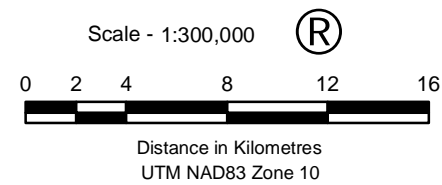


**Legend**

- Fraser Valley Regional District
- Greater Vancouver Regional District

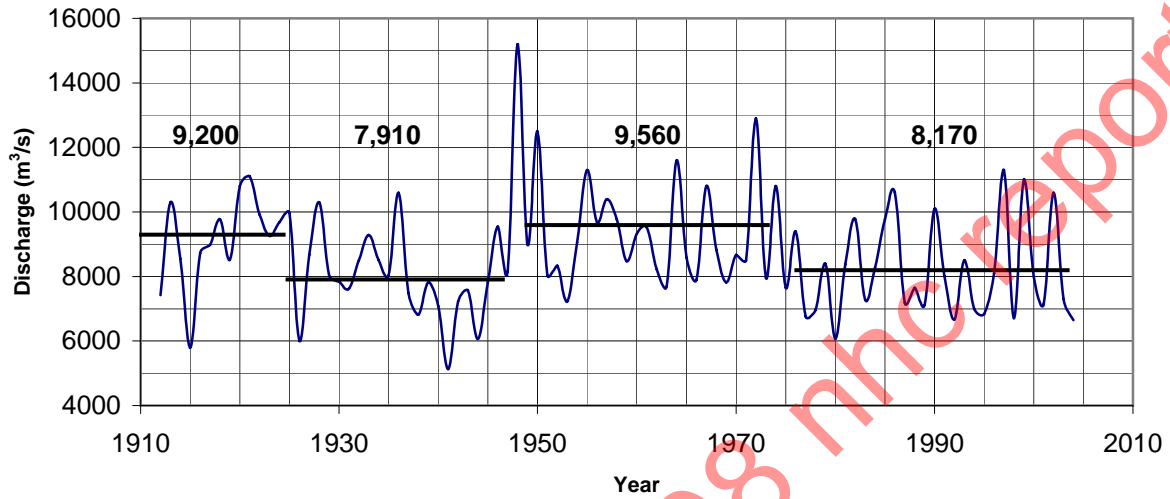


<b>FRASER BASIN COUNCIL</b>		
<b>LOWER FRASER RIVER HYDRAULIC MODEL</b>		
<b>Site Map</b>		
DATE: DEC 2006	3-4325	DWG BY: CM
<b>northwest hydraulic consultants</b>		

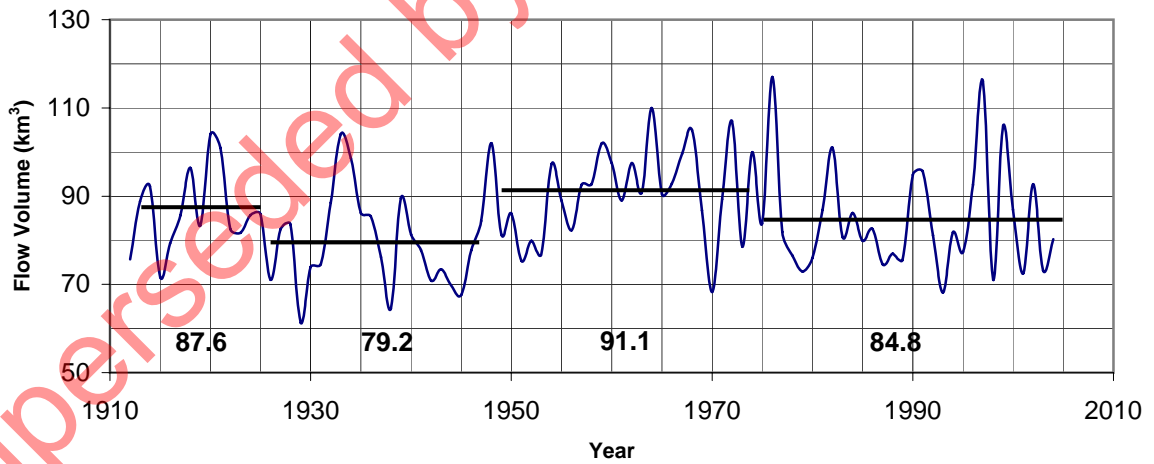
\\linux-services\projects\3-4325 Fraser Profile\GIS\GIS Project Files\stemap.mxd

