

# Vanderhoof Flood Plain Mapping

Date: November 7<sup>th</sup>, 2023

Presentation to Nechako Watershed Roundtable



# **Overview**



- Context
- Objectives
- Current Flood Plain mapping projects
- What's been done
- Next steps
- Project outputs
- Scoping Studies



# **Project origin**





- National \$164.2M Program (FHIMP) to help Canadians better plan and prepare for future floods over the next 5 years
- Province of BC commitment to work in partnership with First Nations and local governments to better understand flood hazards and to develop the necessary tools to reduce flood risk
- Fraser Basin Council retained to administer and coordinate technical work involved

# **Objectives**



- Develop high quality, standardized, consistent flood plain mapping for higher-risk communities in BC
- Useful for a wide range of purposes
  - Informing land use planning policies and development decisions
  - Assessing potential impacts to people and other community values and assets
  - Preparing or updating emergency response plans
  - Informing other flood mitigation and climate adaptation measures
  - Other uses as governments/communities wish



### **Upper Fraser-Nechako Project**





# Current FHIMP Flood Plain Mapping

Fraser Basin Council





Associated

Engineering

#### Project C: Opted-In Communities

Bulkley-Nechako Regional District

City of Prince George

District of Vanderhoof

Lheidli T'enneh First Nation

**Regional District of Fraser Fort George** 

# What's Been Done?



### Hydrological analysis

- Hydrology of rivers + tributaries
- Unique characteristics: Climate change, regulated Nechako flow, ice analysis etc.



# What's Been Done?

# Fraser Basin Council

Fraser Nechako Chilako Salmon

# Hydraulic model

• 4 hydraulic models in development





DRAFT INFORMATION

# What's Been Done?



### Hydraulic model

- Digital elevation model:
  - Uses LiDAR and bathymetry
- Model mesh in progress





#### DRAFT INFORMATION

# **Next steps**



### Modelled flood scenarios

• Flood depth and extent in different flow scenarios: 20, 100, 200 and 500 year return periods with climate change

### Continued engagement with communities

 Discussing draft maps with communities for feedback

Floodplain mapping

• High quality standardized maps to support the potential uses mentioned

Project Wrap Up and Completion

• Presenting final maps to communities



# **Project outputs**



For each project area in 2024:

- Digital GIS & PDF maps
- Hydraulic model
- Final Reporting
- Web portal accessible to the public



# **BC Scoping Studies**



### 4 Scoping studies

- Coastal BC: 145 communities
- Lower Mainland: 80 communities
- North BC: 85 communities
- South BC: 95 communities



# **BC Scoping Studies**



Seattle

McElhanney

Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NRCan, Parks Canada

# **BC Scoping Studies**



### **Project Objectives**

to gain an understanding of:

- Existing flood plain mapping information
- Quality of the flood plain mapping information
- Community needs
- Additional information, methods, and resources required to undertake areas with identified flood plain mapping need

#### Main Phases of the Study

**Engagement with First Nations and Local Government** 

Data review and gap analysis

Needs Assessment, development of scopes of work for future flood plain mapping, and cost estimate

### Contact



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