidris melanotos

Status: *Casual in spring and summer, rare in autumn, and accidental in winter.*

Ornithological History: Kelso (1926c) considered this species "Rare…in fall migration." He lists a single record: 14 September 1918 – two collected while feeding on sandy beach (Kelso 1931).

Habitat: ***Migration and Non-breeding*****:** Sightings have been from a variety of wetland and grassland habitats including lakeshore, marsh, creek mouths, golf courses, and school playing fields.

Occurrence: ***Spring*****:** There are three records between 9 and 23 May. ***Summer*****:** There are three records between 8 and 31 August. ***Autumn*****:** It occurs throughout September and October. All flocks number 10 or fewer birds except for a flock of 80 observed at the Nakusp golf course on 7 September 1985 and a flock of 26 at the high school playing fields later that same month. ***Winter*****:** A single bird was observed at Burton on 19 and 20 December 1988 and was photographed (Rogers 1989; Campbell et al. 1990b; Figure 81).

Figure 81. This occurrence of the Pectoral Sandpiper was the first documented in winter for interior British Columbia. *Photo by Gary S. Davidson, Burton, BC, 19 December 1988*. BC Photo 1230.

Breeding: There are no breeding records.

Comments: Data suggest that Pectoral Sandpiper has been visiting the region far less frequently during the past decade. Prior to 2000, it was recorded almost annually in autumn; since then there are only three records.

See Greater Yellowlegs.

Dunlin
Calidris alpina

Status: *Accidental.*

Ornithological History: Kelso (1926c, 1931) did not record this species.

Occurrence: ***Winter*:** There is one record of a single bird observed at Burton on 2 January 2004.

Breeding: There are no breeding records.

Stilt Sandpiper
Calidris himantopus

Status: *Casual in autumn.*

Ornithological History: Kelso (1926c, 1931) did not record this species.

Habitat: ***Migration*:** Observed twice in a grassy section of shoreline along the edge of Arrow Lake near Nakusp.

Occurrence: There are two records. ***Summer*:** One on 29 August 1993. ***Autumn*:** One on 20 October, 1996.

Breeding: There are no breeding records.

Long-billed Dowitcher
Limnodromus scolopaceus

Status: *Accidental in spring, very rare in summer and rare in autumn.*

Ornithological History: Kelso (1926c, 1931) did not record this species.

Habitat: ***Migration*:** Most sightings have been from sandy or muddy edges of Arrow Lake or similar situations at the Nakusp sewage lagoons. A few have been observed on the wet grass at the Nakusp golf course.

Occurrence: ***Spring*:** There is one record: 16 May 1978. ***Summer*:** There are three records each for July and August with an early date of 9 July 2005. ***Autumn*:** Most migrants pass through in September, with a slight peak through the middle of the month. There are also records for the first half of October, the latest date being three birds at Nakusp on 18 October 1985 (Campbell et al. 1990b).

Breeding: There are no breeding records.

Comments: Although there are sufficient data to assign a status to this species, Long-billed Dowitcher is only reported about every second year.

See Greater Yellowlegs for loss of shorebird habitat.

Wilson's Snipe
Gallinago delicata

Status: *Common in spring and summer, uncommon in autumn, and rare in winter; presumably breeds.*

Ornithological History: Kelso (1926c) reported Wilson's Snipe as occurring "in small numbers from 10 September to 17 March...does not appear to breed." In his 1931 manuscript he reports that in the Edgewood area, Wilson's Snipe is "Not very common due to the absence of much marsh land..." He makes no mention of snipe using agricultural hayfields, which they commonly use today in the district.

Habitat: ***Non-breeding*:** Migratory Wilson's Snipe (Figure 82) have been reported from a wide variety of open grassy areas and wetlands. Winter birds occur at creek mouths on Arrow Lake and Slocan Lake, and in areas where seeps and springs provide open water during a period when most wetlands are frozen. ***Breeding*:** Primarily uses grassy areas such as the hayfields and grazing lands in Brouse. It also occupies wetlands such as the marshes at Summit Lake and Bonanza marsh.

Occurrence: ***Spring*:** Occurs from late March with peak numbers occurring during the first half of May. By the end of May only breeding birds remain. ***Summer*:** The sound of aerial flight displays is common from late May to the end of June. Birds, however, continue to call well into July with numbers declining in August. ***Autumn*:** Most breeding birds leave in late August or early September. Records for September and October are irregular and quite localized. Records in November are unusual (*e.g.*, Nakusp, 8 November 1975 - 1, Campbell et al. 1990b). The latest departure date is 16 November 2002. ***Winter*:** A very small number probably winter in the region most years. Birds are very quiet at this time of year and keep out of sight in small wetlands. With just two exceptions, winter records have occurred in December or very early January.

Figure 82. The winnowing of Wilson's Snipe above the fields in Brouse is a common sound each year. *Photo by Gary S. Davidson, Brouse, BC. 13 June 2009.*

Breeding: Although no actual nests or broods have been located, Wilson's Snipe almost certainly breeds in the study area. Winnowing birds maintain a constant presence in Brouse during June, and birds have been observed in courtship display.

Comments: The absence of confirmed breeding records for such a common species is surprising. However, indirect breeding evidence suggests that breeding does occur in Brouse and other grassy areas with some wetland. These areas are private agricultural lands and access to search for breeding evidence is difficult.

Wilson's Snipe has been recorded on the Nakusp Christmas Bird Count 19 times (63%) in 30 years.

Wilson's Phalarope
Phalaropus tricolor

Status: *Very rare in spring and accidental in autumn.*

Ornithological History: Kelso (1926c, 1931) did not record this species.

Habitat: *Migration*: Most records have come from Arrow Lake, but the species has also been reported at other smaller lakes and ponds in the region.

Occurrence: *Spring*: There are nine records between 14 and 28 May. ***Autumn*:** A single record on 1 September 1984.

Breeding: There are no breeding records.

Comments: A group of three Wilson's Phalaropes was reported from the Nakusp sewage lagoon on 21 May 1994; all other records are of single birds.

Red-necked Phalarope
Phalaropus lobatus

Status: *Accidental in summer and casual in autumn.*

Ornithological History: Red-necked Phalarope was considered "not uncommon as a passing spring or fall migrant." In his 1931 unpublished manuscript, Kelso wrote: "These elegant beautiful fairy-like little fowl use the Arrow Lakes on migration in very small numbers & this only for a few days in the spring & fall. They are most wonderful birds." In spring Kelso recorded Red-necked [Northern] Phalarope between 13 and 26 May and in autumn, passage was noted between 19 August and 10 September.

Habitat: *Migration*: All records have been from the Nakusp sewage lagoons.

Occurrence: *Summer*: A single record on 31 August 1981. ***Autumn*:** There are five records between 2 and 7 September. All records have been of seven or fewer birds.

Breeding: There are no breeding records.

Comments: Neither this species nor the Wilson's Phalarope is a regular visitor to Nakusp. Red-necked Phalarope has only been recorded during the south-bound movement in late summer and autumn, whereas all but one of the Wilson's Phalarope records have occurred during the northbound spring migration. This pattern is consistent with migration patterns in the Creston valley (Van Damme 2009).

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Red Phalarope
Phalaropus fulicarius

Status: *Accidental in autumn.*

Ornithological History: Kelso (1926c, 1931) did not report this species.

Occurrence: *Autumn*: The only confirmed record was a single bird seen in Burton on 10 October 1994. Of note is an anonymous report of an unidentified phalarope at the same location six days earlier.

Breeding: There are no breeding records.

GULLS AND TERNS

Franklin's Gull
Larus pipixcan

Status: *Accidental in spring and casual in autumn.*

Ornithological History: Kelso (1926c, 1931) did not report this species.

Habitat: ***Migration*:** All records have been from Arrow Lake.

Occurrence: ***Spring*:** A single adult bird seen at Nakusp on 31 May 1984 (Campbell et al. 1990b). ***Autumn*:** There are three records, all from Burton; a single adult on 16 September 2001 and single immature birds on 10 October 1994 and 3 September 2009.

Breeding: There are no breeding records.

Comments: Franklin's Gull was first reported in the West Kootenay region on 31 July 1951 when an immature female was collected in the Creston valley (Munro 1958). Since then, the species has been occurring more regularly (Campbell and Foottit 1972, Campbell et al. 1990b, Van Damme 2009).