Figure 1.1

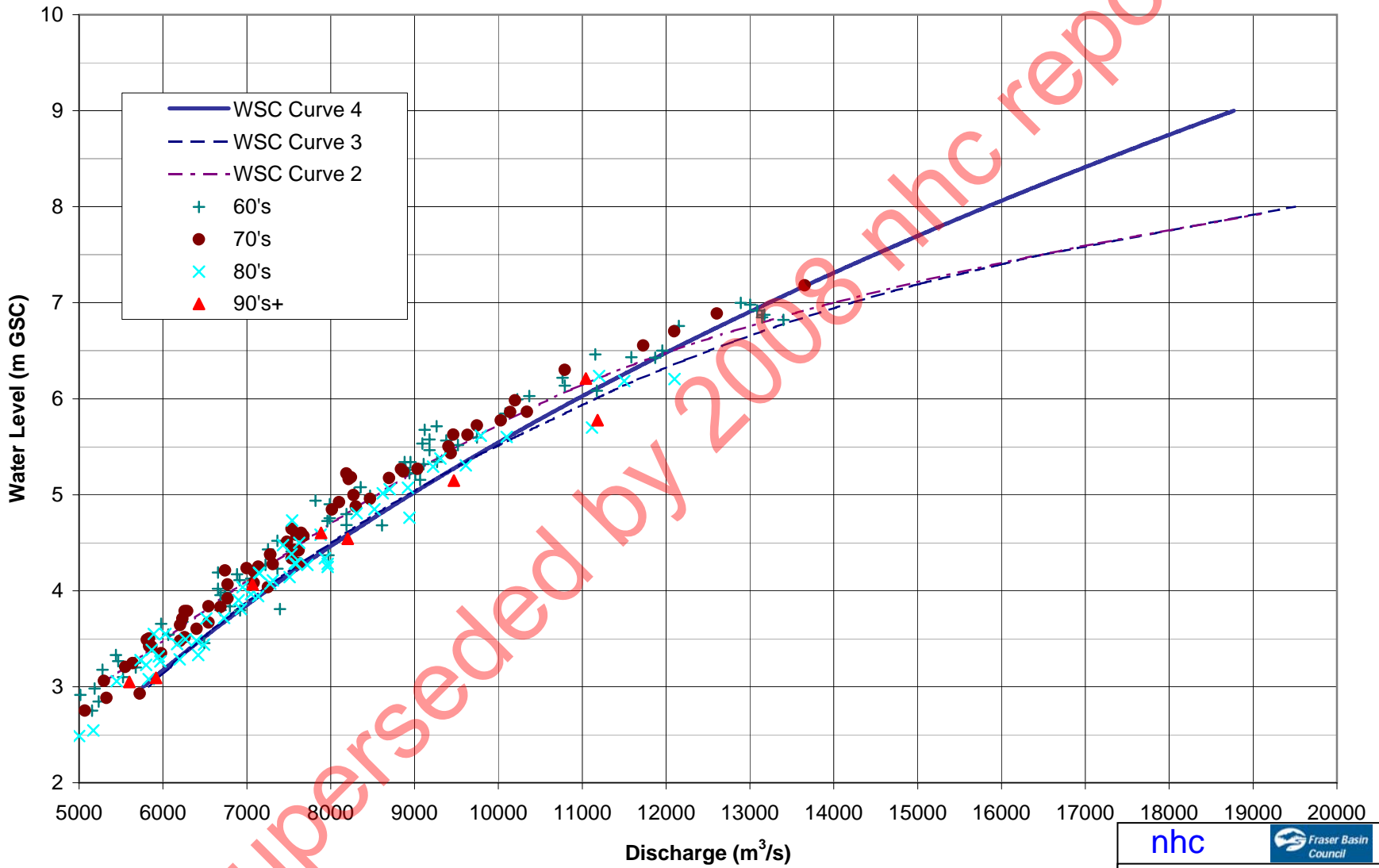
### Annual Maximum Discharge at Hope



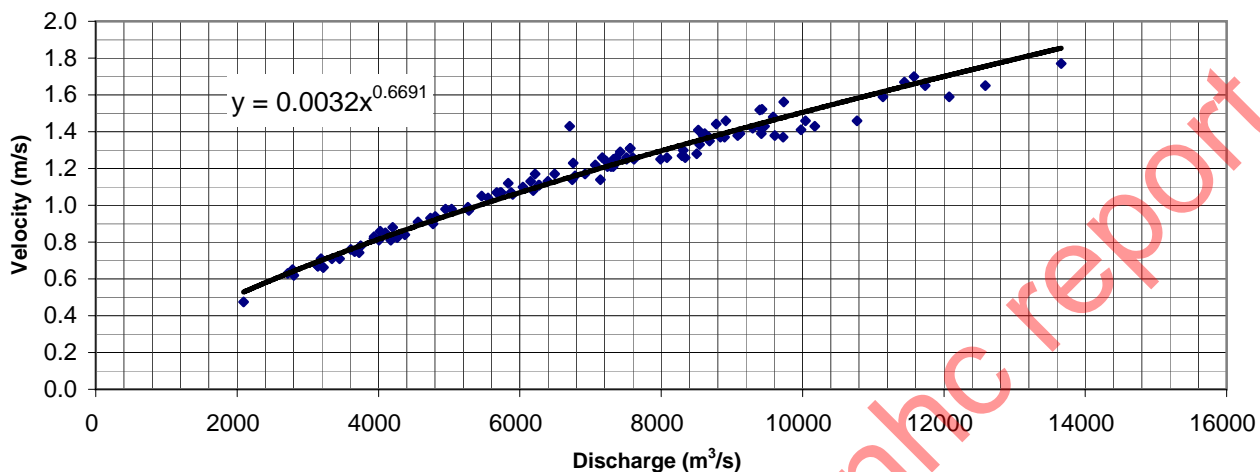
### Annual Runoff Volume at Hope



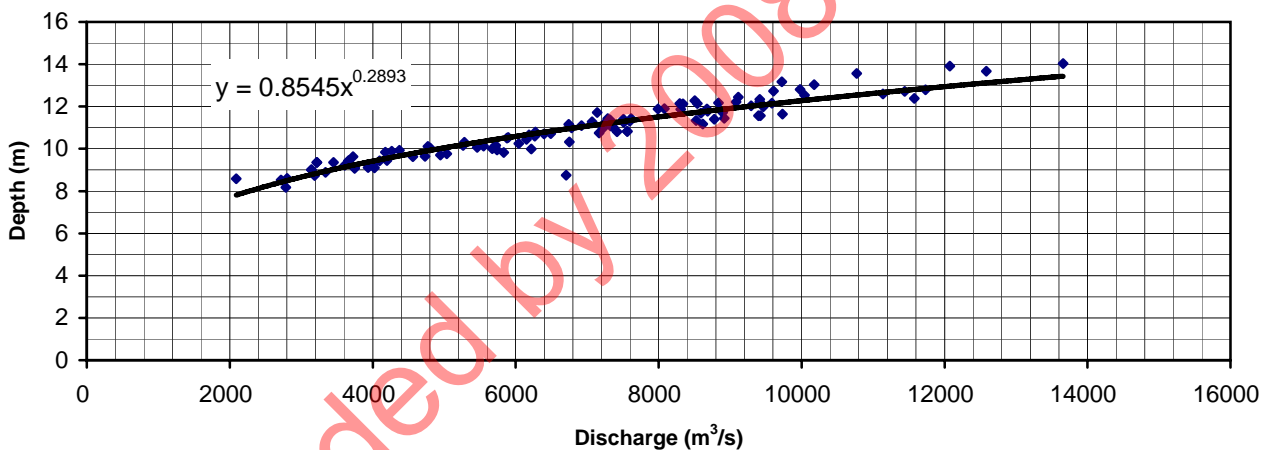
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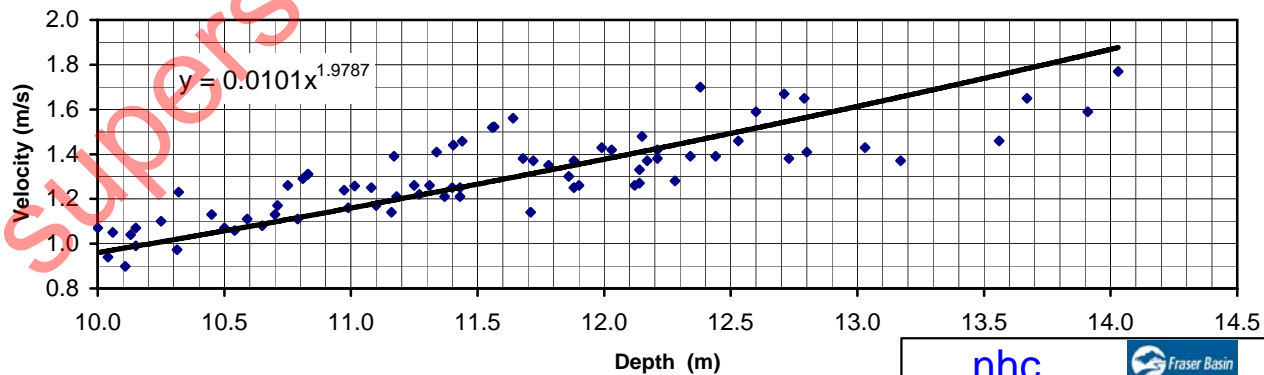
### Velocity vs. Discharge



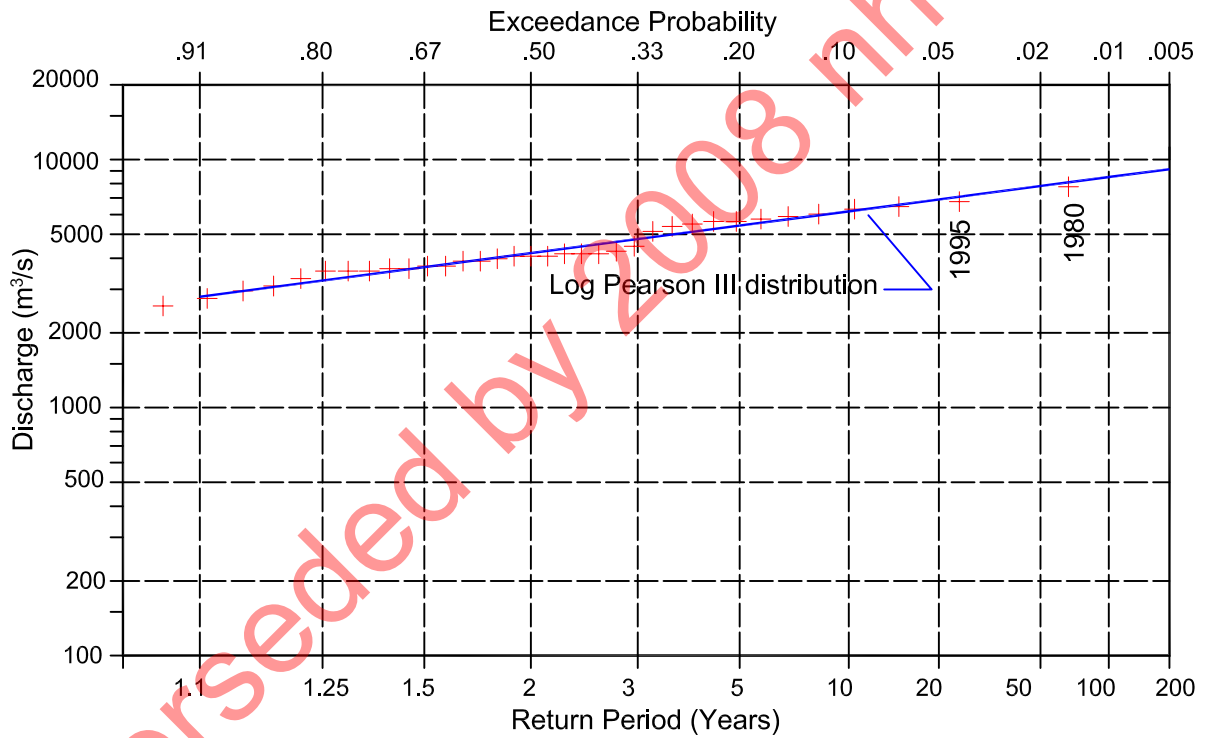
### Depth vs. Discharge



### Velocity vs. Depth



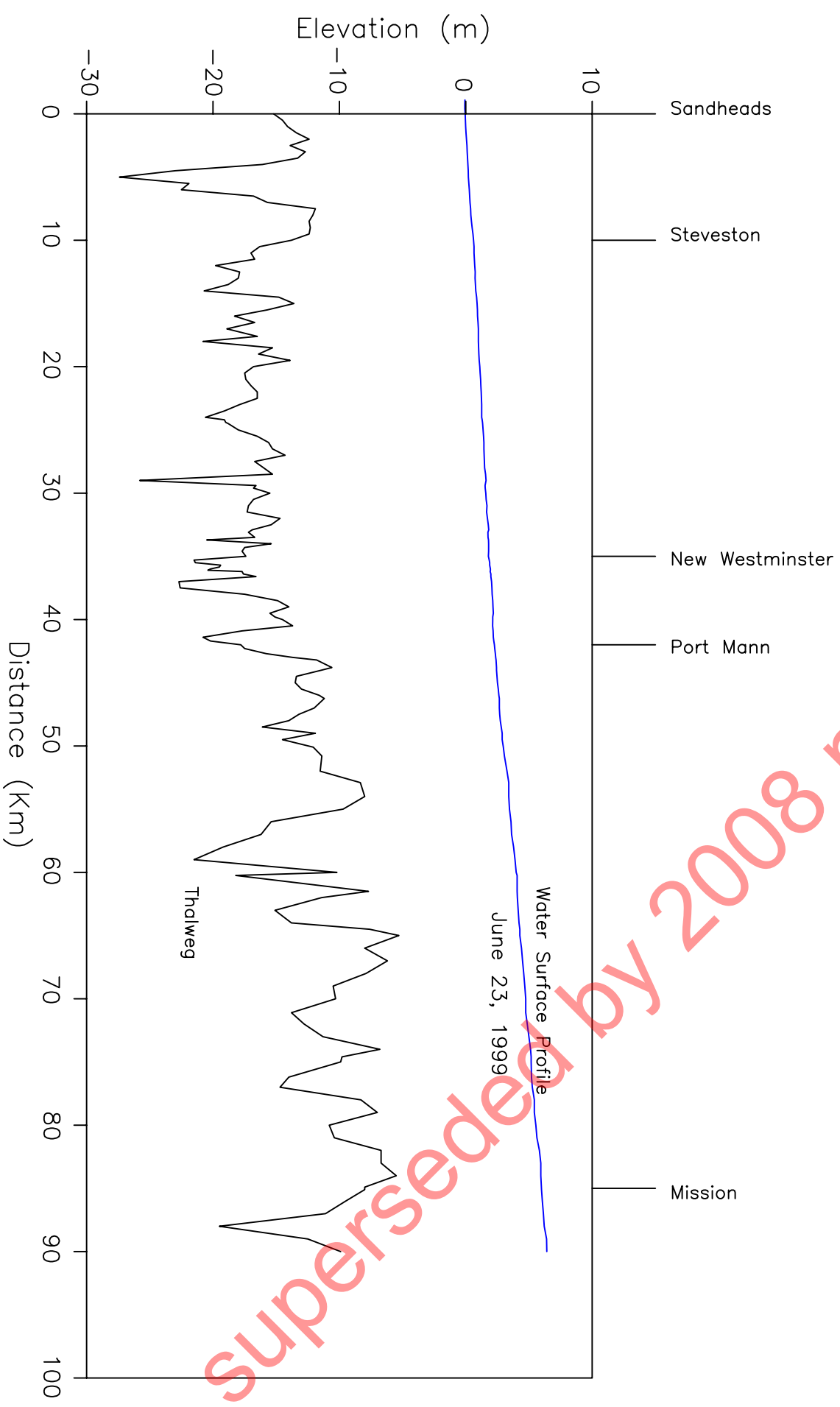
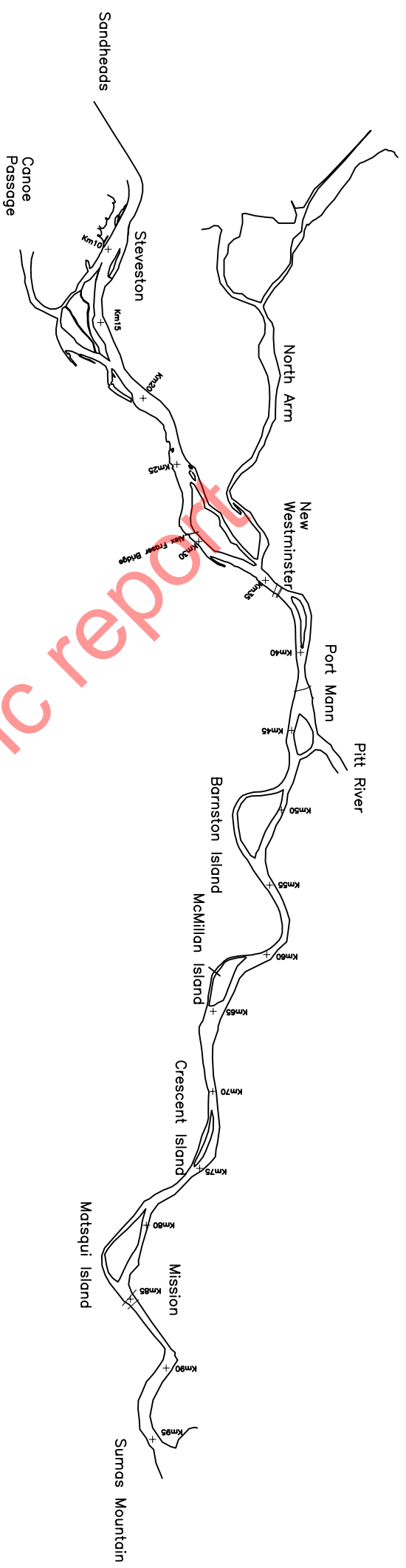
Fraser River at Mission (08MH024)  
September to March (1965-2001)



