

bi-lobed peninsula. We call this the Heart subshed.

Working from west to east across this map, the Fish Creek watershed drains 13.7 square miles into the largest and most ecologically significant estuary on Douglas Island (Armstrong, Carstensen, Willson & Hermans, 2009).¹ Sundown subshed drains 168 acres onto the western entrance to Gastineau Channel and Mendenhall Wetlands. Ninemile Creek subshed drains 258 acres onto the flats opposite Airport Dike Trail. Turnoff subshed drains 62

¹ As explained in the introduction to our Eaglecrest surveys, we've subdivided the greater Fish Creek watershed into 4 subsheds, reflecting important sub-basins in the headwaters surrounding Eaglecrest Lodge.

Northeast across the weather station on Fish Creek Road to Heart subshed (Hendrickson Point). Somewhat counterintuitively, the open peatland (*op*) units do *not* usually occupy depressions within a forested-wetland (*fw*) matrix. Instead, they're typically domed, falling off at their margins into the forested matrix. That convexity shows well in this oblique view. Sample probes on transects through these peatland-to-forest transitions typically showed peat depth >4 feet in the *op* units, gradually declining to less than 16 inches in *fw* units.

Because of the domed configuration of the North-Douglas peatlands, subshed boundaries typically run through the centers of these bogs. On the ground, this convexity is usually too subtle to detect.

low-relief acres centered on the first turnoff to Ninemile Creek Road. Johnson Creek subshed drains 786 acres onto the channel across from the east end of the runway.

The narrowest part of Mendenhall wetlands is between Sunny Point on the mainland and Hendrickson Point on Douglas Island. Here lies the tidal divide, where rising waters from Fritz Cove meet incoming waters from the Juneau side. Although currents sometimes relocate this divide slightly east or west, what this generally means is that the subsheds so far described communicate primarily with marine waters of Auke Bay. The following subsheds, in contrast, empty southeastward toward Taku Inlet.



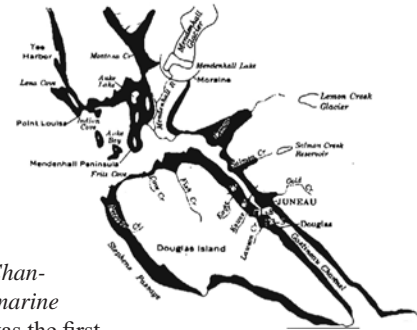


Heart subshed drains 231 acres onto the tidal divide. Hendrickson Creek subshed drains 520 acres onto the flats across from Lemon Creek. Neilson Creek subshed drains 1.9 square miles, meeting its estuary across from Vanderbilt Point. Falls Creek subshed drains 742 acres onto the channel opposite Salmon Creek. Threemile Creek subshed drains 263 acres. Eagle Creek subshed—largest of the Gastineau Channel subsheds—drains 3.1 square miles onto a bulging delta. The distinctness of this delta is due in part to the subshed's greater size, and partly to the others' being 'swallowed' by sediments emanating from Mendenhall River.

Geomorphology, glacial history In addition to RD Miller's map of surficial landforms previously cited (1975a) the USGS geologist authored a 20-page paper explaining the ancient marine deposits on Douglas Island

Left: Northeast across Neilson subshed and the Bonnie Brae subdivision to Gastineau Channel and Twin Lakes. Foreground bogs lie upslope of the CBJ Priority Areas.

Right: Distribution of glaciomarine landforms, from Miller (1975b).



(Miller, 1975b). Titled *Gastineau Channel Formation, a composite glaciomarine deposit near Juneau, Alaska*, this was the first detailed description of the origin and configuration of a coastal landform that's widespread throughout Southeast Alaska. Miller attributed these "diamiction" deposits:

"...pebbles and larger clasts dispersed through a fine-grained matrix of predominantly silt and sand. . .

to higher sea levels in the early Holocene, bearing . . .

"...sea ice, supplemented by berg ice . . .the means of accumulating, transporting, and mixing coarse debris with fines to produce . . . the Gastineau Channel Formation.

In the relatively protected Gastineau Channel, more fines accumulated than on more exposed back Douglas. In consequence soils there are on average more poorly drained than on equivalent surfaces we surveyed on that side of the island (map page 11WD).

Ecology No other map page on our surveys came close to the percentage of mapped wetlands classified as open peatland (*op*) on 08ND. Of 1111 acres designated wetland, 556 acres (50%) are open peatland. The average cover of *op* for the JWMP project as a whole is only 15% (table, page 10).

Culture Small fish camps were occupied by Áak'w K̄wáan on all anadromous streams of Gastineau Channel. With arrival of miners, construction began in 1882 on Treadwell Ditch, tapping the streams of every subshed for hydropower. By 1885 it extended all the way around to Fish Creek. But the shores of Douglas Island remained unsettled for decades. It wouldn't be until 1957 that North Douglas Highway reached and crossed Fish Creek.



In 1902, when surveyor Peters lugged a glass-plate camera to the summit of Mount Anderson, there was still no road from Juneau to Lemon Creek (center). But Treadwell Ditch already conducted water from Fish Creek to the mines at Treadwell.

1902 WJ Peters, US Coast & Geodetic Survey