Bonaparte's Gull
Larus philadelphia

Status: *Highly irregular occurrence but generally rare in spring and autumn and very rare in summer.*

Ornithological History: Kelso (1926c) called this species "Fairly common on spring and fall migration." He recorded it from 30 April (earliest record) to 24 November (latest record) and all months in between except June (Kelso (1931).

Habitat: ***Migration*:** All but two of the records have been from Arrow Lake.

Occurrence: In some years the species is not reported and in other years it can be quite numerous. ***Spring*:** Occurs between 27 April and 30 May. Early flocks are generally larger than those in the latter half of May. A flock in excess of 400 birds was observed flying north over Arrow Lake at Nakusp on 5 May 2001. ***Summer*:** There is a scattering of records of one to three birds for June and early July. It is not clear whether these are late northbound migrants or perhaps non-breeding birds. In the latter half of August, birds begin appearing again, likely early south-bound migrants. ***Autumn*:** Occurs slightly more regularly than in spring, but numbers rarely exceed five birds. The latest autumn record is 23 October 1975.

Breeding: There are no breeding records.

Comments: Most records have been flocks in flight moving up or down Arrow Lake. Except for some autumn records from Burton, Bonaparte's Gull is not often seen resting or feeding on the lake. Unless observers happen to be watching as they pass by, many go undetected. I suspect this species uses the valley as a migration corridor more often than the records suggest.

Mew Gull
Larus canus

Status: *Casual in spring and summer and very rare in autumn.*

Ornithological History: The only record reported by Kelso (1926c) was an immature collected on a sand spit near Needles on 23 August 1917.

Habitat: ***Non-breeding*:** All records are from creek mouths on Arrow Lake and most of these are from Burton. There are a few scattered records from the creek mouth near Nakusp.

Occurrence: ***Spring*:** There are two records: 4 April 2002 and 11 April 1989. ***Summer*:** There are three records between 29 July and 5 August. Autumn: There are 11 records between 8 and 29 September.

Breeding: There are no breeding records.

Comments: Most Mew Gulls have been associated with the large gull flocks that gather in August and September near the mouths of creeks as they enter Arrow Lake. These flocks are largest at Burton.

Ring-billed Gull
Larus delawarensis

Status: *Common in spring, rare in summer, and uncommon in autumn.*

Ornithological History: Kelso (1926c, 1931) reported this species was "only met with in the fall" when sometimes it can be "very numerous" such as in the fall of 1925.

Habitat: ***Migration*:** In spring, migrants roost on sand and gravel bars on Arrow Lake and others are seen feeding in grassy fields. Many are observed flying over in migrating flocks. In autumn, all records have been from Arrow Lake.

Occurrence: ***Spring*:** There is considerable variability from year to year in the occurrence of Ring-billed Gull (Figure 83). Flocks may number up to 50 birds but smaller numbers are more common. Very few are seen some years. ***Summer*:** Records are quite sporadic but have occurred in June, July, and August. ***Autumn*:** Numbers rarely exceed three or four individuals, but they occur annually from early September to late November. The latest date is 22 November 2003.

Figure 83. In spring migration, Ring-billed Gulls fly north in species-specific flocks through the region, en route to interior breeding grounds. *Photo by Gary S. Davidson.*

Breeding: There are no breeding records.

Comments: There is a definite migration of pure flocks of Ring-billed Gulls in spring; no such migration occurs in autumn. Autumn birds are generally associated with the large mixed-species gull flocks that gather in August and September near the mouths of creeks as they enter Arrow Lake. These flocks are largest at Burton.

California Gull
Larus californicus

Status: *Rare in spring and early summer, becoming abundant by late summer and through autumn, and rare in winter.*

Ornithological History: Kelso (1926c) does not list California Gull but in his 1931 manuscript mentions this species "Appears rather rare on the lakes, but individuals may be confused at a distance with very common Herring Gull."

Habitat: ***Non-breeding*:** All records of California Gull (Figure 84) are from Arrow Lake.

Occurrence: ***Spring*:** Occurs irregularly in small groups from mid-March to end of May. ***Summer*:** There are very few records from June and July. Numbers begin to increase in August and may grow to a thousand by the end of the month. ***Autumn*:** The influx that began in August continues until a peak of two or three thousand birds is reached by mid-September. California Gulls (Figure 85) spend a few weeks feasting on the spawning and dead Kokanee that abound at this time of year. Numbers drop through October, and only very small numbers occur in November. ***Winter*:** In some years, one or two are reported irregularly through the winter.

Breeding: There are no breeding records.

Comments: This is one of several species of gulls that visit the region in autumn when the Kokanee are spawning. The largest concentration is at the creek mouths in Burton, where up to 1,500 may be observed. MacDonald Creek typically attracts less than 200, whereas Kuskanax Creek at Nakusp attracts up to 500.

The dramatic increase in numbers of California Gulls in the valley since Kelso's time is noteworthy.

In 2008, BC Hydro began maintaining higher water levels on the Arrow Lakes much later into autumn than had been their practice earlier. Gravel bars that had always been roosting places for gulls were no longer available. Furthermore, there is now much less shallow water in which the gulls can feed. As a result, gulls do not congregate in the same numbers as they formerly did. Rather than 1,500 at Burton, there have been only 400 to 500 in recent years.

California Gulls have been reported on the Nakusp Christmas Bird Count six times (20%) in 30 years.

Figure 84. California Gull is primarily an autumn visitor in the region when moulting adults begin to show their winter plumage. *Photo by Mark Nyhof.*

Figure 85. Like many other fish-eating birds, California Gull gathers in significant numbers each autumn at Kokanee spawning sites in the region. *Photo by Gary S. Davidson, near Burton, BC, 13 September 2010.*

Herring Gull
Larus smithsonianus

Status: *Of irregular occurrence, but generally uncommon in spring and early summer, becoming very common in late summer and through autumn, and uncommon in winter.*

Ornithological History: Kelso (1926c, 1931) refers to Herring Gull as "Very common. Recorded every month." He further notes the species is the "commonest gull that visits us." In winter, it is found wherever there is open water and is often seen on blocks of floating ice. He also mentions the species "favours much the neighbourhood of Renata" near the south end of Lower Arrow Lake.

Habitat: ***Non-breeding*:** Herring Gull (Figure 86) frequents large lakes; most records are from Arrow Lake. The species is also reported from Slocan Lake but only in small numbers.

Occurrence: Spring: Most records appear to be birds that remained in the area through the winter. There is no perceptible migration in spring. ***Summer*:** The spring pattern continues through June and July. Numbers start to increase around the middle of August to coincide with the Kokanee spawn, and may grow to 100 by month end. ***Autumn*:** Numbers remain at 50 to 100 through September and early October. By late October, the autumn influx has diminished and numbers return to the few that remain through winter. ***Winter*:** Up to a dozen birds are present most years.

Breeding: There are no breeding records.

Comments: The occurrence of the small number of apparently resident birds on Arrow Lake in winter, spring and early summer are a relatively recent addition to the local avifauna. Prior to 1999, Herring Gulls were rarely seen at any time other than late August and September.

On the Nakusp Christmas Bird Count between 1980 and 1998, this species was recorded only four times (21%), but between 1999 and 2010 Herring Gull was recorded 10 times (91%).

See the California Gull account for impact of changing water levels and loss of roosting habitat in the study area.

Figure 86. Herring Gull comprises less than 10 percent of the large gull flocks that congregate on Upper Arrow Lake in autumn. *Photo by Gary S. Davidson, near Burton, BC, 13 September 2010*

Thayer's Gull
Larus thayeri

Status: *Accidental in spring, casual in autumn, and accidental in winter.*

Ornithological History: Kelso (1926c, 1931) did not report this subspecies of Herring Gull (see *Comments*).

Habitat: ***Non-breeding*:** All records are from Arrow Lake.

Occurrence: ***Spring*:** Two birds on the Nakusp waterfront on 12 April 2003 is the only record. ***Autumn*:** There are five records between 19 September and 11 November, coinciding with the large influx of other gull species at this time of year. ***Winter*:** A single bird was observed on 1 December 1988 at Nakusp.

Breeding: There are no breeding records.

Comments: I suspect that this species occurs more regularly in autumn than the records indicate. It can be quite difficult to identify one or two individuals in a flock of a thousand gulls!