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<b>Fraser Basin Council</b>
Lower Fraser River Hydraulic Model
Annual Maximum Discharges September to March Season
northwest hydraulic consultants

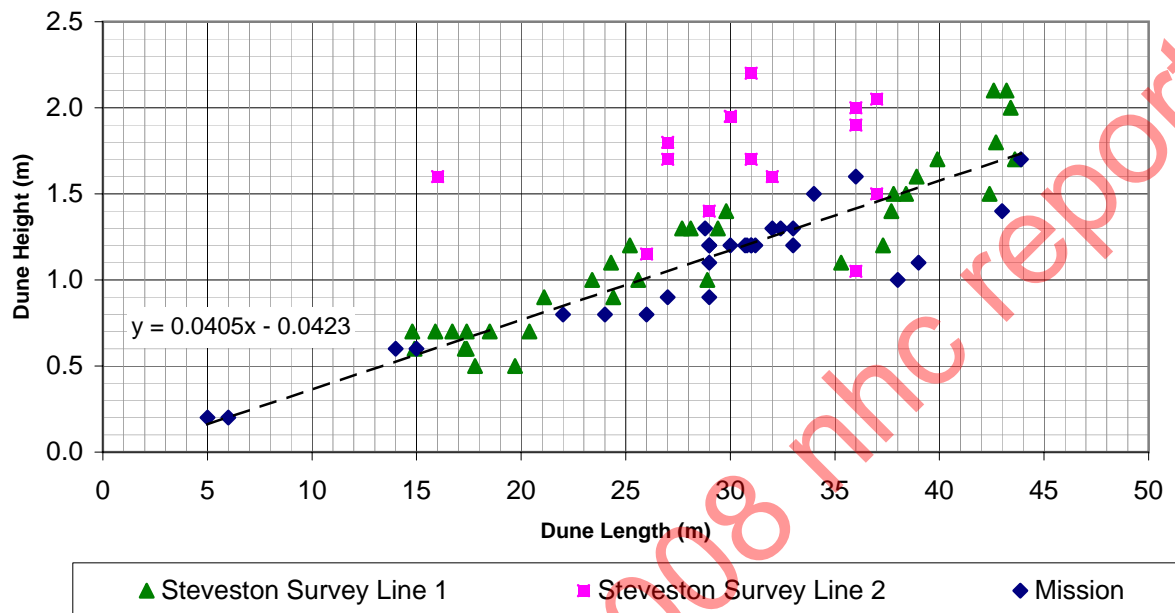
FIGURE 3-4



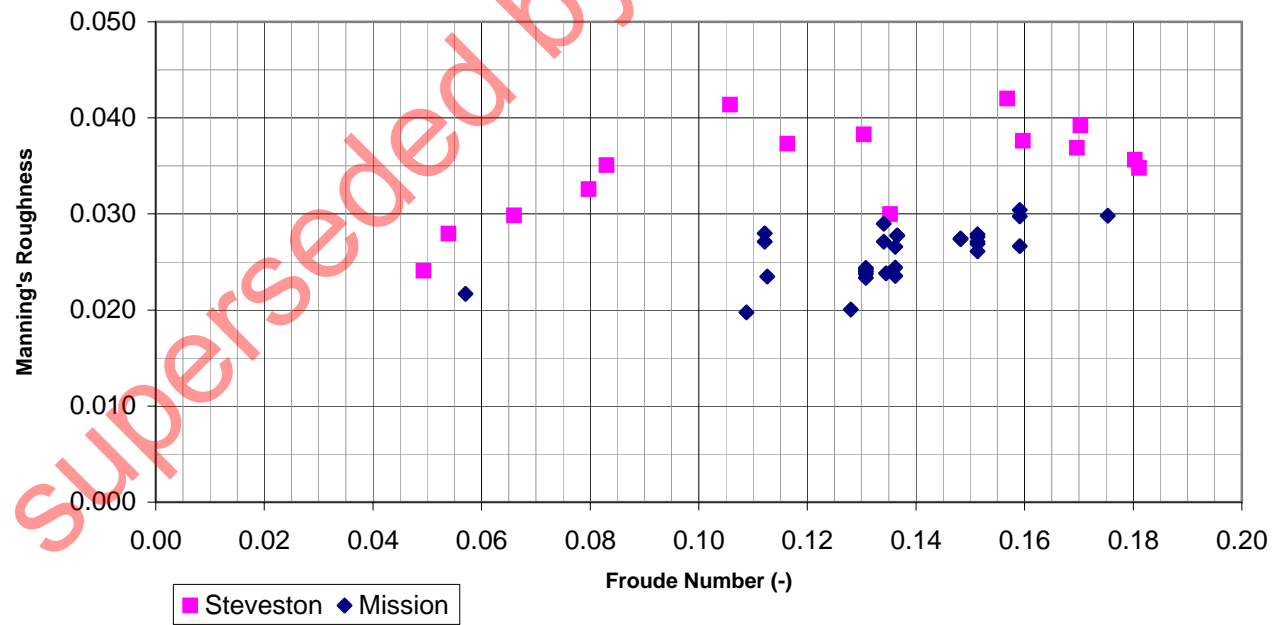
<b>Fraser Basin Council</b>		
Lower Fraser River Hydraulic Model		
<b>Longitudinal Profile</b>		
<b>Lower Fraser River</b>		
34325-3-5	REV. NO.	Nov/04/06
northwest hydraulic consultants		

