



July 2021

Ducks Unlimited Canada Dawson Wetland Mapping

Statistics & Maps

1.0 Overview

A draft regional plan was published for the Dawson region of the Yukon in June 2021 guided by the vision that “The future of the region will include a diverse economy, rich cultural legacy, healthy environment, with shared and respectful use of natural resources”. The draft plan splits the region into 23 Landscape Management Units (one of which is split into two sub-units) which were assigned different levels of zoning: Integrated Stewardship Areas (level 1 – 4), Special Management Areas (designations 1 and 2), Highway Corridors, or Future Planning Areas. The draft plan makes key recommendations on various topics, one of which is wetlands, where it is recommended that wetlands of special importance are recognized and that developments should be limited in rare and sensitive wetland types.

Ducks Unlimited Canada has completed a wetland inventory of the Dawson region in March of 2021 for the Tr’ondëk Hwëch’in First Nation. The Dawson wetland mapping project identified the spatial extent of wetlands in the Dawson region and classified them based on the five major classes of the Canadian Wetland Classification System (CWCS; open water, marsh, fen, bog, swamp) using satellite imagery and collected field data. Remotely sensed imagery was acquired and processed, and included optical, radar, and topographic datasets. A supervised machine-learning (Random Forest) object-based approach was utilized to classify wetlands based on ground-verified field data (639 sites) and interpreted sites identified and labeled by knowledgeable professionals.

This report describes and displays the five major wetland class area in each land management unit of the Dawson Land Use Plan.