From 1917 to 1973, Thayer's Gull was considered a subspecies of Herring Gull (*L. a. thayeri*). The race was elevated to full species status by Smith (1966) and accepted later by the American Ornithologists' Union (see Banks et al. 1998). Recently, Snell (2002) argued that the taxonomic distinction is not necessarily valid.

Lesser Black-backed Gull
Larus fuscus

Status: *Accidental in autumn*.

Ornithological History: Kelso (1926c, 1931) did not report this species.

Occurrence: ***Autumn*:** One record of an adult at Burton between 26 September and 10 October 1993 (Davidson 1994).

Breeding: There are no breeding records.

Comment: Lesser Black-backed Gull was first reported in British Columbia, in Revelstoke (in

the Arrow Lakes valley, but about 100 km north of the study area) on 26 October 1989 (Campbell et al. 1990b).

Slaty-backed Gull
Larus schistisagus

Status: *Accidental in winter.*

Ornithological History: Kelso (1926c, 1931) did not report this species.

Occurrence: ***Winter*****:** A single adult bird was observed on Arrow Lake three times in early 2002, presumably the same bird: 5 January at MacDonald Creek, 13 January at Nakusp, and 2 February at Nakusp.

Breeding: There are no breeding records.

Glaucous-winged Gull
Larus glaucescens

Status: *Accidental in spring and autumn.*

Ornithological History: Kelso (1926c, 1931) did not report this species.

Occurrence: There are only two records. ***Spring*****:** An immature bird spent at least two weeks in Nakusp in April 2007. ***Autumn*****:** An adult bird was observed with the large gull flock at Burton in September 2003.

Breeding: There are no breeding records.

Comments: There are a few more unconfirmed reports that might be valid given the numbers seen in the Okanagan valley in recent years (see Campbell et al. 1990b, Van Damme 2009).

Sabine's Gull
Xema sabini

Status: *Casual in autumn.*

Ornithological History: Kelso (1926c, 1931) did not report this species.

Occurrence: ***Autumn*****:** An adult bird was at Burton from 17 to 29 September 1996. An immature bird was also observed that year on 22 September. Single adults were also observed at MacDonald Creek on 22 September 2001 and at Burton on 2 September 2002.

Breeding: There are no breeding records.

Comments: In the interior, most south-bound Sabine's Gulls pass through the eastern portion of the province as rare transients in September (Campbell et al. 1990b). There are two additional records for the West Kootenay region: a female collected at Sirdar on 28 August 1947 (Campbell et al. 1990b) and another seen in the Creston valley in August (Van Damme 2009).

Caspian Tern
Sterna caspia

Status: *Casual in summer and autumn.*

Ornithological History: Kelso (1926c, 1931) did not report this species.

Habitat: ***Non-breeding*****:** All records of Caspian Tern (Figure 87) are from Upper Arrow Lake.

Occurrence: ***Summer*****:** Two birds observed twice, on 19 June 1982 (Campbell 1982) and on 8 June 1992, at the mouth of Kuskanax Creek in Nakusp. ***Autumn*****:** Single birds were observed on 8 September 2001 in Nakusp, 18 September 1994 at Burton, and 13 September 2010 near Burton (Figure 87).

Figure 87. Caspian Tern is an occasional visitor to the Upper Arrow and Slocan lakes region. *Photo by Gary S. Davidson, near Burton, BC, 13 September 2010.* BC Photo 3752.

Breeding: There are no breeding records.

Black Tern
Chlidonias niger

Status: *Casual in spring.*

Ornithological History: Kelso (1926c, 1931) did not report this species.

Occurrence: *Spring*: Single birds were observed on 16 May 2002 in Nakusp and 22 May 2008 in Burton. Both birds were flying north along the edge of Arrow Lake.

Breeding: There are no breeding records.

Comments: A small breeding colony is established in the Creston valley (Chapman-Mosher 1986).

Common Tern
Sterna hirundo

Status: *Casual in spring, very rare in summer, and rare in autumn.*

Ornithological History: Kelso (1926c, 1931) listed Common Tern as "Not uncommon on migration." In spring migration, in the Edgewood area, he recorded them in May and June (25 May was the earliest arrival date) and in autumn migration August and September (latest departure date was 17 September). He noted that the terns "delighted to sit on floating logs, branches, or old baskets."

Habitat: *Migration*: All records are from Arrow Lake.

Occurrence: *Spring*: Two birds were observed on Arrow Lake at Nakusp on two occasions on 18 May 1980 and on 25 May 2003. ***Summer*:** There are several records for late August, presumably early migrants. All records involve five or fewer birds. ***Autumn*:** Most sightings are in September; the latest date is 6 October 1996.

Breeding: There are no breeding records.

Comments: On 3 September 1998, a flock of 65 birds was observed at Burton and on 18 September 1994, a flock of 60 was seen at Nakusp. All other sightings have been of fewer than 10 birds.

Long-tailed Jaeger
Stercorarius longicaudus

Status: *Accidental.*

Ornithological History: Kelso (1926c, 1931) saw two jaegers that could not be identified to species: 26 May 1917 and 2 September 1913. Although Long-tailed Jaeger is the most reported jaeger in the British Columbia interior, there are records in migration for Parasitic Jaeger (*S. parasiticus*) and Pomarine Jaeger (*S. pomarinus*) (Campbell et al. 1990b).

Occurrence: *Autumn*: A single, individual (dark morph) was observed flying near the mouth of the Kuskanax Creek in Nakusp on 30 October, 2005.

Breeding: There are no breeding records.

Comments: Long-tailed Jaeger is considered a "very rare autumn transient in the interior of British Columbia" where most migrants pass through in September (Campbell et al. 1990b). The Kuskanax Creek record is the latest reported for the province.

PIGEONS AND DOVES

Rock Pigeon
Columba livia

Status: *Very rare.*

Ornithological History: Kelso (1926c, 1931) did not report this species.

Habitat: ***Year-round*****.** All reports have been within the town site of Nakusp.

Occurrence: ***Year-round*****:** Of irregular occurrence. Between absences of several years, one or more birds appears in Nakusp, and then disappears some months later. Between 1983 and 1990, there seemed to be a small resident population, but there have been very few sightings since that time.

Breeding: A pair nested in the rafters of the entranceway to the Nakusp arena complex in 1990 and at least three young were fledged from the nest.

Comments: This species has apparently never had a stronghold in the area. Many of the birds seen in the area are variably coloured, suggesting that perhaps they are recent escapees from local aviarists. In 2010, a small flock of mostly white birds was seen a number of times in Nakusp, but like many other flocks, they disappeared after a few weeks. At time of writing (2011), there are no Rock Doves in Nakusp.

Band-tailed Pigeon
Patagioenas fasciata

Status: *Accidental.*

Ornithological History: Kelso (1926c, 1931) did not report this species.

Occurrence: ***Summer*****:** A single record from Nakusp on 23 July 1995.

Breeding: There are no breeding records.

Comments: This species has been reported fewer than 20 times in the entire West Kootenay region. All records have been between April and July (Van Damme 2009).

Eurasian Collared-Dove
Streptopelia decaocto

Status: *Casual in spring and autumn.*

Ornithological History: Kelso (1926c, 1931) did not report this species.

Habitat: ***Migration*****:** All records are from the town site of Nakusp.

Occurrence: ***Spring*****:** Five birds were reported on 22 April 2010, the first record for the region. They remained for about a week. ***Autumn*****:** A single bird was reported in Nakusp on 7 October 2010.

Breeding: There are no breeding records.

Comments: The Eurasian Collared-Dove was first reported, and bred, in the Creston valley in the southeast West Kootenay region in 2008 (Syroteuk 2008).

Mourning Dove
Zenaida macroura

Status: *Uncommon in spring and early summer, rare in late summer, casual in autumn, and accidental in winter.*

Ornithological History: In the Edgewood area, Kelso (1926c) considered Mourning Dove as "not common; increasing in numbers. Breeds sparingly." On 5 June 1913, he watched a Sparrow Hawk [American Kestrel] stoop on a dove perched on a dead tree near the hotel in Edgewood and afterwards pursued it "hotly." (Kelso 1931).

Habitat: ***Non-breeding*****:** Most Mourning Dove (Figure 88) records have been from within the village of Nakusp, often on gravelly areas near the lakeshore.