**FIGURE 3-5**

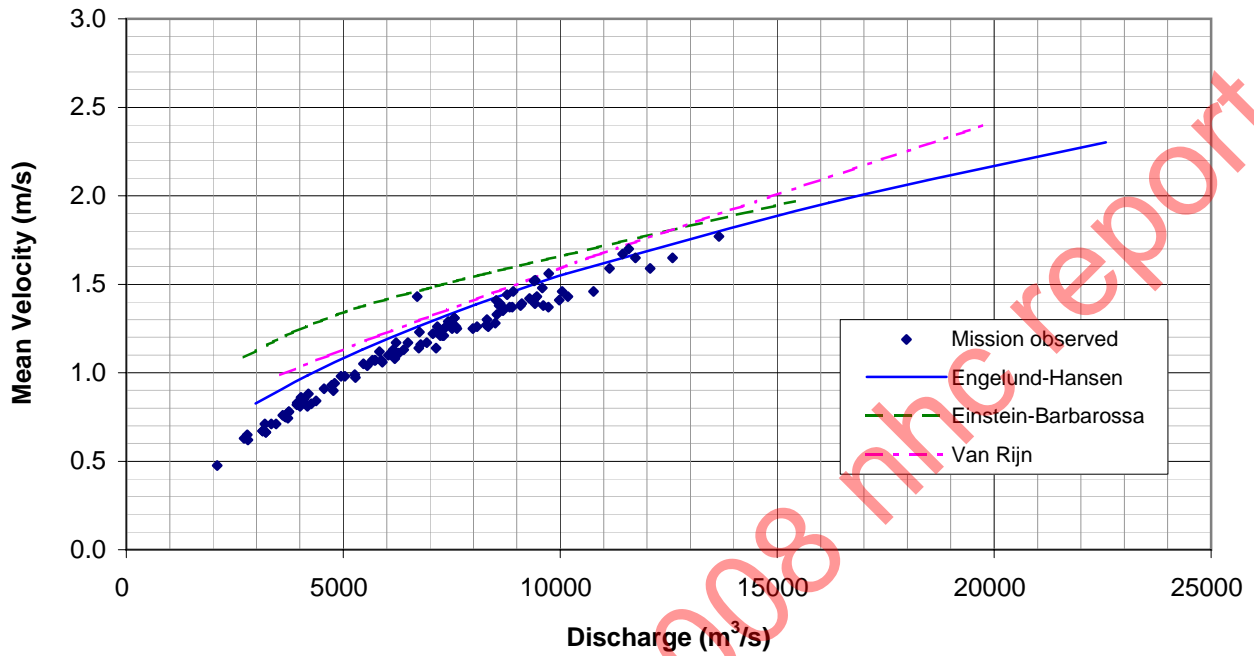
### Dune Steepness in the Fraser River



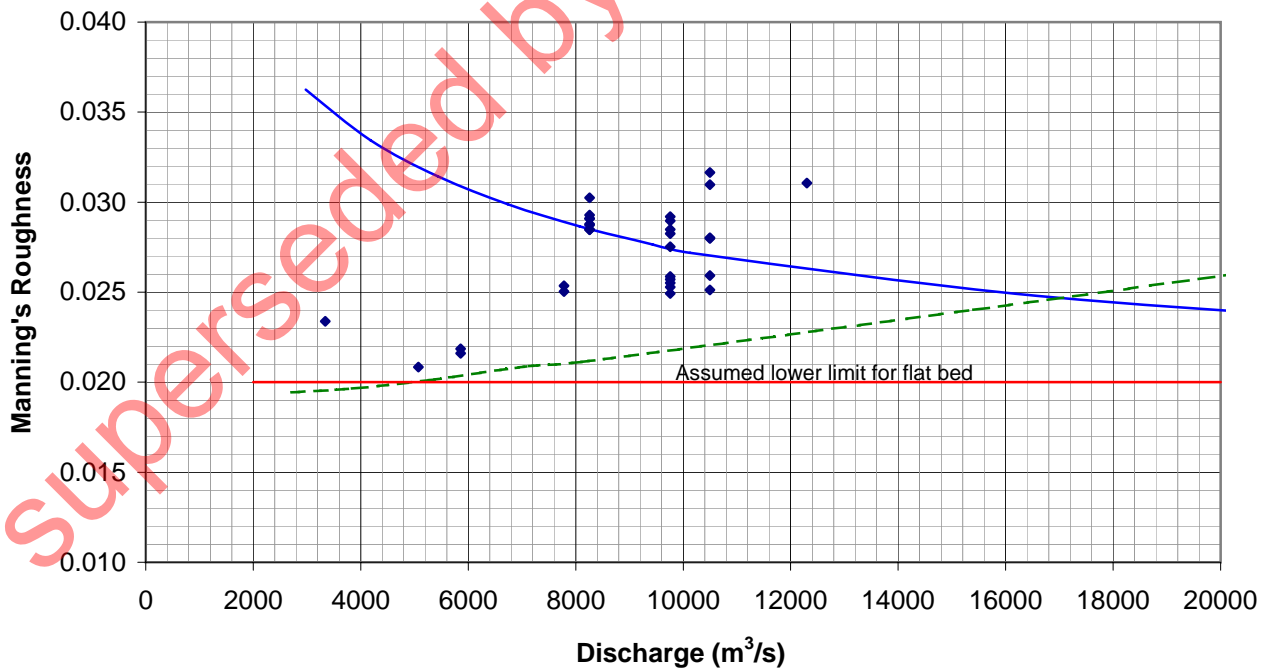
### Froude Number versus Manning's Roughness



