General Notes:

1. The associated report should be read and understood prior to use of the foodplain maps: Northwest Hydraulic Consultants Ltd. (NHC) 2025. *Old Crow Flood Mapping.* NHC project 1008777.

2. Flood extents were delineated for the following food scenarios: 5%, 1%, and 0.5% AEP (1 in 20, 1 in 100, and 1 in 200 year events). The inundaton extents for each AEP represent results for ice jam food events.

3. Flood levels were calculated using a 1D numerical fow model developed by NHC within HEC-RAS sofware.

4. All elevatons are referenced to Canadian Geodetc Vertcal Datum 2013 (CGVD2013). Water surface elevatons do not include freeboard.

A generalized minimum setback of 30 m from the top of bank is recommended for planning of infrastructure and development. This setback is in general agreement with published guidelines (APEGBC, 2017; FLNRORD, 2018) and appears appropriate based on the preliminary screening assessment completed in this study. Land within the setback area should be designated as unsuitable for further development; where exemptons to the setback are applied for, potental geomorphic hazards should be further assessed, understood, and mitgated (if and where applicable). For further informaton on areas of erosion vulnerability, see Appendix C of the associated project report.

Data Sources:

1. The digital elevaton model (DEM) used to develop the food mapping and terrain contours was pre- and post-processed using Esri ArcGIS Pro sofware. The data sources for the DEM are listed below.

   a. LiDAR fown by McElhanney, acquired September 10, 2019.

   b. The study area outside the LiDAR boundary was supplemented using high resoluton digital elevaton model (HRDEM) data from Natural Resources Canada.

2. River channel bathymetry on Porcupine and Old Crow Rivers was surveyed by Underhill Geomatcs in June 2024.

3. Mapping background - Orthopotos from McElhanney, acquired September 10, 2019 and Esri World Imagery where needed. Inset map and Index backgrounds - Esri World Topo.

Use and Limitatons of Floodplain Maps:

1. The maps depict the fooding conditons at the tme of surveys. Future changes to the river channels, foodplain, and future climate change will render the maps obsolete. The informaton on the maps should be reviewed afer 5 years have elapsed since publicaton or afer any extreme food occurrence.

2. Flood inundaton mapping delineates food inundaton areas, showing the extent of one or more food scenarios under existng conditons. Flood inundaton mapping is typically used for near real-tme emergency response planning and operatons.

3. Underlying hydraulic analysis assumes channel and shoreline geometry is statonary. Erosion, depositon, degradaton, and aggradaton are expected to occur and may alter actual observed food levels and extents. Roads, bridges, new dikes, and future developments on the foodplain can restrict water fow and increase local water levels. Obstructons, such as log-jams, blockages, local storm water infows, groundwater, other land drainage or tributary fows beyond those indicated were not modelled and may cause food levels to exceed those indicated on the maps. Additonally, fooding may occur outside of the designated boundaries caused by ponding from rainwater or snowmelt on the foodplain, groundwater seepage, or local drainage courses.

4. The food extents for modelled scenarios have not been established on the ground by legal survey. The accuracy of the food boundaries is limited by the LiDAR base mapping and orthophotography.

5. Isolated areas of inundaton smaller than 100 m^2 and some manually fagged areas larger than 100m^2 were removed from the maps. Holes in the inundaton extents with areas less than 100 m^2 were also removed.

6. The food maps do not represent hazards due to erosion, avulsion, or channel migraton. An overview assessment of geomorphic hazards can be found in Appendix C of the associated project report.

7. Industry best practces were followed to generate the food maps. However, actual food levels and extents may vary from those shown. Residual food risk beyond that mapped exists for food events more extreme than the design events. Northwest Hydraulic Consultants Ltd. and the Yukon Government do not assume any liability for such variatons.

DISCLAIMER

This report has been prepared by Northwest Hydraulic Consultants Ltd. for the Government of Yukon Department of Environment – Water Resources Branch for specifc applicaton to the Old Crow Flood Mapping Study (Porcupine River and Old Crow River), a project funded through the Flood Hazard Identfcaton and Mapping Program. The informaton and data contained herein represent Northwest Hydraulic Consultants Ltd.'s professional judgment in light of the knowledge and informaton available to Northwest Hydraulic Consultants Ltd. at the tme of preparaton and was prepared in accordance with generally accepted engineering and geoscience practces. This study and associated project deliverables may be used and relied upon by Government of Yukon Department of Environment – Water Resources Branch, its ofcers, and employees, as well as all orders of government and other public and private sector organizatons, to understand clearwater and ice jam food hazards for the specifc food scenarios and water bodies assessed in the study. The report and foodplain maps produced as part of this project are intended to inform decision-making support of land use planning, food mitgaton, emergency preparedness and response, and adaptaton to a changing climate. Northwest Hydraulic Consultants Ltd. is not liable in any way whatsoever to any party for any injury, loss, or damages sufered by such partes arising from the misuse, misinterpretaton, or reliance upon this report or any of its contents.

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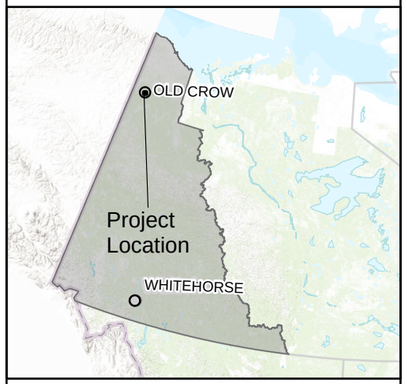

DRAFT

SCALE - 1:30,000

N

0 0.5 1 1.5 km

Coordinate System: NAD 1983 CSRS YUKON ALBERS
Units: METRES; Vertical Datum: CGVD2013 (CGG2013a)

Job: 1008777 | Date: 28-JAN-2025

OLD CROW FLOOD MAPPING

MAP NOTES