Figure 88. The heavily forested habitat of the region is not favoured by Mourning Dove, but in some years one or two pass through in spring. *Photo by Gary S. Davidson*.

Occurrence: ***Spring*****:** Occurs in small numbers between 2 April and the end of May. Mourning Dove is not reported every year. All sightings are from one to seven birds. ***Summer*****:** Small numbers of birds occur irregularly in June but are not reported every year. There are no July records and four records for August, all near the end of the month and likely early autumn migrants. ***Autumn*****:** There are six records scattered through September, October, and November. ***Winter*****:** The lone record is from 6 December 1986.

Breeding: There are no breeding records.

Comments: Almost all records have been of one to three birds. Flocks of 15 in June 1981 and 12 in June 1990 were exceptional.

BARN OWLS

Barn Owl
Tyto alba

Status: *Accidental.*

Ornithological History: Kelso (1926c, 1931) did not report this species.

Occurrence: A single bird hit by a truck north of Nakusp provides the only confirmed record for the species. The date of the incident was not recorded, but it occurred in the 1970s. The frozen specimen was observed by the author.

TYPICAL OWLS

Western Screech-Owl
Otus kennicottii

Ornithological History: Kelso (1926c) lists MacFarlane [Western] Screech-Owl as "Rare, has been obtained [collected] in the district." No other details are provided.

Comments : This species was not reported in the Nakusp-New Denver-Burton region between 1975 and 2010. However, one was heard in Edgewood on 30 March 2005.

Great Horned Owl
Bubo virginianus

Status*: Casual in spring, summer and autumn and very rare in winter.*

Ornithological History: Kelso (1926c, 1931) called this species a "Common resident." He noticed a great variation in colour, from "very dusky to very light-coloured with many white feathers." He recorded Great Horned Owls hooting from February to 21 September, the latter date in "brilliant sunlight." He suspected a pair was nesting in a "miniature cave" in the side of a precipitous cliff near Edgewood.

Habitat: ***Year-round*****:** Great Horned Owl (Figure 89) sightings have come from a wide variety of wooded locations throughout the region. Most have been from forested areas adjacent to fields or lakes.

Figure 89. Great Horned Owl probably breeds in the study area but to date no nests or recently fledged young have been reported. *Photo by Gary S. Davidson.*

Occurrence: ***Spring*****:** In 1994, a single bird was heard on 19 and 24 March. The only other record is from 30 March 1982. ***Summer*****:** There are two records: 4 June 2005 and 26 August 1988. ***Autumn*****:** There are four records, two each in September and November. ***Winter*****:** There are eight records scattered through January and February.

Breeding: There are no breeding records.

Comments: This species is not well suited to the dense coniferous forests and the heavy winter snows of the region. At least three of the winter records have been of injured or sick birds, one of which is known to have died.

Snowy Owl
Bubo scandiacus

Status: *Accidental.*

Ornithological History: Kelso (1926c) listed the species as "Very rare" on the basis of "a specimen shot some years ago by a rancher and mounted."

Occurrence: ***Winter*****:** There is one reliable record. A single bird was observed in a field just outside Nakusp on 10 February 2001. There have been other reports over the years, but none have been substantiated.

Breeding: There are no breeding records.

Comments: In British Columbia, most records for the West Kootenay region are from the agricultural lands in the Creston valley during the winter months (Campbell and Preston 2009).

Northern Hawk Owl
Surnia ulula

Status: *Casual in autumn and winter.*

Ornithological History: Kelso (1926c, 1931) listed this species as "Rare." His first record, in 1925, was from a friend who found six birds at 1,830 m elevation and killed one with a rock. Two other records, both of birds collected near Edgewood (elevation 464 m) in 1925, were 22 October and 22 November. Another was reportedly killed on 3 November in the same year.

Habitat: ***Non-breeding*****:** Autumn records were from forested edges along highways. Winter records were from the open agricultural fields in Brouse.

Occurrence: ***Autumn*****:** There are two autumn records: 16 November 1996 and 25 November 1990. ***Winter*****:** A total of a dozen winter records represent just three birds. A single bird spent at least a month in Brouse in the winter of 1982 to 1983 and again in winter 1993 to 1994. All sightings of these two birds were between early December and mid-January. A bird was seen once, in the same area, in January 2001.

Breeding: There are no breeding records.

Comments: The individuals that remained for several weeks in different winters both used the same perch from which to sit and survey the area. Several hours of each day were spent atop the same pole.

Northern Pygmy-Owl
Glaucidium gnoma

Status: *Very rare in spring and rare in autumn and winter.*

Ornithological History: Kelso (1926c, 1931) considered this "diminutive" and "ferocious" owl "Resident, not uncommon" in the district. He noted prey items included insects (from specimens), Bohemian Waxwing, Western Meadowlark (24 December 1924), and he watched an unsuccessful attack on a Snow Bunting on 10 December 1920.

Habitat: ***Non-breeding*:** Virtually all records of Northern Pygmy-Owl (Figure 90) have been from along wooded edges of roadways and highways. It is difficult to determine, however, whether this is truly their preferred habitat. In winter, when most birds are reported, observers are also somewhat restricted to roadways and highways.

Figure 90. Small numbers of Northern Pygmy-Owl usually occur in valley bottoms in the region in winter. *Photo by Gary S. Davidson*.

Occurrence: ***Spring*:** Records are few and may represent wintering birds that lingered in the valley. The latest record is 5 April 1999. ***Autumn*:** Occurs sporadically in September with reports increasing as the season progresses. There are a dozen records for November. ***Winter*:** Records are distributed fairly evenly through December, January and February. Northern Pygmy-Owl is not recorded every year.

Breeding: There are no breeding records for the region.

Comments: Although there are no summer records, I suspect that a small number may breed in the surrounding mountains. Access to the steep mountain sides is difficult and very little field work has been conducted in these areas. This species is known to breed in the mountains adjacent to the study area (Campbell et al. 1990b).

Northern Pygmy-Owl has been reported on the Nakusp Christmas Bird Count 13 times (43%) in 30 years.

Burrowing Owl
Athene cunicularia

Status: *Accidental.*

Ornithological History: Kelso (1926c, 1931) did not record Burrowing Owl.

Occurrence: ***Spring*:** A single bird was photographed on the Nakusp waterfront on 11 May 1989 (Figure 91). The bird remained perched on a driftwood log for an hour or two and was not seen again.

Breeding: There are no breeding records.

Comments: This record appears to be the first for the West Kootenay region (Campbell et al. 1990b, Van Damme 2009).

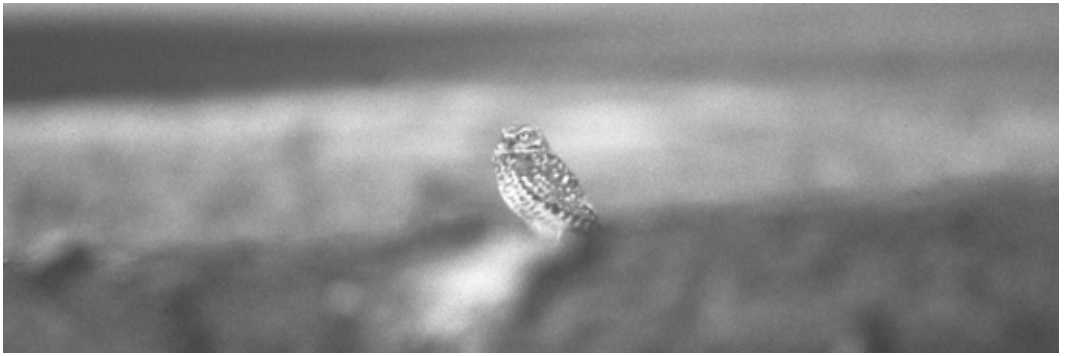

Figure 91. This photograph of a distant Burrowing Owl on the shore of Upper Arrow Lake confirms its occurrence. *Photo by Gary S. Davidson, Nakusp, BC, 11 May 1989.* BC Photo 3752.

Barred Owl
Strix varia

Status: *Uncommon resident; breeds.*

Ornithological History: Kelso (1926c, 1931) did not record Barred Owl between 1913 and 1931.

Habitat: ***Year-round*****:** All records have come from densely forested coniferous areas, but always with at least one large open area nearby. This open area may be a grassy field or an electricity transmission corridor.