Dawson Land Use Plan - Management Units

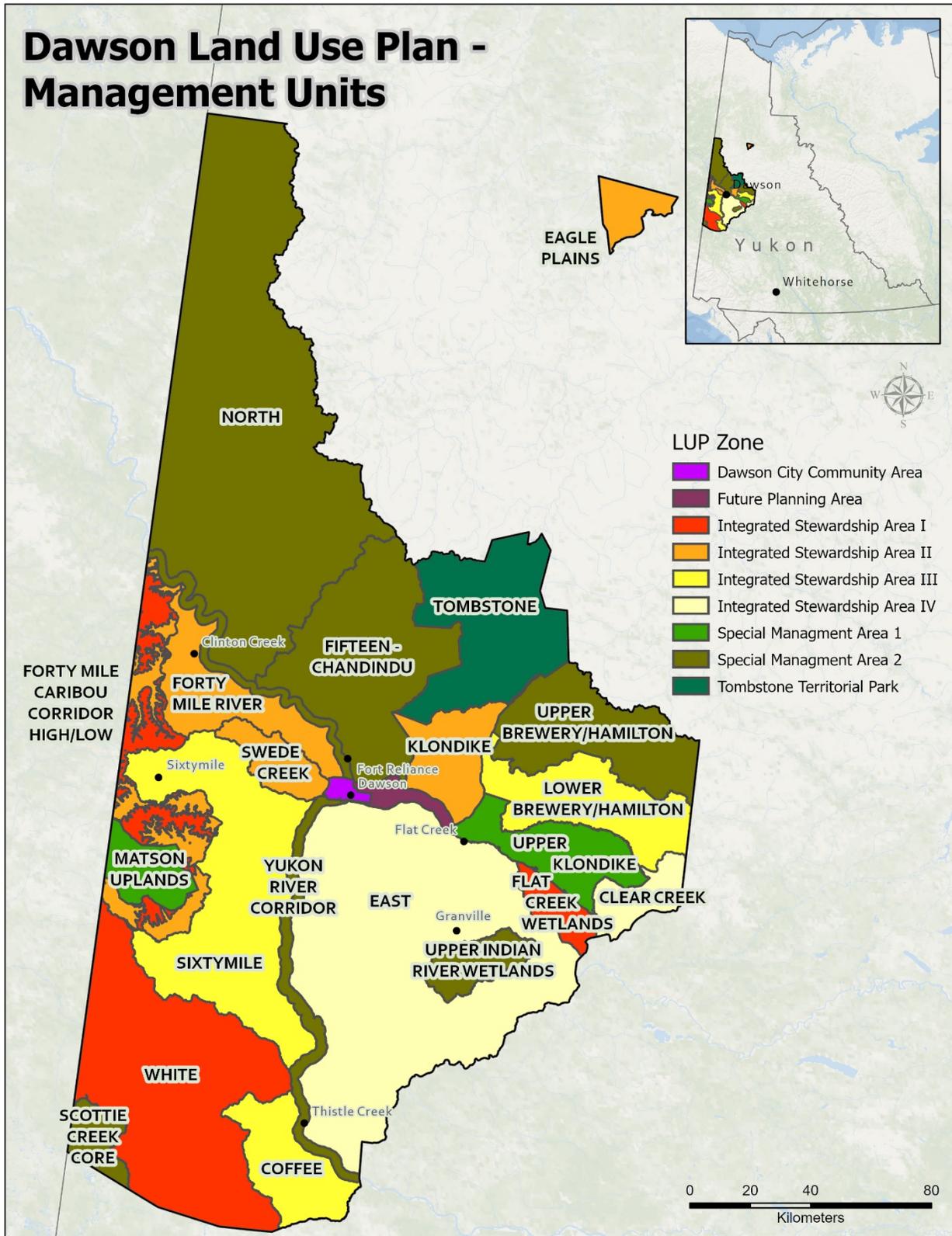


Table 1. Total area in hectares of wetlands in Dawson Land Use Plan.
Wetland class information available in DUC report.

| Land Management Unit | Area (hectares) | | | | | | | | |
|---|-----------------|-------|---------|--------|---------|------------------|-----------|-------------------------|------------------|
| | Wetland Class | | | | | | Upland | Other / Unclassified | Total LMU |
| | Open Water | Marsh | Fen | Bog | Swamp | Total Wetland | | | |
| North | 2,522 | 97 | 53,316 | 6,440 | 42,085 | 104,460 | 567,569 | 121,991 | 794,020 |
| Eagle Plains | 105 | 0 | 3,338 | 188 | 1,165 | 4,796 | 153 | 27,942 | 32,891 |
| Yukon River Corridor | 21,570 | 15 | 6,743 | 113 | 15,839 | 44,279 | 39,046 | 9,224 | 92,549 |
| Fifteen - Chandindu | 905 | 0 | 6,814 | 348 | 14,911 | 22,977 | 194,893 | 58,192 | 276,062 |
| Tombstone | 1,971 | 2 | 25,790 | 80 | 8,309 | 36,153 | 168,969 | 4,933 | 210,055 |
| Klondike | 65 | 1 | 1,343 | 289 | 6,699 | 8,397 | 64,265 | 10,436 | 83,098 |
| Upper Brewery/Hamilton | 582 | 0 | 2,469 | 90 | 7,525 | 10,666 | 157,417 | 44 | 168,126 |
| Lower Brewery - Hamilton | 611 | 0 | 4,539 | 1,824 | 10,436 | 17,409 | 94,199 | 29,455 | 141,063 |
| Clear Creek | 106 | 0 | 258 | 146 | 988 | 1,497 | 31,070 | 14,724 | 47,292 |
| Upper Klondike | 542 | 19 | 6,159 | 1,795 | 10,295 | 18,810 | 64,421 | 15,161 | 98,392 |
| Flat Creek Wetlands | 309 | 48 | 4,448 | 865 | 3,772 | 9,442 | 20,642 | 6,693 | 36,777 |
| East | 3,925 | 52 | 12,507 | 779 | 26,671 | 43,934 | 341,289 | 275,390 | 660,613 |
| Klondike Valley | 454 | 0 | 1,061 | 83 | 3,540 | 5,138 | 13,449 | 1,257 | 19,844 |
| Dawson City | 609 | 0 | 67 | 10 | 506 | 1,192 | 5,418 | 1,529 | 8,139 |
| Forty Mile River | 306 | 0 | 889 | 132 | 2,709 | 4,037 | 72,817 | 34,947 | 111,801 |
| Swede Creek | 25 | 0 | 38 | 24 | 557 | 643 | 36,672 | 9,934 | 47,249 |
| Sixtymile | 690 | 2 | 7,704 | 975 | 17,717 | 27,089 | 222,201 | 91,021 | 340,311 |
| Matson Uplands | 20 | 0 | 534 | 213 | 872 | 1,639 | 51,330 | 218 | 53,188 |
| Upper Indian River Wetlands | 17 | 0 | 2,002 | 231 | 2,917 | 5,167 | 28,365 | 14,573 | 48,104 |
| Coffee | 60 | 0 | 588 | 63 | 2,234 | 2,945 | 60,453 | 36,593 | 99,991 |
| White | 10,007 | 87 | 19,384 | 736 | 28,014 | 58,228 | 224,115 | 129,596 | 411,939 |
| Scottie Creek Core | 215 | 81 | 5,430 | 13 | 4,386 | 10,125 | 25,125 | 154 | 35,404 |
| Forty Mile Caribou Corridor - Low | 288 | 0 | 2,645 | 271 | 4,205 | 7,408 | 49,900 | 27,492 | 84,801 |
| Forty Mile Caribou Corridor - High | 0 | 0 | 37 | 5 | 720 | 762 | 51,908 | 28,478 | 81,147 |
| Total Dawson LUP | 45,903 | 406 | 168,101 | 15,714 | 217,071 | 447,195 | 2,585,685 | 949,978 | 3,982,857 |