### Predicted Mean Velocity at Mission

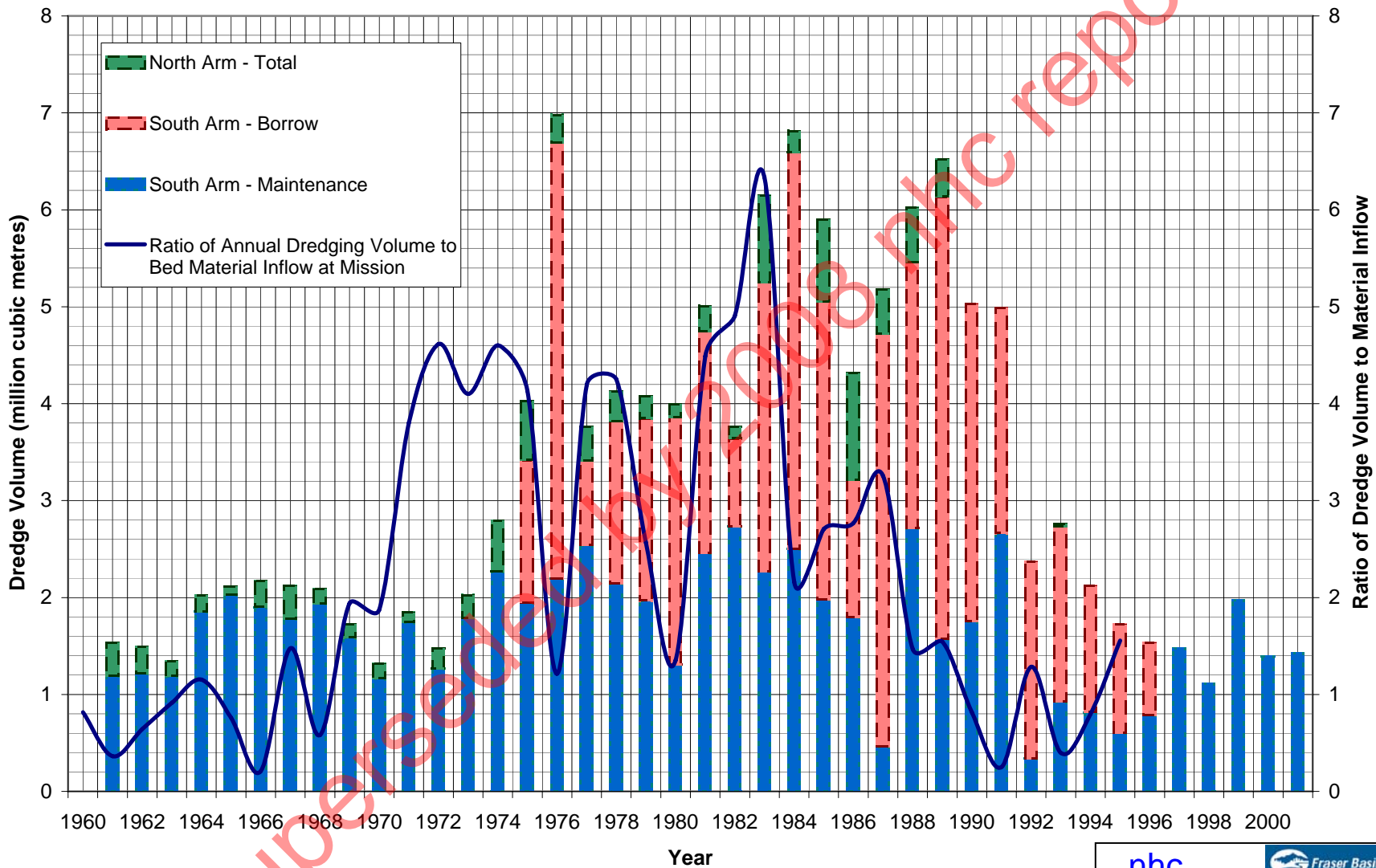


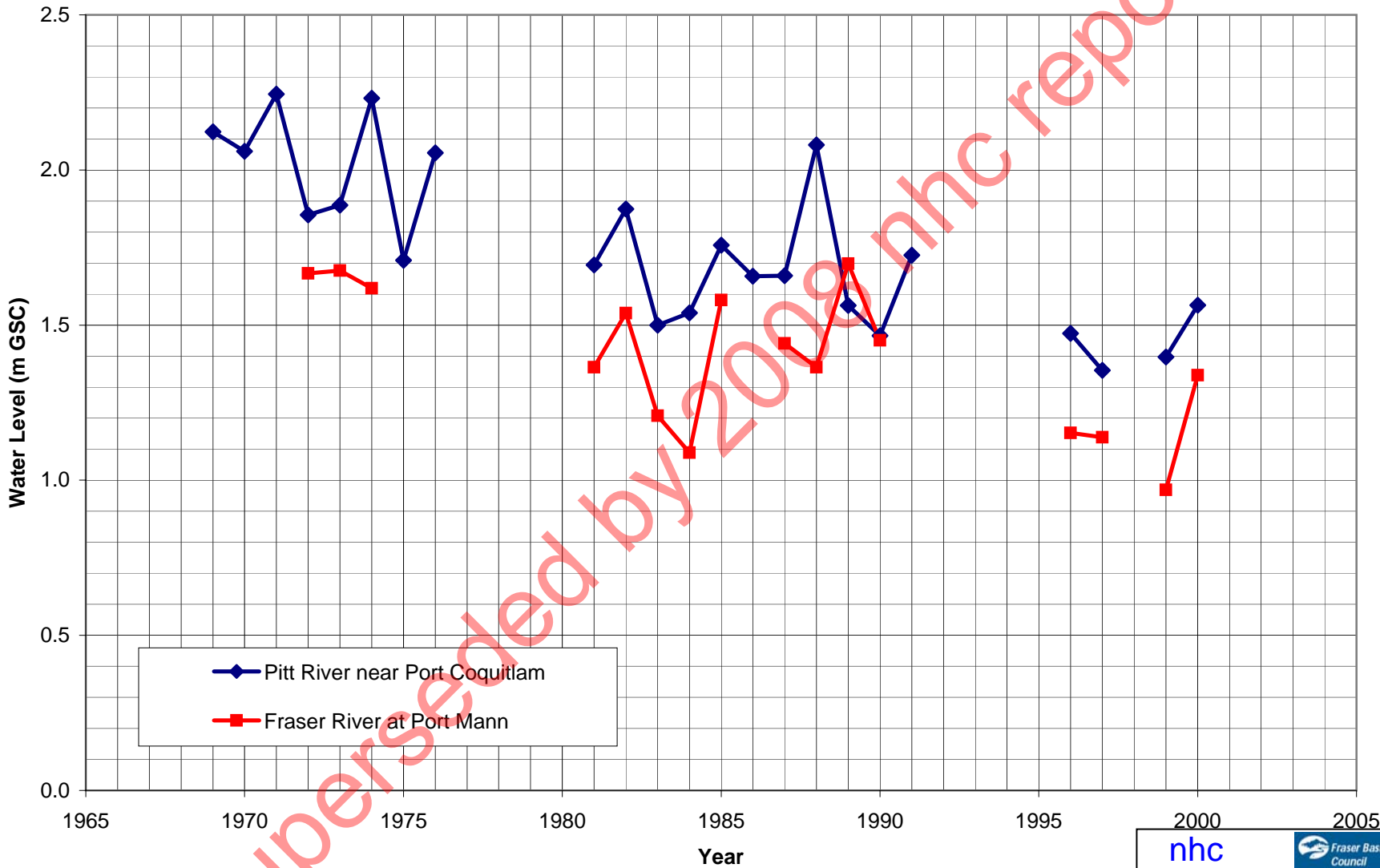
### Predicted Channel Roughness



Predicted Channel Roughness at Mission	
December 2006	Figure 3.7

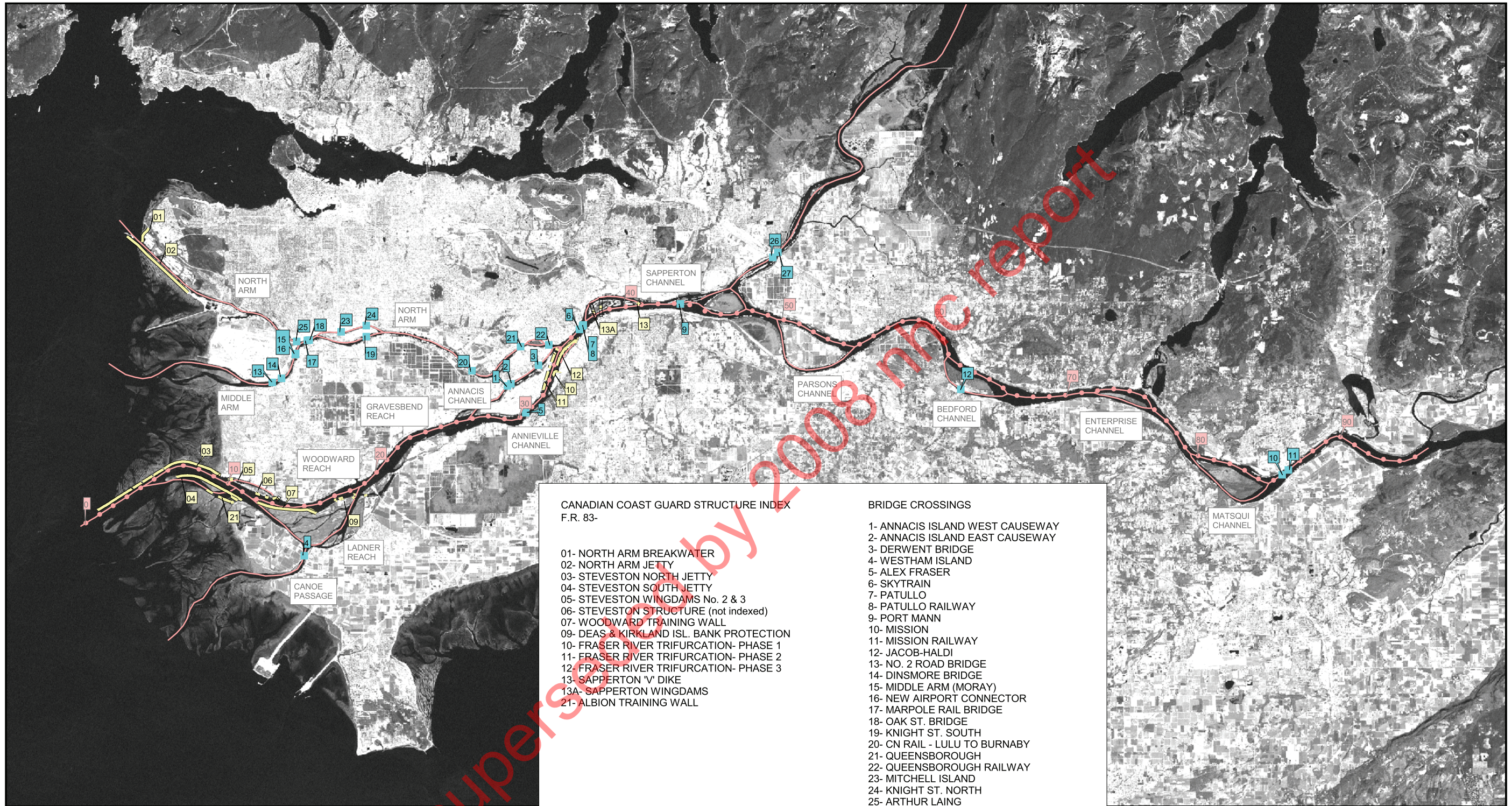






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- CANADIAN COAST GUARD STRUCTURE INDEX  
F.R. 83-
- 01- NORTH ARM BREAKWATER
  - 02- NORTH ARM JETTY
  - 03- STEVESTON NORTH JETTY
  - 04- STEVESTON SOUTH JETTY
  - 05- STEVESTON WINGDAMS No. 2 & 3
  - 06- STEVESTON STRUCTURE (not indexed)
  - 07- WOODWARD TRAINING WALL
  - 09- DEAS & KIRKLAND ISL. BANK PROTECTION
  - 10- FRASER RIVER TRIFURCATION- PHASE 1
  - 11- FRASER RIVER TRIFURCATION- PHASE 2
  - 12- FRASER RIVER TRIFURCATION- PHASE 3
  - 13- SAPPERTON 'V' DIKE
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  - 2- ANNACIS ISLAND EAST CAUSEWAY
  - 3- DERWENT BRIDGE
  - 4- WESTHAM ISLAND
  - 5- ALEX FRASER
  - 6- SKYTRAIN
  - 7- PATULLO
  - 8- PATULLO RAILWAY
  - 9- PORT MANN
  - 10- MISSION
  - 11- MISSION RAILWAY
  - 12- JACOB-HALDI
  - 13- NO. 2 ROAD BRIDGE
  - 14- DINSMORE BRIDGE
  - 15- MIDDLE ARM (MORAY)
  - 16- NEW AIRPORT CONNECTOR
  - 17- MARPOLE RAIL BRIDGE
  - 18- OAK ST. BRIDGE
  - 19- KNIGHT ST. SOUTH
  - 20- CN RAIL - LULU TO BURNABY
  - 21- QUEENSBOROUGH
  - 22- QUEENSBOROUGH RAILWAY
  - 23- MITCHELL ISLAND
  - 24- KNIGHT ST. NORTH
  - 25- ARTHUR LAING
  - 26- CP RAIL
  - 27- PITT RIVER

LEGEND

- BRIDGE LOCATION
- CANADIAN COAST GUARD STRUCTURES

SCALE - 1:250,000



DISTANCE IN KILOMETRES  
UTM NAD83 ZONE 10

NOTES:

1) DATA TAKEN FROM FISHERIES AND OCEANS CANADA CANADIAN COAST GUARD WATERWAYS DEVELOPMENT DWG. NO. FR-83-00, AUGUST 1994.

FRASER BASIN COUNCIL

LOWER FRASER RIVER  
HYDRAULIC MODEL  
River Control Structures  
and Road/Railroad Bridges

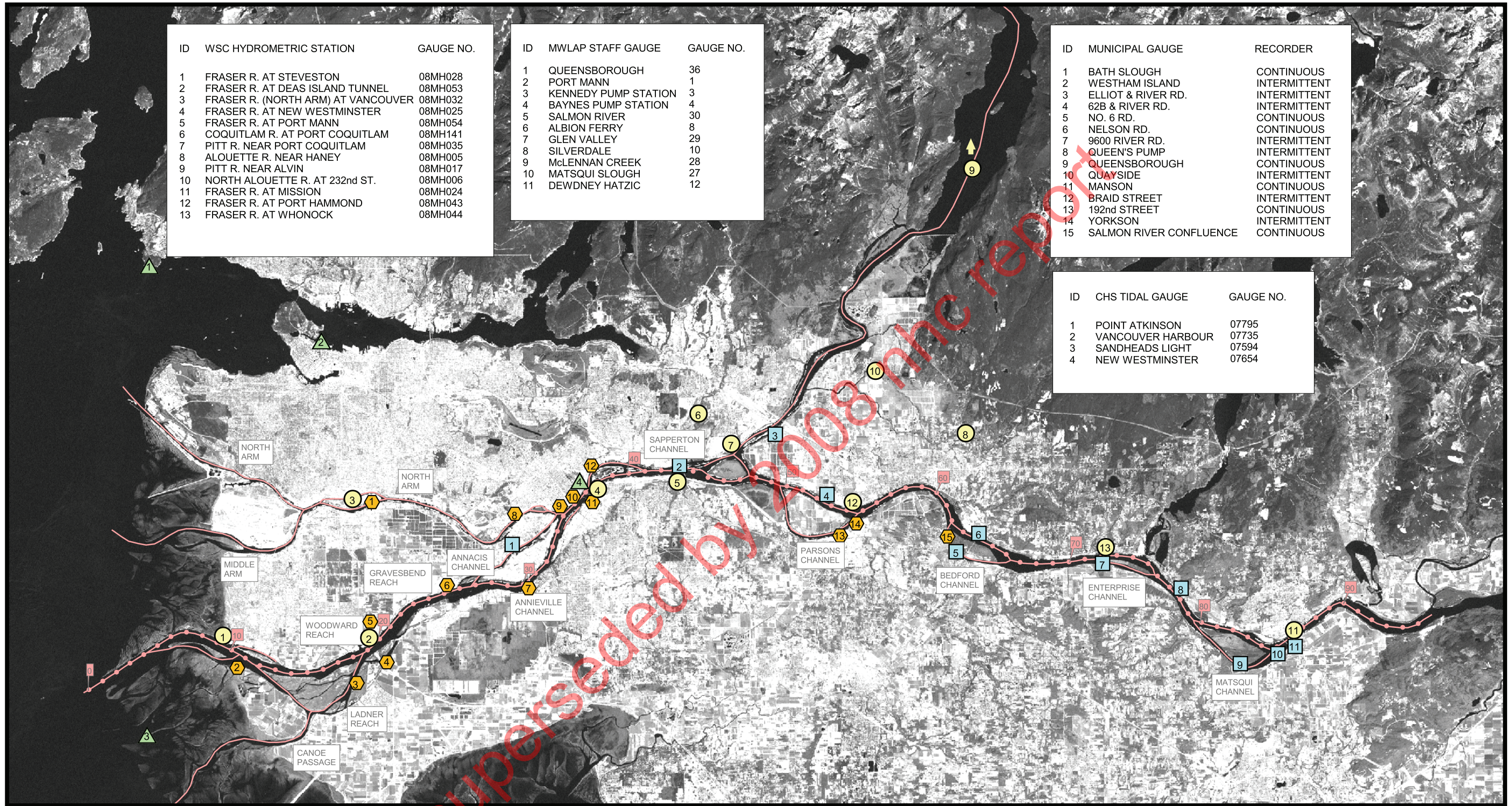
DATE: DEC 2006

3-4325

DWG BY: WPH

northwest hydraulic consultants





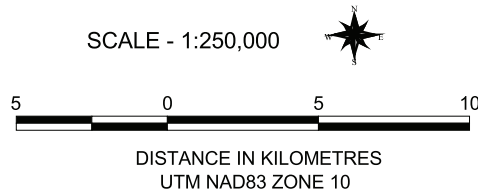
ID	WSC HYDROMETRIC STATION	GAUGE NO.
1	FRASER R. AT STEVESTON	08MH028
2	FRASER R. AT DEAS ISLAND TUNNEL	08MH053
3	FRASER R. (NORTH ARM) AT VANCOUVER	08MH032
4	FRASER R. AT NEW WESTMINSTER	08MH025
5	FRASER R. AT PORT MANN	08MH054
6	COQUITLAM R. AT PORT COQUITLAM	08MH141
7	PITT R. NEAR PORT COQUITLAM	08MH035
8	ALOUETTE R. NEAR HANEY	08MH005
9	PITT R. NEAR ALVIN	08MH017
10	NORTH ALOUETTE R. AT 232nd ST.	08MH006
11	FRASER R. AT MISSION	08MH024
12	FRASER R. AT PORT HAMMOND	08MH043
13	FRASER R. AT WHONOCK	08MH044