Occurrence: ***Year-round*****:** This species is reported far more often between mid-February and mid-May than in any other season because they are more vocal at this time of year. A few pairs are known to breed in the area and they are seen sporadically throughout the year in these locations.

Breeding: Several local residents have told of seeing young Barred Owls in late spring and summer but all reports have been "after the fact." The only reliable report for which there are dates is from 1992. A pair with at least two fledged juveniles was seen repeatedly in late June and early July in a large open grassy area beside MacDonald Creek Provincial Park, 15 km south of Nakusp.

Comments: Despite the lack of breeding records, there is little doubt that this species breeds regularly in the region.

During the 1950s and 1960s, Barred Owl became established in central British Columbia and began extending its range into the south-central and southeastern portions of the province (Grant 1966, Campbell eta al. 1990b).

Like many species of owls, Barred Owl is susceptible to collisions from vehicles (Figure 92). See Campbell and Preston (2006) for synopsis of a program in British Columbia established to record wildlife mortality from vehicle-induced collisions.

Figure 92. This Barred Owl was injured in a collision, possibly with a car. Despite being taken to a rehabilitation facility, it died two days later. *Photo by Gary S. Davidson, Nakusp, BC, 3 November 201*0. BC Photo 3743.

Great Gray Owl
Strix nebulosa

Status: *Casual in winter and accidental in spring.*

Ornithological History: Great Gray Owl was not reported in Kelso (1926c, 1931).

Occurrence: ***Spring*****:** The lone spring record is a bird hit by a car just north of Nakusp on 17 March 1985. This bird died the next day. ***Winter*****:** Single birds have been present in winter on at least three occasions: once in the mid-1980s (exact dates not known), once in 1993, when a dead bird was brought to the local Conservation Officer on 21 January, and again in 2007, when a bird was seen repeatedly near Nakusp from at least 10 February to 22 February. Vague reports of a fourth bird in 2004 cannot be confirmed.

Breeding: There are no breeding records.

Long-eared Owl
Asio otus

Status: *Accidental in all seasons.*

Ornithological History: Kelso (1926c, 1931) considered this species as "Very rare" on the basis of a single bird collected on 4 August 1917 in Edgewood. It was a very young bird with "down patches all over it and cannot have been reared far from the spot where it was secured."

Habitat: ***Non-breeding*****:** The region offers very little habitat (*e.g.*, riparian mixed deciduous woodlands; see Campbell et al. 1990b) that would be considered typical for this species. The four seen in the region were making do with what they could find. One was sitting in a small birch along a railway right-of-way, one was tucked away deep inside a dense cedar tree in a suburban garden, another was sitting in the open on a porch railing adjacent to a mature coniferous forest, and the last was found on the ground with a broken wing.

Occurrence: There are four records. ***Spring*****:** One on 11 May 2000. ***Summer*****:** One on 1 July 2005. ***Autumn*****:** One on 7 September 1996. ***Winter*****:** One on 3 December 2006 (Figure 93).

Figure 93. Long-eared Owl is rarely reported in the Nakusp-New Denver-Burton area of the West Kootenay region. *Photo by Gary S. Davidson, near Nakusp, BC, 3 December* 2006. BC Photo 3742.

Breeding: There are no breeding records.

Comments: In the Creston valley, Long-eared owl is present year-round and breeds (Van Damme 2009).

Short-eared Owl
Asio flammeus

Status: *Casual in spring and very rare in autumn and winter.*

Ornithological History: Kelso (1926c) did not list Short-eared Owl in *The Birds of Arrow Lakes…* but in his 1931 manuscript he considered the species as "very rare in the district." He collected a bird, his only record, on 3 December 1926.

Habitat: ***Non-breeding*:** All records have been from agricultural fields.

Occurrence: Short-eared Owl is not recorded most years. Some years, however, it is present in small numbers and may remain for several weeks. ***Spring*:** There are three records of single birds: 9 March 2003, 17 March 1989, and 2 May 1988. ***Autumn*:** Most records fall between 16 October and 24 November. A single bird seen on 2 September was exceptional. Up to six birds have been observed at one time. ***Winter*:** On a few occasions, autumn birds have remained into the winter season. Most records are from December and early January. However, on 31 December 1987, six birds were seen in Brouse. By 16 January four remained; following that, one was seen intermittently until 9 February. Snowfall, which covers hunting habitats, was particularly low that winter.

Breeding: There are no breeding records although the species has been recorded during the breeding season farther north in the valley. There are breeding records for the Creston valley (Van Damme 2009).

Comments: Although the database includes all records from 1975 to 2010, 62% of these fall between 1987 and 1991. There have been only two records since 1996.

Short-eared Owl has been reported on the Nakusp Christmas Bird Count twice (7%) in 30 years.

Boreal Owl
Aegolius funereus

Status: *Accidental.*

Ornithological History: Kelso (1926c) considered this species as "Rare" without providing further details.

Occurrence: ***Winter*:** On 5 January, 1985, a weak individual was observed sheltering in a barn near Nakusp. It was found dead the following morning.

Breeding: There are no breeding records.

Comments: Based on records from upland areas adjacent to the study area, it is possible that this species occurs in small numbers at higher elevations in the local mountains. Access to these areas is very limited during March when the species is most vocal.

Northern Saw-whet Owl
Aegolius acadicus

Status: *Uncommon resident; probably breeds.*

Ornithological History: Kelso (1926c, 1931) considered this species as "Resident, not uncommon" but "very rare in the district." However, he only recorded it twice and lists only a single record for 4 November 1924. It appeared from remains and footprints examined the following day, a domestic cat (*Felis catus*) had killed and partially eaten the owl.

Habitat: ***Year-round*:** Northern Saw-whet Owl (Figure 94) inhabits low elevation forests. All records of this species have been in, or near, major valley bottoms. There are no records above about 800 m.

Figure 94. While present year-round, sightings of Northern Saw-whet Owl are few. *Photo by R. Wayne Campbell*.

Occurrence: *Spring*: The incessant tooting of this small owl is heard frequently, beginning in March and continuing for several weeks. ***Summer, autumn, and winter*:** Records are much less frequent as owls do not call but they are seen and reported irregularly throughout this period.

Breeding: While no actual nests have been located, it is presumed that this species breeds in the area.

Comments: Despite the relative paucity of records, this is probably the most common owl in the region. Its small size and nocturnal habits make it relatively inconspicuous except to those particularly looking for it. One nocturnal survey conducted in late March 2005 yielded four calling birds in 20 stops over a distance of 20 km.

Northern Saw-whet Owl has been reported on the Nakusp Christmas Bird Count once (3%) in 30 years.

GOATSUCKERS

Common Nighthawk
Chordeiles minor

Status: *Casual in spring, formerly uncommon in summer but now rare in summer, (see comments below), and rare in autumn.*

Ornithological History: Kelso (1926c) called this species a "summer migrant" in the district and recorded it from 27 April (1919) to 25 September (1926). He further stated "The history for this bird in the district is puzzling. It used to come in vast numbers: in 1913 it was especially numerous. In 1914, it returned in very greatly reduced numbers, since then the bird has become almost rare." The unusual arrival date of a bird heard and thought to be Common Nighthawk on 27 April (1919) may have been mistaken for a Common Poorwill (see Campbell et al. 2006 for a similar record for the Okanagan valley).

Two nests were reported. On 18 July 1917, a nest with egg shells and two downy chicks nearby was located at Whatshan Lake and near Edgewood a nest with two eggs was found on 8 July 1928

Habitat: *Non-breeding*: Birds have been seen foraging insects in a wide variety of aerial habitats, including over lakes, rivers, towns, forests, and fields.

Occurrence: *Spring*: Typically arrives in late May or early June. The earliest date is 24 May 1985. ***Summer*:** Although numbers are never large, there appears to be a peak movement around the middle of June. A few nighthawks remain throughout the summer and the south-bound movement begins in late August. ***Autumn*:** The peak movement is in late August. Smaller numbers continue to pass through until mid-September. The latest departure date is 16 September 1982.

Breeding: Although there is no confirmed breeding evidence, occasional sightings throughout the summer suggest that this species breeds in the region.

Comments: The account above is based on records

over a 35-year period. Common Nighthawk (Figure 95) has shown considerable decline in the region over the past three decades. From 1975 to 1984 I had 57 records of groups of up to 25 birds. From 1985 to 1994, there were 34 records, from 1995 to 2004 only 15 records, and since 2004 I have only recorded the species five times. Only once since 1994 has a group larger than 10 been observed.