Table 2. Percent of each LMU per wetland class in the Dawson Land Use Plan.
Wetland class information available in DUC report.

| Land Management Unit | Percent of Total LMU Area | | | | | | | |
|---|---------------------------|-------|-------|-------|-------|------------------|--------|-------------------------|
| | Wetland Class | | | | | | Upland | Other / Unclassified |
| | Open Water | Marsh | Fen | Bog | Swamp | Total Wetland | | |
| North | 0.3% | <0.1% | 6.7% | 0.8% | 5.3% | 13.2% | 71.5% | 15.4% |
| Eagle Plains | 0.3% | 0% | 10.1% | 0.6% | 3.5% | 14.6% | 0.5% | 85.0% |
| Yukon River Corridor | 23.3% | <0.1% | 7.3% | 0.1% | 17.1% | 47.8% | 42.2% | 10.0% |
| Fifteen - Chandindu | 0.3% | <0.1% | 2.5% | 0.1% | 5.4% | 8.3% | 70.6% | 21.1% |
| Tombstone | 0.9% | <0.1% | 12.3% | <0.1% | 4.0% | 17.2% | 80.4% | 2.3% |
| Klondike | 0.1% | <0.1% | 1.6% | 0.3% | 8.1% | 10.1% | 77.3% | 12.6% |
| Upper Brewery/Hamilton | 0.3% | 0% | 1.5% | 0.1% | 4.5% | 6.3% | 93.6% | 0.0% |
| Lower Brewery - Hamilton | 0.4% | 0% | 3.2% | 1.3% | 7.4% | 12.3% | 66.8% | 20.9% |
| Clear Creek | 0.2% | 0% | 0.5% | 0.3% | 2.1% | 3.2% | 65.7% | 31.1% |
| Upper Klondike | 0.6% | <0.1% | 6.3% | 1.8% | 10.5% | 19.1% | 65.5% | 15.4% |
| Flat Creek Wetlands | 0.8% | 0.1% | 12.1% | 2.4% | 10.3% | 25.7% | 56.1% | 18.2% |
| East | 0.6% | <0.1% | 1.9% | 0.1% | 4.0% | 6.7% | 51.7% | 41.7% |
| Klondike Valley | 2.3% | 0% | 5.3% | 0.4% | 17.8% | 25.9% | 67.8% | 6.3% |
| Dawson City | 7.5% | 0% | 0.8% | 0.1% | 6.2% | 14.7% | 66.6% | 18.8% |
| Forty Mile River | 0.3% | 0% | 0.8% | 0.1% | 2.4% | 3.6% | 65.1% | 31.3% |
| Swede Creek | 0.1% | 0% | 0.1% | 0.1% | 1.2% | 1.4% | 77.6% | 21.0% |
| Sixtymile | 0.2% | <0.1% | 2.3% | 0.3% | 5.2% | 8.0% | 65.3% | 26.7% |
| Matson Uplands | <0.1% | 0% | 1.0% | 0.4% | 1.6% | 3.1% | 96.5% | 0.4% |
| Upper Indian River Wetlands | <0.1% | 0% | 4.2% | 0.5% | 6.1% | 10.7% | 59.0% | 30.3% |
| Coffee | 0.1% | 0% | 0.6% | 0.1% | 2.2% | 2.9% | 60.5% | 36.6% |
| White | 2.4% | <0.1% | 4.7% | 0.2% | 6.8% | 14.1% | 54.4% | 31.5% |
| Scottie Creek Core | 0.6% | 0.2% | 15.3% | <0.1% | 12.4% | 28.6% | 71.0% | 0.4% |
| Forty Mile Caribou Corridor - Low | 0.3% | 0% | 3.1% | 0.3% | 5.0% | 8.7% | 58.8% | 32.4% |
| Forty Mile Caribou Corridor - High | <0.1% | 0% | <0.1% | <0.1% | 0.9% | 0.9% | 64.0% | 35.1% |
| Total Dawson LUP | 1.2% | <0.1% | 4.2% | 0.4% | 5.5% | 11.2% | 64.9% | 23.9% |

