

05NV North Valley

Within the NV map page, our wetland units were distributed in 2 well-separated clusters. The northern cluster (mapped on right) is far up Montana Creek—extending off the terrain covered by CBJ's 2013 imagery and LiDAR, onto State Lands at the confluence of Montana and McGinnis Creeks. The southern units—shown on hillshade map, following, span the portion of Mendenhall Valley abutting the USFS Recreation Area.

CBJ's 05NV map page contains 9 Priority Areas totalling 1,225 acres.¹ Only 78 of these acres are on City land at the base of Thunder Mountain. 1,040 acres are in the large PA 3.09 owned by the State of Alaska, at the confluence of Montana and McGinnis Creeks. The remaining 100 acres are on 7 privately owned PAs. We conducted 'off-site assessments' on some of these in 2015.

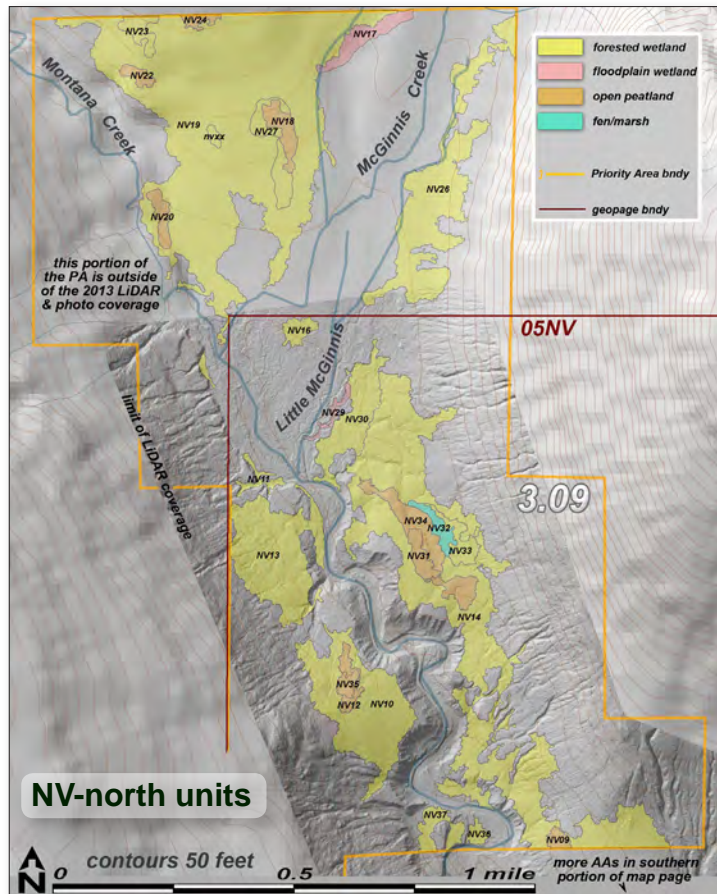
NV-NORTH UNITS

Geography, subsheds Although we call it Montana Creek in its lower reaches, the large McGinnis Creek basin produces considerably more flow than the portion of Montana Creek upstream from their confluence. Montana heads in a low saddle dropping northward into Windfall Lake. McGinnis, in contrast, drains a precipitous, steeply gouged, slaty headwall (photo, next page). In storms, the mountain sends slugs of fresh, pulverized shingle downstream through the snakey Montana-McGinnis canyon, making this one of Juneau's 'flashiest' watersheds.

Lacking fine contours² or DEM-modeled streams, we couldn't draw a meaningful or defensible divide separating Montana from McGinnis basins, and so have left this entire Priority Area 3.09 as a single, 15.2-square-mile subshed.

1 This total does not include the portion of PA 1.21, previously described for the Auke Bay map page, that extends eastward onto the NV page.

2 Ten-foot contours were created for this portion of CBJ from early LiDAR coverage in 2001, but these are fairly crude compared to the 2013 contours.