Figure 95. Common Nighthawk, like some other insectivorous species, is showing declines in numbers at traditional foraging and nesting areas. *Photo by R. Wayne Campbell.*

Campbell et al. (2006) suggest that the population in southern British Columbia may have shifted its range northward.

Common Poorwill
Phalaenoptilus nuttalli

Status: *Accidental.*

Ornithological History: Common Poorwill was not reported by Kelso (1926c, 1931).

Occurrence: In the late 1970s, an injured bird was found on the road near Summit Lake, by Chris and Jean Spicer. Jean's attempts to rehabilitate the bird were unsuccessful. The exact date is unknown.

Breeding: There are no breeding records.

Comments: See *Comments* for Common Nighthawk.

SWIFTS

Black Swift
Cypseloides niger

Status: *Casual in spring and common in summer; possibly breeds.*

Ornithological History: Kelso (1926c, 1931) called Black Swift "A passing summer migrant" only in the vicinity of Edgewood. He recorded the species from 27 May (1915; three or four birds) to 13 September (1915; a very large flock). On 20 August 1916, he wrote: In the afternoon a heavy cloud of these birds, for two hours at a stretch, were circling high over our rock bluff with one Vaux Swift tumbling about amongst them & one nighthawk. After a few hours, they thinned off to leave two or three individuals, then these last disappeared."

Habitat: *Summer*: Aerial foraging birds have been reported over most habitat types, from valley bottom to alpine regions.

Occurrence: *Spring*: There are two records: 7 May 2000 and 26 May 1992. ***Summer*:** Groups of up to 10 are seen irregularly in June but the species occurs more regularly in July and August. By mid-July, up to 10 birds are seen most afternoons feeding over Nakusp. This is a fair weather phenomenon; if the weather turns cloudy and cool, the swifts do not appear that day. This continues at least until mid-August and some years until late August. The latest recorded date is 31 August 1990.

Breeding: There are no breeding records.

Comments: Very few breeding sites are known for this species in British Columbia (Campbell et al. 1990b), but the daily appearance at Nakusp, at the height of the breeding season, suggests there may be a breeding site somewhere in the study area.

Vaux's Swift
Chaetura vauxi

Status: *Common in spring, summer, and autumn; may breed.*

Ornithological History: Kelso (1926c) listed Vaux's Swift as a "Common summer migrant; breeds." He recorded it in the district from 11 May (28 April 1918 in Revelstoke) to 10 September (1927; two great clouds). The largest flock recorded was 30 or more birds circling and feeding on 16 May 1929.

Individuals of this species "have nested" near Fly Creek but no details are given.

Habitat: *Migration*: Foraging birds have been reported flying over a wide variety of habitats and locations. Unlike Black Swift, however, there have been no reports from alpine or sub-alpine regions. The highest reported elevation has been 1,450 m.

Occurrence: *Spring*: Typically arrives in early May but has been reported as early as 21 April. Flocks are generally less than 20 birds, but larger groups occur occasionally, particularly in the second and third week of May. ***Summer*:** Occurs quite regularly throughout the summer in small groups of up to six in June and July, with larger flocks appearing later in August. ***Autumn*:** Flocks of up to 50 Vaux's Swifts (occasionally larger) occur regularly in early September. There are no records after 15 September.

Breeding: There are no confirmed breeding records but birds have been observed entering chimneys, a known nest site in the province (see Campbell et al. 1990b). Their regular occurrence throughout the breeding season further suggests that breeding is possible.

Comments: Vaux's Swift is occasionally abundant. Flocks in excess of 100 have occurred in both spring (20 May 1980) and autumn (7 September 1985).

HUMMINGBIRDS

Black-chinned Hummingbird
Archilochus alexandri

Status: *Casual.*

Ornithological History: Kelso (1926c) called Black-chinned Hummingbird a "summer migrant, rare" and later called it an "uncommon summer visitant to the valleys."

In 2010, in the Edgewood area, this hummingbird is being reported annually at one or two feeders, (pers. obs.).

Habitat: *Summer*: A pair visited a feeder at a house in a rural area four or five kilometres from Nakusp. The house was at the edge of a mixed coniferous forest and adjacent to a large hay field. All records have been from residential feeders.

Occurrence: *Spring and Summer*: Prior to 2007, there were no confirmed records of this species for the study area. A single male was reported from Burton on 5 May 2007. Also in 2007, a pair was seen near Nakusp where the male visited a feeder regularly from 18 May to 31 July. A female was seen sporadically at the same feeder. No juveniles were noted. The following year a male was again present, but not as regularly. Also in 2008, a male was reported once at a feeder in Nakusp in June.

Breeding: There are no breeding records.

Comments: In the Creston valley, the species is an uncommon but regular summer visitor and breeder (Van Damme 2009).

Anna's Hummingbird
Calypte anna

Status: *Accidental.*

Ornithological History: Kelso (1926c, 1931) did not record this species.

Occurrence: ***Autumn*****:** There is a single record. A female was first noted visiting a feeder just south of New Denver on 11 November 1977. When the weather turned very cold, the bird was lured into the house and given its own room for the winter. It survived comfortably in the upstairs bedroom for almost four months. Inexplicably, it died suddenly, in March (Nancy Anderson pers. comm.).

Breeding: There are no breeding records.

Comments: Anna's Hummingbird was first documented in British Columbia**,** on southern Vancouver Island, in 1958 (Guiguet 1959). It was recorded on the adjacent mainland coast at West Vancouver in 1959 and reached the interior at Penticton in 1974 (Campbell et al. 1990b). Since then, the species has greatly expanded its range along the coast and throughout the southern interior of the province (R.W. Campbell pers. comm.).

Calliope Hummingbird
Stellula calliope

Status: *Rare in spring and very rare in summer; probably breeds.*

Ornithological History: Kelso (1926c) listed Calliope Hummingbird, in the Edgewood area, as a "common summer migrant, not so numerous as the Rufous [Hummingbird]."

Habitat: ***Summer*****:** All records are from back yard feeders in residential areas of Nakusp, New Denver, Hills, and Burton.

Occurrence: ***Spring*****:** There are two late April sightings (25 April 2001 and 30 April 1994) but most records are from May. ***Summer*****:** There are several June records and one each for July and August. The latest date is 28 August 1978.

Breeding: There are no breeding records.

Comments: In the southernmost part of the study area, at New Denver and Burton, Calliope Hummingbird occurs a little more regularly and may well deserve a higher occurrence status. All Nakusp records have been in May, whereas Burton and New Denver birds remain well into the breeding season. This is consistent with Kelso's observation that the species occurred regularly in Edgewood in the 1920s.

Rufous Hummingbird
Selasphorus rufus

Status: *Common in spring and summer and casual in early autumn; breeds.*

Ornithological History: Kelso (1926c) listed Rufous Hummingbird as an "Abundant summer migrant, breeds freely in the lakes district." He recorded it in Edgewood from 10 April (1914) to 22 September (1918) (Kelso 1931).

Nineteen Rufous Hummingbird nests were recorded by Kelso between 1913 and 1929. Nests were built on the limbs of spruce, silver birch, and cedar trees from 1.4 m to 9.2 m above the ground. Nests contained eggs (usually two) from 7 June (1929) to 17 July (1930) and nestlings from 14 June (1929) to 11 July (1923). Nests were found between 464 m and 1,525 m elevation. The calculated breeding season, using incubation and fledging periods from Calder (1993), for the vicinity of Edgewood extended from about mid-May to the end of July.

Kelso (1931) mentions that on 7 June 1929 he found an "interesting nest" that "was built on the remains of an old hummer's [Rufous] nest; last years. Consequently it had pretty high sides." This activity has subsequently been reported in British Columbia (Campbell et al. 2011).

Habitat: ***Migration and Breeding*****:** All spring and early summer records are from lower elevations. Males (Figure 96) move upslope in the summer and have been reported in the alpine up to 2,300 m. The

species occupies a wide range of habitat types. It has been recorded in urban-suburban gardens, agricultural areas, wetland edges, deciduous and coniferous forests, and in alpine meadows. Most forest records are from edges or small clearings in the forest.