Table 3. Percent of each wetland class within each LMU in the Dawson Land Use Plan.
Wetland class information available in DUC report.

| Land Management Unit | Percent of Total Wetlands in LMU | | | | |
|---|----------------------------------|--------------|------------|------------|--------------|
| | Wetland Class | | | | |
| | <i>Open Water</i> | <i>Marsh</i> | <i>Fen</i> | <i>Bog</i> | <i>Swamp</i> |
| North | 2.4% | 0.1% | 51.0% | 6.2% | 40.3% |
| Eagle Plains | 2.2% | 0% | 69.6% | 3.9% | 24.3% |
| Yukon River Corridor | 48.7% | <0.1% | 15.2% | 0.3% | 35.8% |
| Fifteen - Chandindu | 3.9% | <0.1% | 29.7% | 1.5% | 64.9% |
| Tombstone | 5.5% | <0.1% | 71.3% | 0.2% | 23.0% |
| Klondike | 0.8% | <0.1% | 16.0% | 3.4% | 79.8% |
| Upper Brewery/Hamilton | 5.5% | 0% | 23.1% | 0.8% | 70.6% |
| Lower Brewery - Hamilton | 3.5% | 0% | 26.1% | 10.5% | 59.9% |
| Clear Creek | 7.1% | 0% | 17.2% | 9.7% | 66.0% |
| Upper Klondike | 2.9% | 0.1% | 32.7% | 9.5% | 54.7% |
| Flat Creek Wetlands | 3.3% | 0.5% | 47.1% | 9.2% | 40.0% |
| East | 8.9% | 0.1% | 28.5% | 1.8% | 60.7% |
| Klondike Valley | 8.8% | 0% | 20.6% | 1.6% | 68.9% |
| Dawson City | 51.1% | 0% | 5.6% | 0.9% | 42.4% |
| Forty Mile River | 7.6% | 0% | 22.0% | 3.3% | 67.1% |
| Swede Creek | 3.8% | 0% | 5.9% | 3.7% | 86.6% |
| Sixtymile | 2.5% | <0.1% | 28.4% | 3.6% | 65.4% |
| Matson Uplands | 1.2% | 0% | 32.6% | 13.0% | 53.2% |
| Upper Indian River Wetlands | 0.3% | 0% | 38.7% | 4.5% | 56.4% |
| Coffee | 2.0% | 0% | 20.0% | 2.2% | 75.9% |
| White | 17.2% | 0.2% | 33.3% | 1.3% | 48.1% |
| Scottie Creek Core | 2.1% | 0.8% | 53.6% | 0.1% | 43.3% |
| Forty Mile Caribou Corridor - Low | 3.9% | 0% | 35.7% | 3.7% | 56.8% |
| Forty Mile Caribou Corridor - High | <0.1% | 0% | 4.8% | 0.7% | 94.5% |
| Total Dawson LUP | 10.3% | 0.1% | 37.6% | 3.5% | 48.5% |