Geomorphology, glacial history In the mid 1970s, the USGS geologist RD Miller mapped the shoulders of downtrenched Montana Creek canyon as deep marine sediments (muddy green; *gm* on surficial geology map, following), including a buried forest layer predating the Wisconsin Glaciation. Downstream from PA 3.09, Miller found an extensive early Holocene delta (dark brown, *do*). In the McGinnis valley bottom and extending downstream from the Montana confluence are some of Juneau's most actively aggrading alluvial landforms, responding partly to above-mentioned ongoing slide activity, and partly to heavier snow build-up and mass wasting in the Little Ice Age.

In the mid-1700s, Mendenhall Glacier expanded several miles downvalley, depositing a terminal moraine just below today's Back Loop Road. Although the morainal landforms (green-coded, *m*) only

Sphagnum bog at 650 feet elevation on Divide Ridge between Montana and McGinnis Creeks. View is northwest to the volatile head-wall of McGinnis Mountain, one of the most avalanche-prone slopes in the CBJ, delivering frequent pulses of friable slaty rock into the large-tree floodplain of McGinnis Creek. One consequence of relevance to wetland succession downstream is that *Kax̄digoowu Héen*, *more clear as you move upstream* (Montana Creek) remains one of Juneau's flashiest streams. Unit SV01, for example, is classified floodplain wetland, *fl*, under WESPAK.



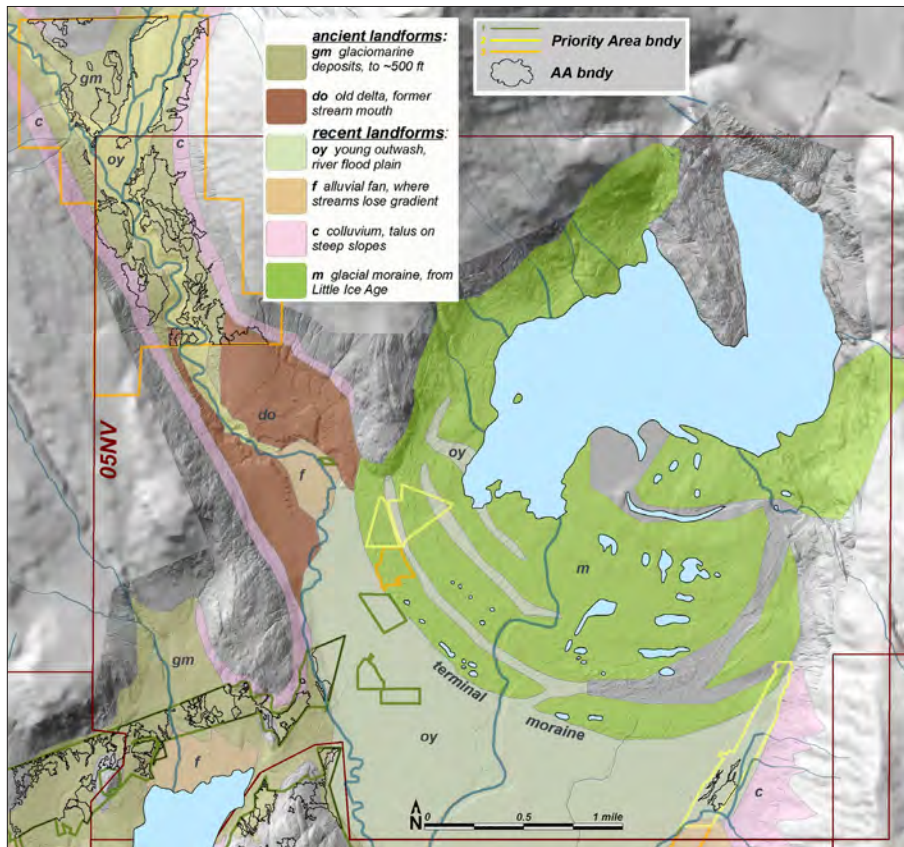
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underlie 3 of CBJ's Priority Areas (green, yellow and orange PA polygons), the entire valley bottom downstream was blanketed with "young outwash" (green-gray, *oy*). Depending on sediment size, these surfaces do support wetlands within some of the small PAs we surveyed, both on- and "offsite."