Figure 96. Male Rufous Hummingbirds arrive in early April, about a week ahead of females. *Photo by Gary S. Davidson, Nakusp, BC, 3 May 2009.*

Occurrence: ***Spring***: Occurs from early April until the end of May. Typical arrival date for the males is the second week of April; females are generally about a week later. Males continue to defend feeding sites until late June or early July. ***Summer*****:** Males are not often seen at lower elevations after the middle of July. Females and young birds continue to occur at lower elevations until about mid-August, when numbers start to decline. By month end, all are generally gone. ***Autumn*****:** There are two records: 1 September 2007 and 3 September 2000.

Breeding: Despite the frequency of this species, only one nest (Figure 97) has been located and documented. Nest construction was first noted 15 May, the first egg was laid on 19 May, the first egg hatched on 3 June, and first young fledged on 26 June.

Comments: Rufous Hummingbird is most certainly a common breeding species in the region despite the lack of breeding records.

Figure 97. Female Rufous Hummingbirds on lichen-covered nest. *Photo by Gary S. Davidson, Nakusp, BC, 27 May 1979.*

KINGFISHERS

Belted Kingfisher
Ceryle alcyon

Status: *Common in spring, summer and autumn and rare in winter; breeds.*

Ornithological History: Kelso (1926c) referred to this species as "Common summer migrant, occasionally wintering. Breeds freely." In his 1931 notes, Kelso mentions three breeding records in the vicinity of Edgewood. A pair was at their nest hole in a creek bank on 26 June 1914 "either incubating or brooding"; an adult was incubating eggs in a nest burrow in a sand bank on 29 May 1925; and on 11 August 1926, a brood of three or four was seen flying, "one with practically no tail."

Habitat: ***Year-round*****:** Kingfishers are regularly seen along all lakeshores and along some creeks. Nest burrows have been found in natural dirt banks near streams and also in road cuts adjacent to lakes. Some burrows have been found up to a kilometre from the lake.

Occurrence: ***Spring*****:** The precise timing of spring arrivals is difficult to determine due to the presence of a small number of over-wintering birds. There is a definite increase in sightings, however, in early April. By late April, kingfishers can be seen daily. This continues through the rest of the season. ***Summer*****:** Kingfishers are not abundant in the region but they continue to occur regularly, and locally, through June, July, and August. ***Autumn*****:** The summer pattern continues through September, with a slow but steady decline in numbers through October and November. ***Winter*****:** A small number, probably fewer than five birds, remains throughout the winter most years.

Breeding: While there are a number of records of birds entering burrows, no data on eggs and young are available. Fledged young have been reported in mid-August.

Comments: Monitoring nests has proven to be very difficult. Burrow entrances tend to open onto large clear areas, making it very difficult to approach the burrows unseen. Kingfishers are very hesitant to enter nest burrows when disturbed.

Belted Kingfisher has been reported on the Nakusp Christmas Bird Count 13 times (43%) in 30 years.

WOODPECKERS

Lewis's Woodpecker
Melanerpes lewis

Status: *Very rare in spring and summer and casual in autumn; breeds.*

Ornithological History: Kelso (1926c, 1931) listed this species as a "Summer migrant, breeding in small numbers." It was not recorded in the district until 27 May 1917 after which it occurred "every season in increasing numbers." He recorded it from 3 May (1924) to 16 October.

Habitat: ***Breeding*****:** The one documented nest site was at the edge of Arrow Lake adjacent to an open industrial area on the outskirts of Nakusp. Nearby habitat included a small stand of black cottonwood, a couple of small grassy fields, a small orchard and the highway. These habitats combined to create relatively small openings in the otherwise continuous coniferous forests more typical of the region. ***Non-breeding*****:** Records have been from a variety of locations throughout the region. All were in human-altered habitats that provided openings in the otherwise closed forests.

Occurrence: ***Spring*****:** There are scattered records from 27 April to 19 May. ***Summer*****:** The spring pattern of irregular occurrence continues through June. The only July and August records are from 1992 and 1993 when breeding occurred. ***Autumn*****:** There are two records: 1 September 1985 and 3 September 1998.

Breeding: There are only two known breeding records that were successful. In May 1992, a pair was observed attempting to evict a pair of European Starling (*Sturnus vulgaris*) from a cavity in one of the support pilings for a wharf on Arrow Lake at Nakusp.

The eviction was unsuccessful, but the pair apparently found a site elsewhere as two fledged juvenile birds were observed near the Nakusp sewage lagoons on 17 August of that year. The following year, a pair nested in the same cavity as the attempted starling eviction of the previous year. The adults were first observed entering the cavity 25 June 1993. By 18 July they were feeding young in the nest and by 24 July the young had left the nest.

Comments: All of the records mentioned above occurred between 1976 and 2000; there have been no records since then. In the Creston valley, Lewis's Woodpecker is a rare summer visitor and breeder (Van Damme 2009).

Red-naped Sapsucker
Sphyrapicus thyroideus

Status: *Common in spring, summer, and early autumn; breeds.*

Ornithological History: Kelso (1926c, 1931) listed this migratory species a "Common summer migrant. Breeds freely in the district." The earliest spring arrival record was 25 March (1924). Two other arrival dates were on 9 April in 1918 and 1925.

Excavation of a nest hole was first noted on 3 May (1916) and 7 May (1919), both in dead trees. At another site, adults were watched feeding nestlings on 21 June 1914.

Habitat: ***Breeding*:** All nests have been observed in deciduous woodlands or mixed coniferous/deciduous woodlands. Birch seems to be a favoured tree species for locating sap wells.

Occurrence: ***Spring*:** Occurs from 3 April through to the end of May. ***Summer*:** Continues to occur regularly until the end of August. ***Autumn*:** Departure is quite abrupt. There is no perceptible decline in numbers in early September, but by the middle of the month they are virtually all gone. The latest record is 23 September 1990.

Breeding: Breeds regularly in the area. Excavation has been observed from 11 April to 8 June. Nests with young have been observed from 11 June to 13 July. The earliest known date for fledged young is 2 July. All nests cavities were in birch, trembling aspen, or black cottonwood.

Comments: Red-naped Sapsucker has been recorded from valley bottom to about 1,500 m.

Downy Woodpecker
Picoides pubescens

Status: *Common year-round resident; breeds.*

Ornithological History: Kelso (1926c, 1931) lists [Batchelder] Downy Woodpecker as "Not common; nests but I do not think it is resident." He recorded it from 15 March (1926 at Edgewood) to 20 November (1924 near Needles).

Nest excavation, in the stump of a dead birch tree, was first noticed at Edgewood on 21 May 1913. The hole contained nestlings on 19 June and by 4 July at least one nestling was present and the next day all young had fledged. This nest site was unattended in 1914, was used by a pair of Western Bluebirds in 1915 and 1916, and was occupied by a Northern Flying Squirrel (*Glaucomys sabrinus*) in 1917.

Habitat: ***Year-round*:** Downy Woodpecker tends to avoid the dense coniferous forests found in much of the region. It prefers mixed woodlands, and semi-open areas that are generally found in towns, agricultural areas, and in riparian habitats along some of the area's creeks and lakes.

Occurrence: Although resident in the region, Downy Woodpecker is a frequent visitor to backyard feeders (Figure 98). As a result, there are a disproportionate number of winter records. ***Spring*:** There are few March records, but Downy Woodpecker occurs regularly through April and May. ***Summer*:** Occurs regularly, but is reported slightly less often than in late spring. ***Autumn*:** Occurrences increase in September and remain high throughout October and November. ***Winter*:** Occurs regularly, particularly at feeders.

Figure 98. Since Downy Woodpecker is a frequent visitor to backyard feeders, determination of its seasonal status in the region may be biased. *Photo by Gary S. Davidson*.

Breeding: While there is no doubt that the species is a regular breeder in the area, very few nests have been documented. The earliest reported date for excavation is 19 April 1992. The earliest known date for fledged young is 10 June 1995. A nest with noisy nestlings was observed 4 July 1991.

Comments: Downy Woodpecker has been reported on the Nakusp Christmas Bird Count 28 times (93%) in 30 years.