ID	MWLAP STAFF GAUGE	GAUGE NO.
1	QUEENSBOROUGH	36
2	PORT MANN	1
3	KENNEDY PUMP STATION	3
4	BAYNES PUMP STATION	4
5	SALMON RIVER	30
6	ALBION FERRY	8
7	GLEN VALLEY	29
8	SILVERDALE	10
9	McLENNAN CREEK	28
10	MATSQUI SLOUGH	27
11	DEWDNEY HATZIC	12

ID	MUNICIPAL GAUGE	RECORDER
1	BATH SLOUGH	CONTINUOUS
2	WESTHAM ISLAND	INTERMITTENT
3	ELLIOT & RIVER RD.	INTERMITTENT
4	62B & RIVER RD.	INTERMITTENT
5	NO. 6 RD.	CONTINUOUS
6	NELSON RD.	CONTINUOUS
7	9600 RIVER RD.	INTERMITTENT
8	QUEEN'S PUMP	INTERMITTENT
9	QUEENSBOROUGH	CONTINUOUS
10	QUAYSIDE	INTERMITTENT
11	MANSON	CONTINUOUS
12	BRAID STREET	INTERMITTENT
13	192nd STREET	CONTINUOUS
14	YORKSON	INTERMITTENT
15	SALMON RIVER CONFLUENCE	CONTINUOUS

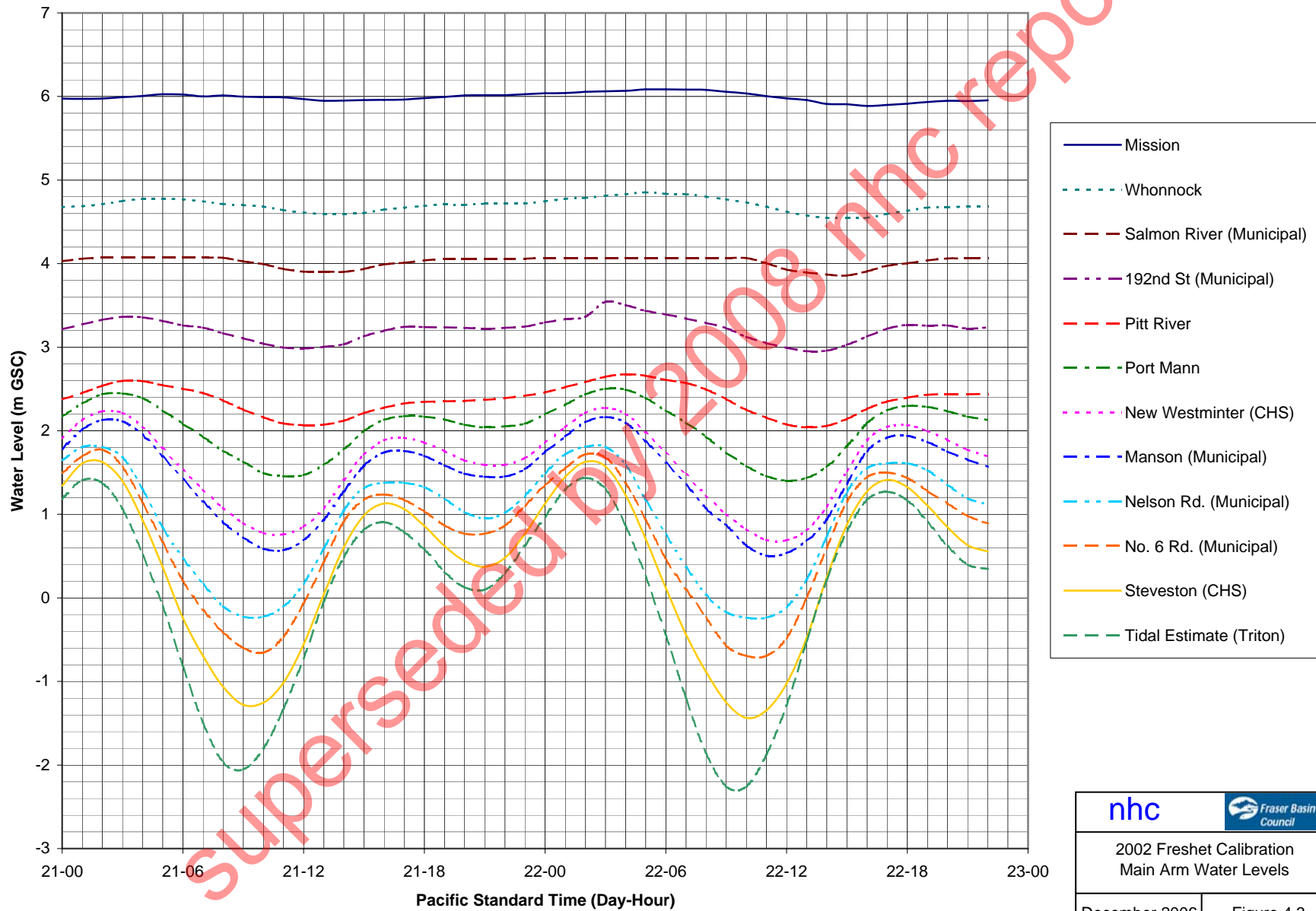
ID	CHS TIDAL GAUGE	GAUGE NO.
1	POINT ATKINSON	07795
2	VANCOUVER HARBOUR	07735
3	SANDHEADS LIGHT	07594
4	NEW WESTMINSTER	07654

- LEGEND
- MUNICIPAL GAUGE
  - MWLAP STAFF GAUGE
  - WSC HYDROMETRIC STATION
  - CHS TIDAL GAUGE

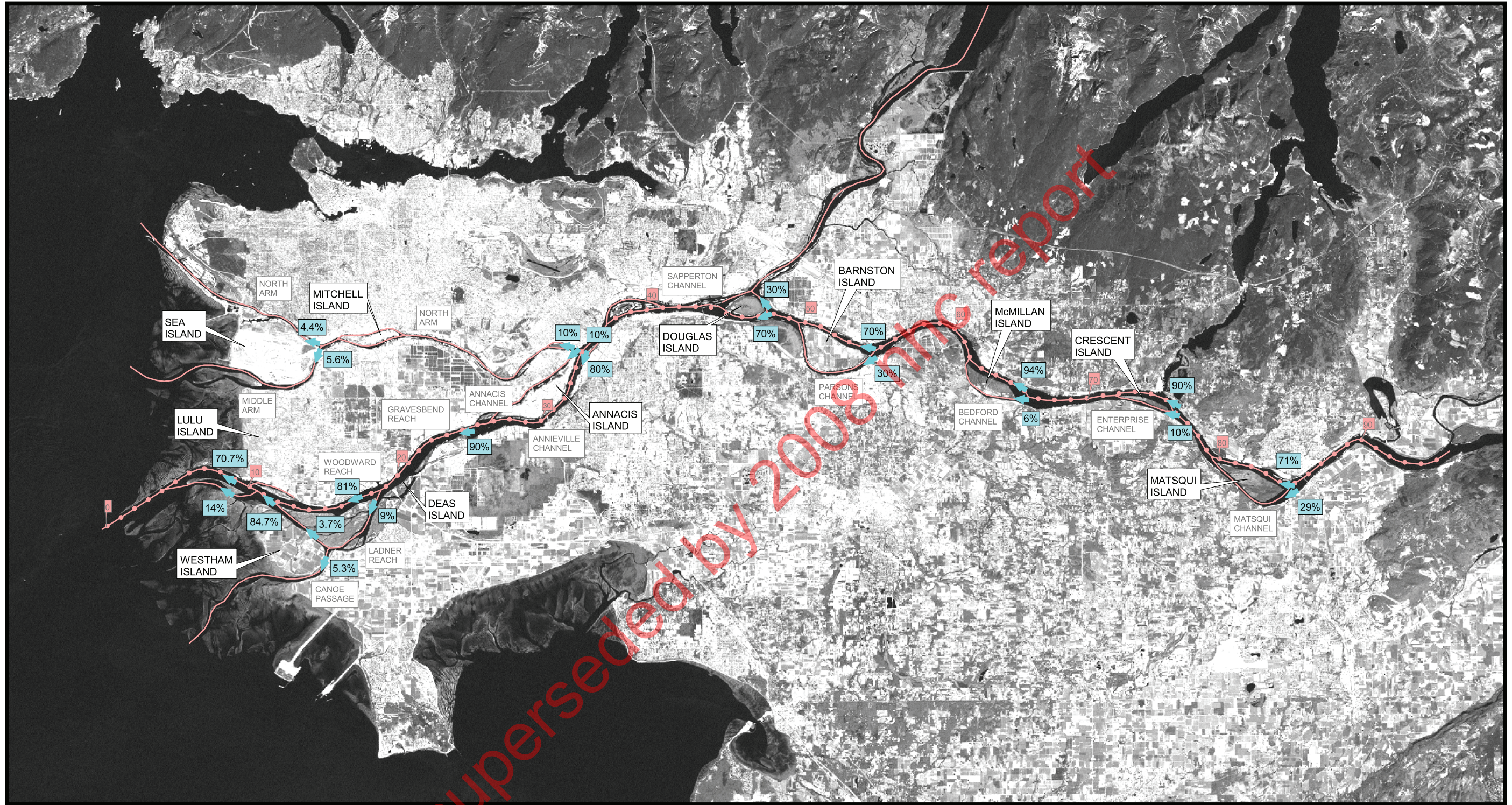


<b>FRASER BASIN COUNCIL</b>		
<b>LOWER FRASER RIVER HYDRAULIC MODEL</b>		
Tidal and Hydrometric Gauge Locations		
DATE: DEC 2006	3-4325	DWG BY: WPH
northwest hydraulic consultants		