Ecology Most of the McGinnis alluvium is well drained, so we have few mapped wetlands in the valley bottom. Chum and coho adults run all the way up into McGinnis valley, making it one of the few places in the CBJ where brown bear can fish a relatively quiet spawning reach, away from humans and dogs. However, ORVs ford Montana Creek and run far up into McGinnis valley. We even found their deeply rutted trails far up Divide Ridge. (See panorama for NV18)

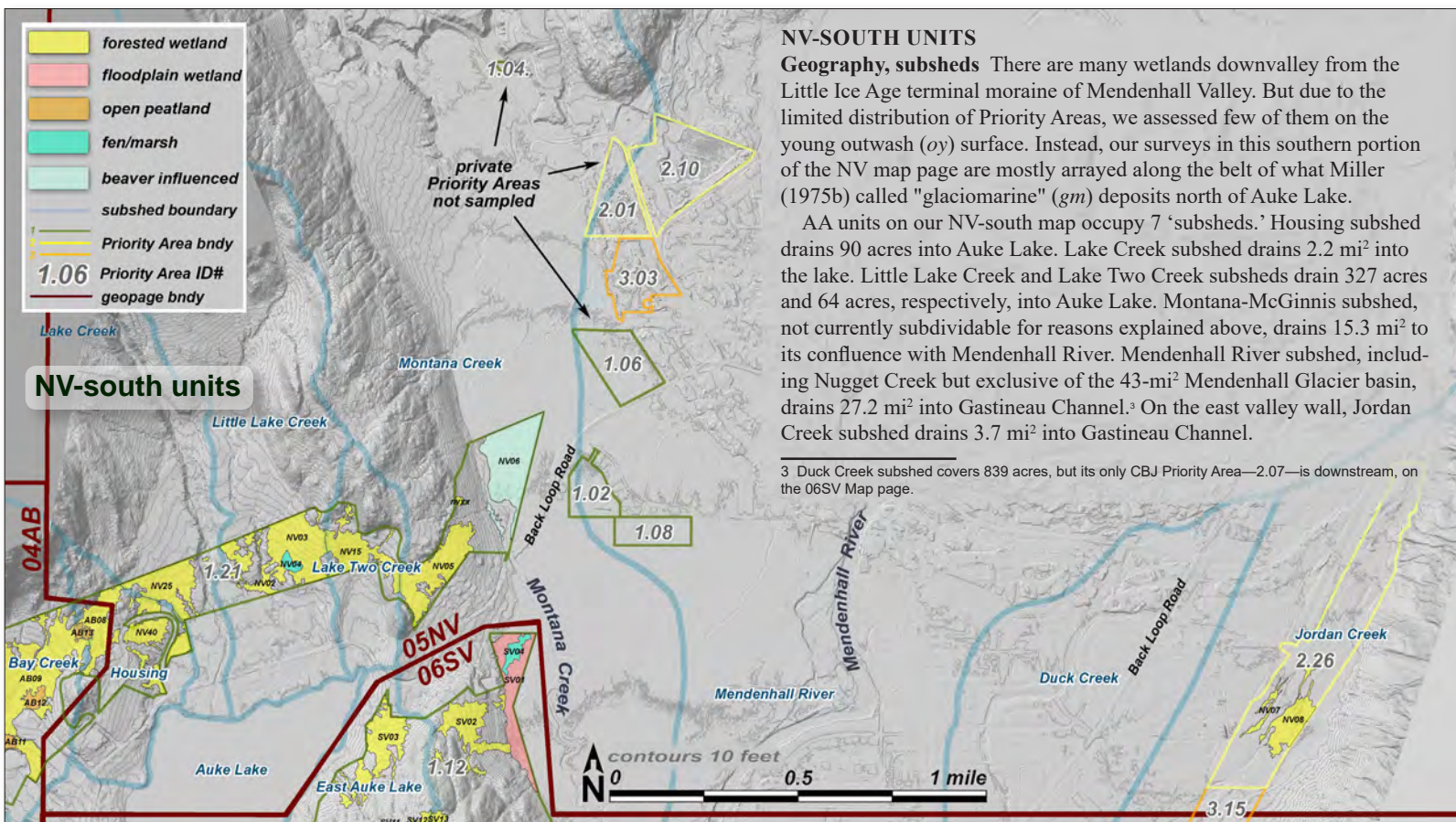
Culture Some of Juneau's earliest placer mining ventures took place in this Priority Area. The prospector McInnis staked claims as early as 1881. But long prior and even afterward, Áak'w K̄wáan claimed these headwaters. In 1946, Jake Cropley told Goldschmidt & Haas (1998) that Fish Creek John trapped up Kax̄digoowu Héen (Montana Creek) from Sít'.áa, (Mendenhall Lake). The fact that Sít'.áa was mentioned places John's trapping activities in the early 1900s, because the lake did not appear at the receding ice face until that time.