Hairy Woodpecker
Picoides villosus

Status: *Common in spring, and uncommon in summer, autumn, and winter; breeds.*

Ornithological History: Kelso (1926c) considered [Rocky Mountain] Hairy Woodpecker (*P. v. monticola*) a "Common resident, nesting freely" in the district and in 1931 listed it as "Resident and by far our commonest woodpecker." He also reported on 27 January 1917, that the species appeared "common this winter" and in 1929 "three or four were seen during the winter." He listed the subspecies (*P. v. septentrionalis*) [Northern Hairy Woodpecker] as an "uncommon winter migrant to the district."

Two breeding records were noted. On 19 May 1915, an adult was "very vociferous" outside its nest hole in a tall dead stump and nestlings were making a "churring noise." This nest site was appropriated by Mountain Bluebirds in 1916 and used by Northern Flying Squirrel in 1917. On 10 May 1926, a nest hole was located in a tall stump. Both adults were feeding the young, which were "murmuring faintly," suggesting they were just hatched. The nestlings were fed on average of every 15 minutes.

Habitat: *Year-round*: Winter records of Hairy Woodpecker (Figure 99) are often from urban or rural residential areas where feeders and artificial plantings provide feeding opportunities. By contrast, very few spring and summer records are from within towns, although the birds are still recorded in agricultural areas. The species is often seen in association with dead or dying trees.

Occurrence: *Year-round*: Hairy Woodpecker is resident and seen every month of the year. The elevated status in spring is almost certainly a combination of observer bias and ease of detecting calling birds.

Breeding: There is only one confirmed breeding record; a nest with at least two noisy young was observed near Summit Lake on 28 June 1972.

Comments: Hairy Woodpecker appears to be declining in the region. The number of records for the 10-year period ending in 2005 is less than half the number of records for the 10-year period ending in 1985.

Hairy Woodpecker has been reported on the Nakusp Christmas Bird Count 29 times (97%) in 30 years.

Figure 99. Hairy Woodpecker was formerly much more common in the region and recently the species has become an unusual sight at backyard feeders. *Photo by Gary S. Davidson*.

American Three-toed Woodpecker
Picoides dorsalis

Status: *Rare in spring, uncommon summer, rare in autumn, and very rare in winter; breeds.*

Ornithological History: Kelso (1926c) considered this species as "a not uncommon resident" in the district.

Habitat: ***Year-round*****:** This species prefers coniferous forests above the valley floor where it has been recorded up to 2,000 m elevation. It is most often reported in the Englemann Spruce/Subalpine Fir zone.

Occurrence: ***Spring*****:** Reported irregularly throughout March, April, and May. ***Summer*****:** Occurs regularly at upper elevations. ***Autumn*****:** There are scattered records from early September to late November. ***Winter*****:** Although there is only one record (2 January 2000), access to appropriate habitat in winter is greatly limited.

Breeding: The earliest known nesting attempt was an occupied nest (contents unknown), found on 15 May 1977. The latest known date for a nest with young is 1 July1999. An adult with two fledged juveniles was observed on 5 July 2009.

Comments: The status of this species may be higher than the available data would indicate. The mid- to upper-elevation habitat preferred by this species is largely inaccessible from autumn until late spring. American Three-toed Woodpeckers are almost certainly resident in the region. I suspect that with sufficient effort it could be determined that the species is an uncommon resident.

American Three-toed Woodpecker has been reported on the Nakusp Christmas Bird Count twice (7%) in 30 years.

Black-backed Woodpecker
Picoides arcticus

Status: *Casual in spring, summer, and autumn; breeds.*

Ornithological History: Kelso (1926c, 1931) considered this species "Not so common as the Alaskan [American] Three-toed Woodpecker, but is occasionally seen, and nests."

A pair was noticed excavating a nest hole in a tall dead tree 1.8 m up between 12 and 29 April 1917. By 27 May "incubation was proceeding."

Habitat: ***Non-breeding and Breeding*****:** Spring and summer records have all been from within the closed coniferous forest at elevations ranging from 600 m to 900 m. The lone autumn record was from the much more open habitat of the Nakusp golf course.

Occurrence: ***Spring*****:** One record of a pair at a nest in May 1992. ***Summer*****:** There are two records: 3 July 1979 and 20 July 2005. ***Autumn*****:** One record on 28 September 1996.

Breeding: There is one breeding record. A pair was observed feeding small young in a nest just outside Nakusp in May 1992. The nest cavity was in a live conifer and less than two metres above the ground.

Northern Flicker
Colaptes auratus

Status: *Common resident; breeds.*

Ornithological History: Kelso (1926c, 1931) mentions the species is a "Common summer migrant, occasionally wintering; breeds freely" and has been recorded at 1,830 m. Most flickers arrive in April but some can be found in late March in some years.

The nesting season occurs from mid-April to the end of June. Nests with eggs have been found on 15 May (1926) and nestlings on 31 May (1928).

Habitat: ***Year-round*:** Northern Flicker (Figure 100) occurs throughout the region in a wide variety of wooded and open habitats, including towns, agricultural areas, and mixed and coniferous woodlands from valley bottom to at least 1,600 m.

Figure 100. Northern Flicker is the most widely distributed and commonly seen woodpecker of the eight species recorded in the region. *Photo by R. Wayne Campbell.*

Occurrence: ***Year-round*:** Northern Flicker occurs regularly throughout the year.

Breeding: Breeds regularly. The earliest known date for excavation is 10 April 2010. The earliest known nest with eggs is 15 May 1973 and the earliest known date of a nest with young is 12 June 1999.

Comments: A significant number of flickers in the region show some signs of hybridization with "Yellow-shafted" Flicker (*C. c. auratus*; Figure 101). This plumage variation often shows a few red feathers in the nape, but birds with yellow shafts and wing linings have been noted.

Figure 101. Hybrid Northern Flickers, like this male showing the typical red moustache of the western subspecies and yellow under-wing and tail lining of the northeastern subspecies, occur quite regularly in the region. *Photo by Gary S. Davidson, Nakusp, BC, 2 December 2005.* BC Photo 3754.

Northern Flicker has been reported on the Nakusp Christmas Bird Count in each of its 30 years ranging from four to 58 individuals.

Pileated Woodpecker
Dryocopus pileatus

Status: *Uncommon resident; breeds.*

Ornithological History: Kelso (1926c, 1931) considered Pileated Woodpecker a "Common to fairly common resident but may be absent for a time as they are great wanderers."

In 1923, nest excavation started on 9 February and continued until a suitable site in the trunk of a large black cottonwood tree was found. On 26 June the adult peered out of the cavity and it was assumed later that the young fledged. In 1924, Kelso noticed that a Pileated Woodpecker nest site had been usurped by a pair of American Kestrels. In June, 1925, a wind storm snapped off the top portion of a black cottonwood tree but the nest hole used by a pair of Pileated Woodpeckers was spared. On 1 July the nestling was "staring out of the hole" and the next day it had fledged. Other known nest sites had Northern Flying Squirrels in them.

Habitat: ***Year-round*****:** During the non-breeding season, Pileated Woodpecker (Figure 102) is widely distributed in the region. It is not restricted to the valley bottoms and occurs up to at least 1,000 m elevation. During the breeding season, habitat is restricted to those areas that provide the larger trees required for nesting.

Occurrence: ***Year-round*****:** Occurs regularly throughout the year.

Breeding: Two nests have been documented and adults with fledged young have also been observed. A nest on Highway 6, just east of Summit Lake, was under construction on 9 April 1989. The nest contained four naked young on 4 June and the nestlings were still present on 10 June. There were no further observations. A second nest in the same general area was observed in 2002. The nest contained two large young on 14 July.

Comments: The Highway 6 nest was situated in a live black cottonwood tree. On 3 June, it was discovered that a wind storm had broken the tree at the height of the nest entrance, thus exposing the young. The tree was repaired on 4 June by replacing a section of the broken trunk above the nest. The interested adults remained in the area and observed the repair process! Upon completion they immediately resumed feeding the young.

The well-known shape of foraging excavations on living, dying, and dead trees, are evidence that Pileated Woodpeckers are in the region (Figure 103)

Pileated Woodpecker has been recorded on the Nakusp Christmas Bird Count 27 times (90%) in 30 years.

Figure 102. Pileated Woodpecker is an uncommon resident in the region and in winter some move into towns to eat at suet feeders. *Photo by Gary S. Davidson, Nakusp, BC, 27 September 2009.*

Figure 103. The typical rectangular workings of Pileated Woodpecker are a common sight in the region. *Photo by Gary S. Davidson, near Nakusp, BC, 15 July 2009.*

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