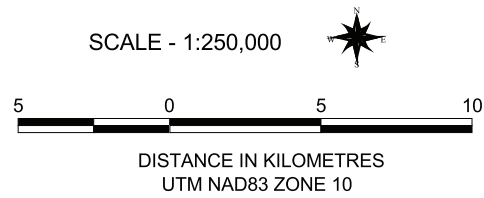








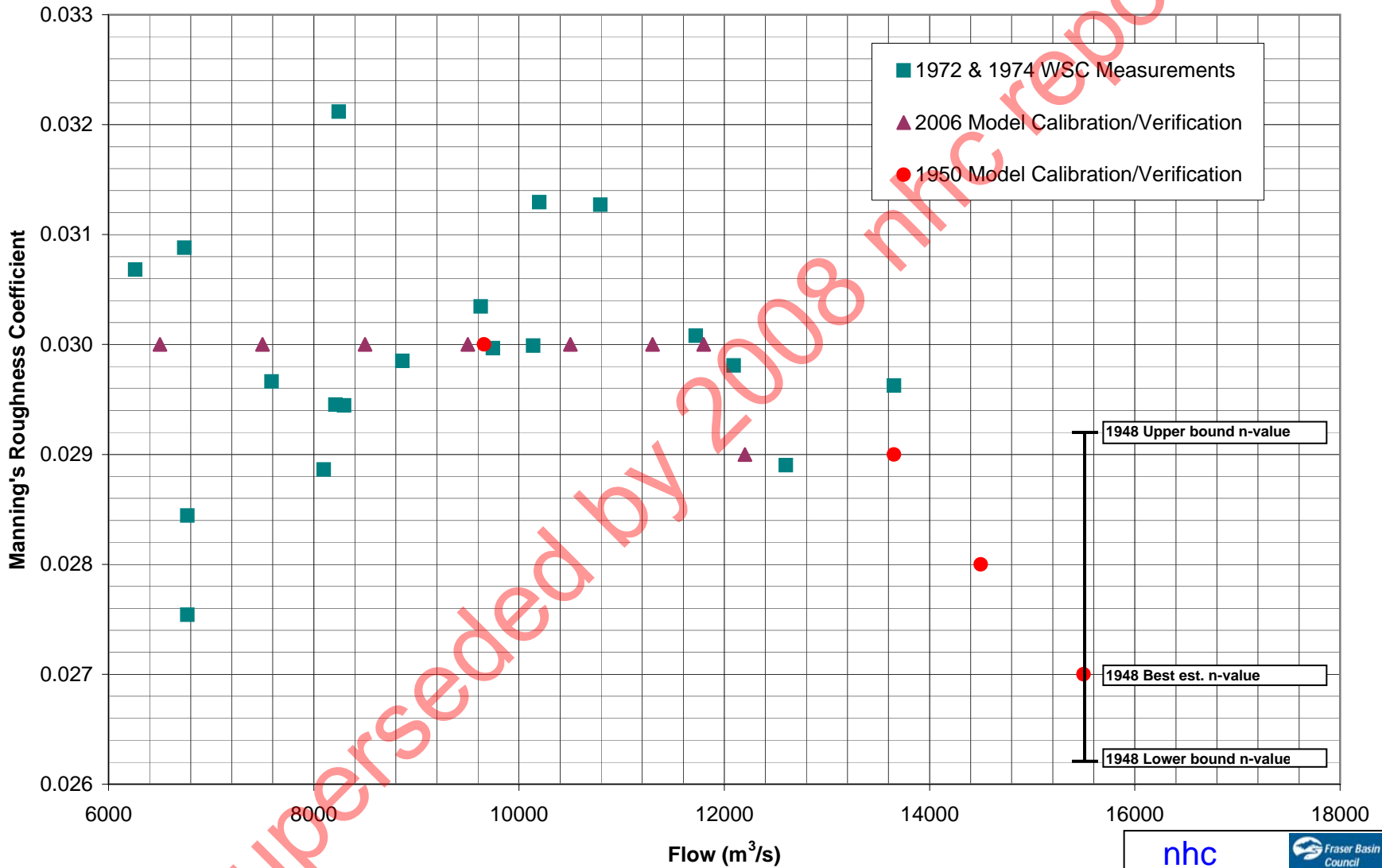
LEGEND  
 FLOW SPLIT SURVEY LOCATION

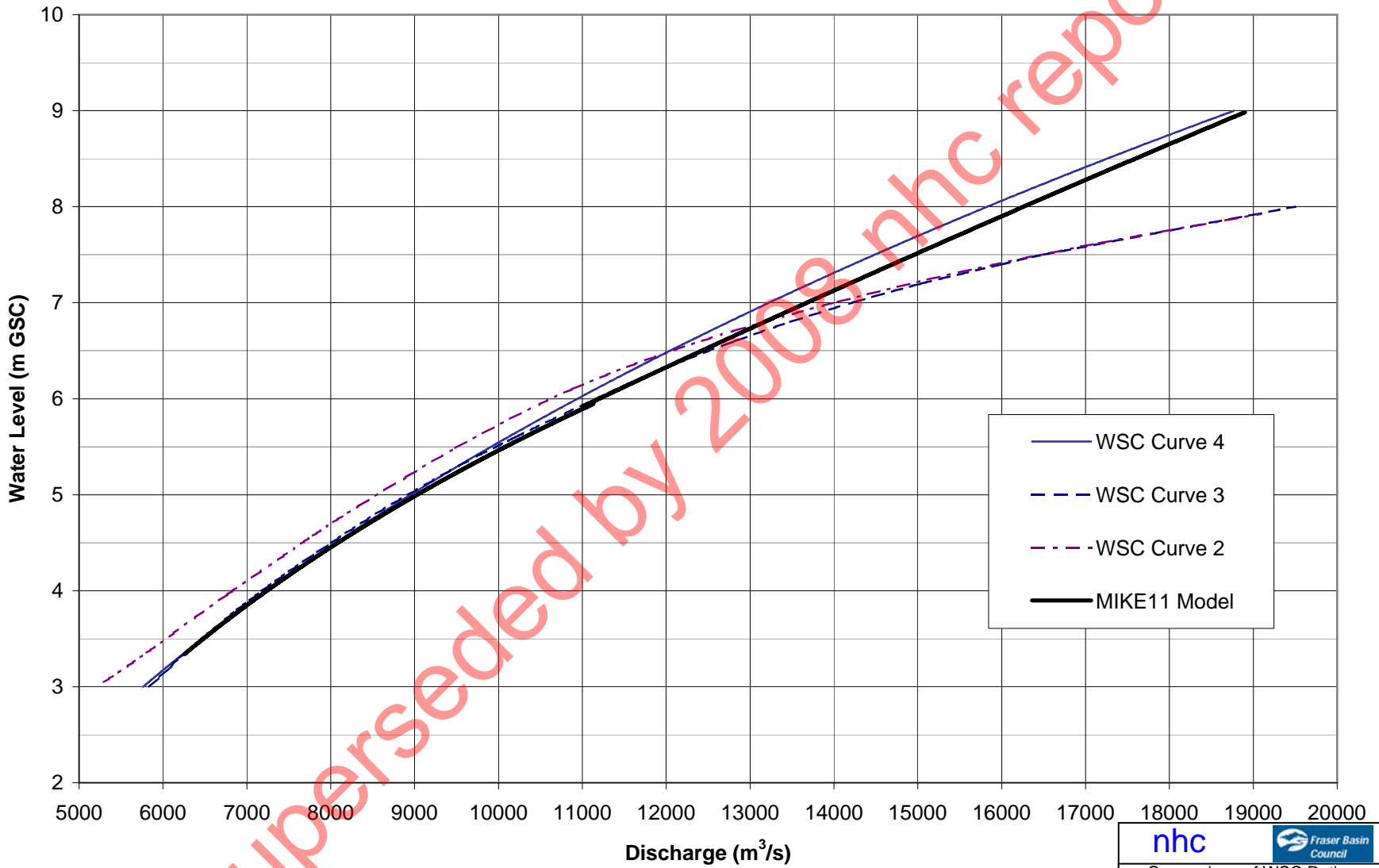


NOTES:  
 1) PERCENTAGES REFER TO TOTAL FRASER RIVER FLOW AND CORRESPOND TO AVERAGE RECORDED VALUES.  
 2) DATA COLLECTED BY PWGSC (MAY-JUNE, 2005 AND NOV, 2005-JAN, 2006).