Surficial geology of upper Mendenhall and Montana-McGinnis valleys. A simplification of units mapped by RD Miller (1975b). The key separates ancient landforms dating to times of much higher sea level, from recent features, constructed since the peak of the Little Ice Age.





NV-south units



NV-SOUTH UNITS

Geography, subsheds There are many wetlands downvalley from the Little Ice Age terminal moraine of Mendenhall Valley. But due to the limited distribution of Priority Areas, we assessed few of them on the young outwash (*oy*) surface. Instead, our surveys in this southern portion of the NV map page are mostly arrayed along the belt of what Miller (1975b) called "glaciomarine" (*gm*) deposits north of Auke Lake.

AA units on our NV-south map occupy 7 'subsheds.' Housing subshed drains 90 acres into Auke Lake. Lake Creek subshed drains 2.2 mi² into the lake. Little Lake Creek and Lake Two Creek subsheds drain 327 acres and 64 acres, respectively, into Auke Lake. Montana-McGinnis subshed, not currently subdividable for reasons explained above, drains 15.3 mi² to its confluence with Mendenhall River. Mendenhall River subshed, including Nugget Creek but exclusive of the 43-mi² Mendenhall Glacier basin, drains 27.2 mi² into Gastineau Channel.³ On the east valley wall, Jordan Creek subshed drains 3.7 mi² into Gastineau Channel.

³ Duck Creek subshed covers 839 acres, but its only CBJ Priority Area—2.07—is downstream, on the 06SV Map page.



Northeast to Áak'w Kwáan Sít'i, *Áak'w people's glacier* (Mendenhall Glacier) from Kaxdigoowu Héen, *more clear as you move upstream* (Montana Creek). Open and shrub wetlands in mid-distance were recently placed under conservation easement by the Southeast Alaska Land Trust.

Two small Priority Areas on private lands—1.02 and 1.08 (map, previous page)—lie along the transition from wet meadow to even-aged spruce forest on the outermost, terminal moraine, formed in the 1750s by Áak'w Kwáan Sít'i. PA 1.02 was assessed "off-site" near the conclusion of our project, and is mapped in Volume 2 of the 2016 JWMP report. Deep ORV trails originating in this parcel loop southward into the saturated meadows of the new SEAL Trust parcel.

The other PA, 1.08—still owned by JYS—is a high-ranked Priority Area (green border) on CBJ map page 05NV. While the Bosworth team was not asked to assess this piece for the JWPM project, KB conducted a wetland delineation of the SEAL Trust parcel in 2012. She mapped the entire 136-acre parcel wetland except for 9.4 acres of spruce forest in the NW corner, well to the right of this aerial view.

Geomorphology, glacial history The southern portion of the NV map page contains both recent (post-Little Ice Age) and ancient (early Holocene) landforms, as explained on the preceding surficial geology map. CBJ's new LiDAR coverage will have many applications in addition to wetlands mapping. Portions of the lower valley at risk from the annual jökulhlaup, or outburst flood emanating from Suicide Basin, can be modeled from the high resolution digital elevation model (DEM).

Ecology Wetland units on outflow deposits from Mendenhall Glacier are 'young' in geological terms. They differ from *fw* and *op* units on raised marine

deposits above Auke Lake. Young wetlands such as the complex parkland in the photo above are typically graminoid, with alder-willow thickets and scattered spruce on driest microsites. Older wetlands at higher elevations⁴ are more typically TSHE-MEFE/LYAM associations, with deep-peat openings.

Culture This of the NV map page is mostly residential today, but encompasses Floyd Dryden and Mendenhall River Schools, and has high natural and educational values thanks to the Mendenhall Recreation Area.

⁴ Contact of young and old surfaces is on the 50-foot contour at the Montana Creek bridge.