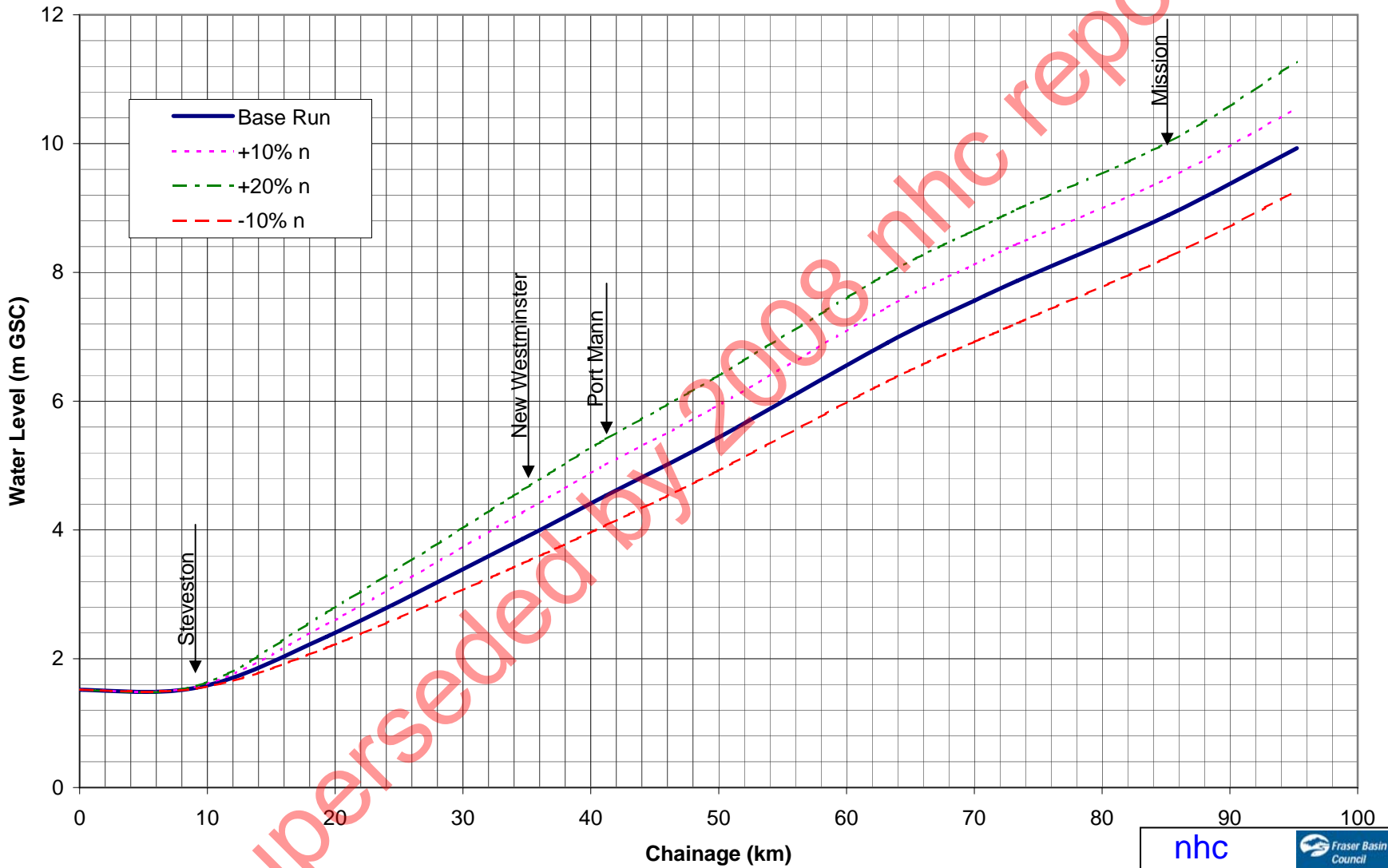
FRASER BASIN COUNCIL		
LOWER FRASER RIVER HYDRAULIC MODEL		
Recorded Flow Splits		
DATE: DEC 2006	3-4325	DWG BY: WPH
northwest hydraulic consultants		

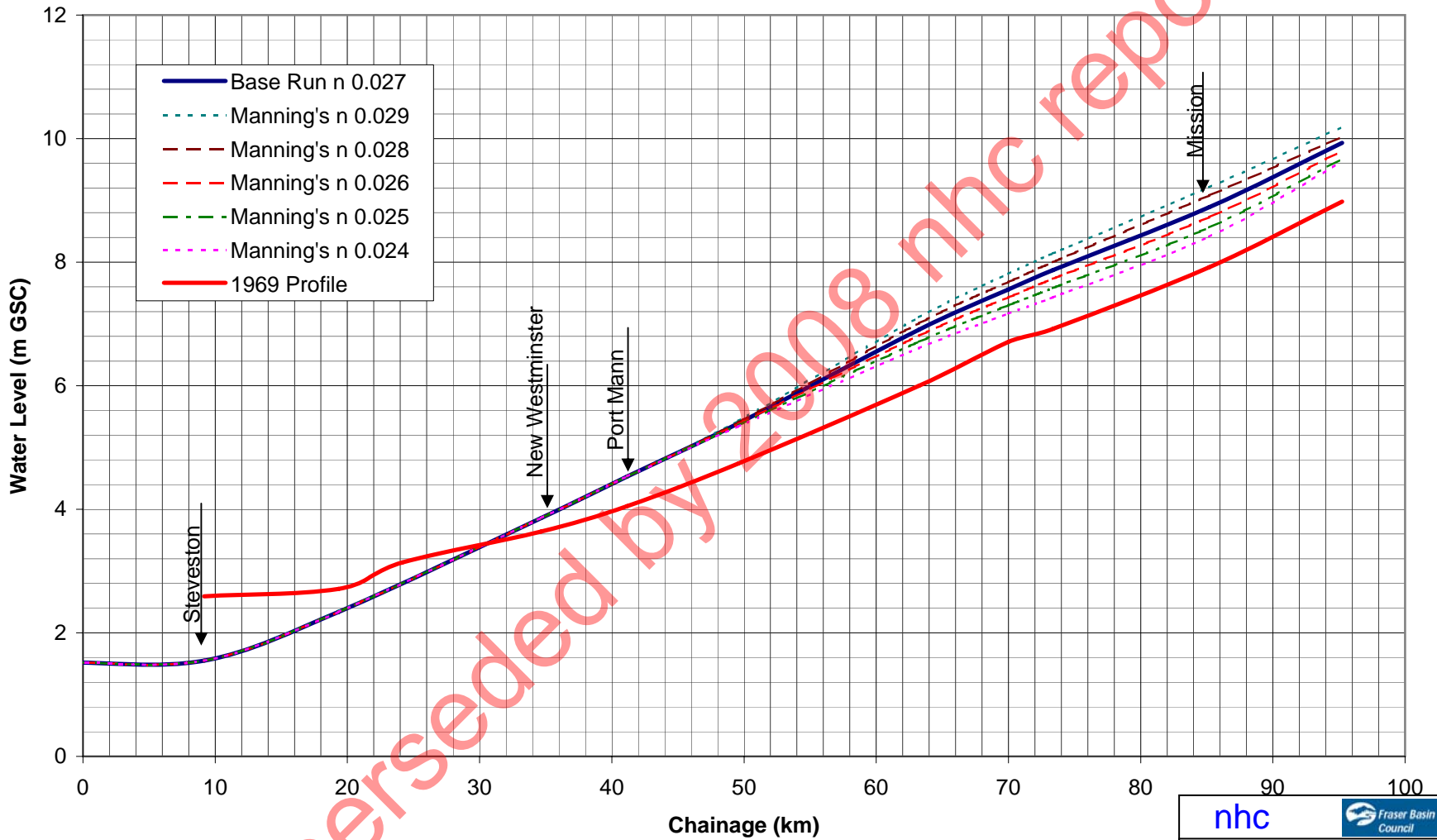


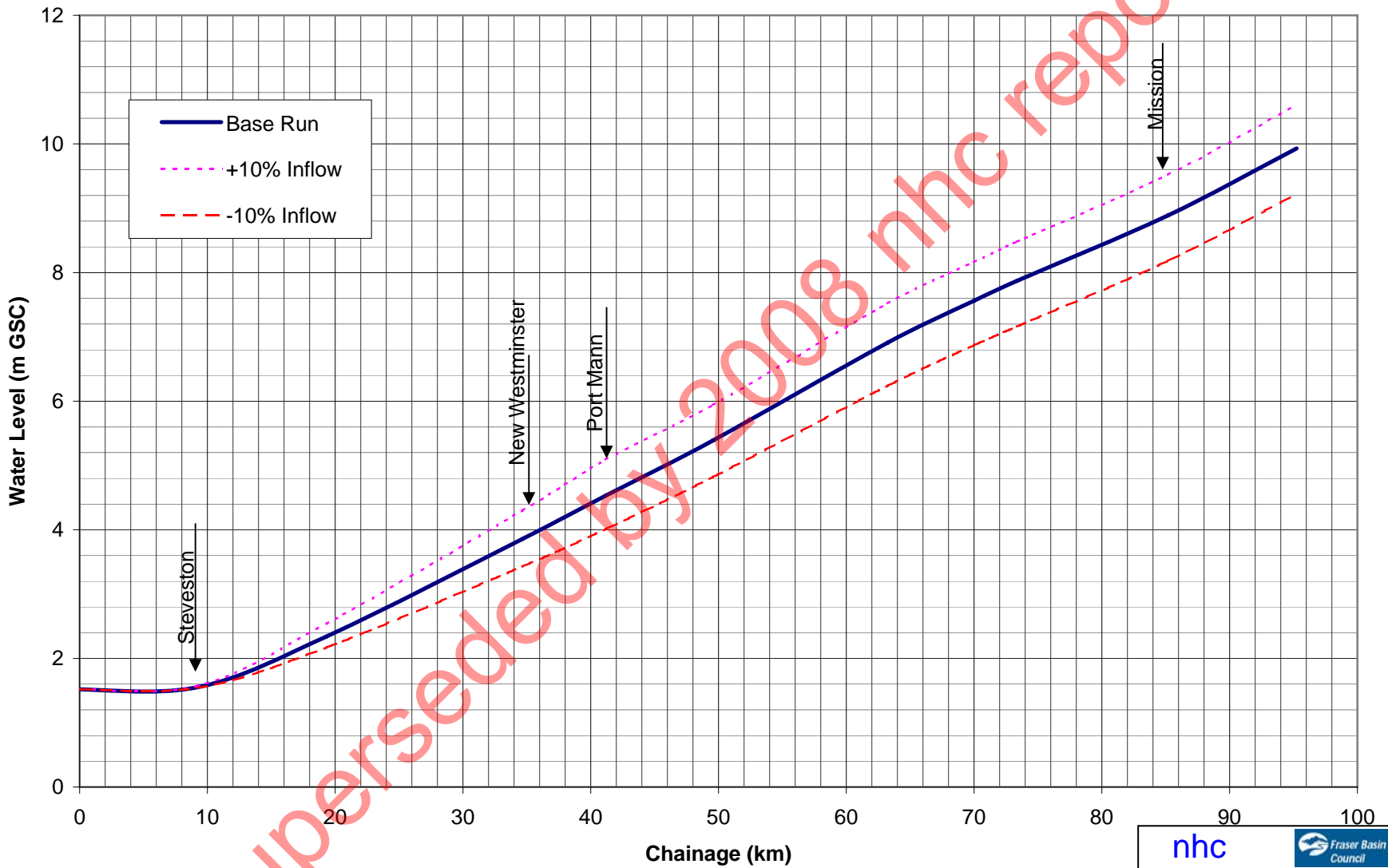




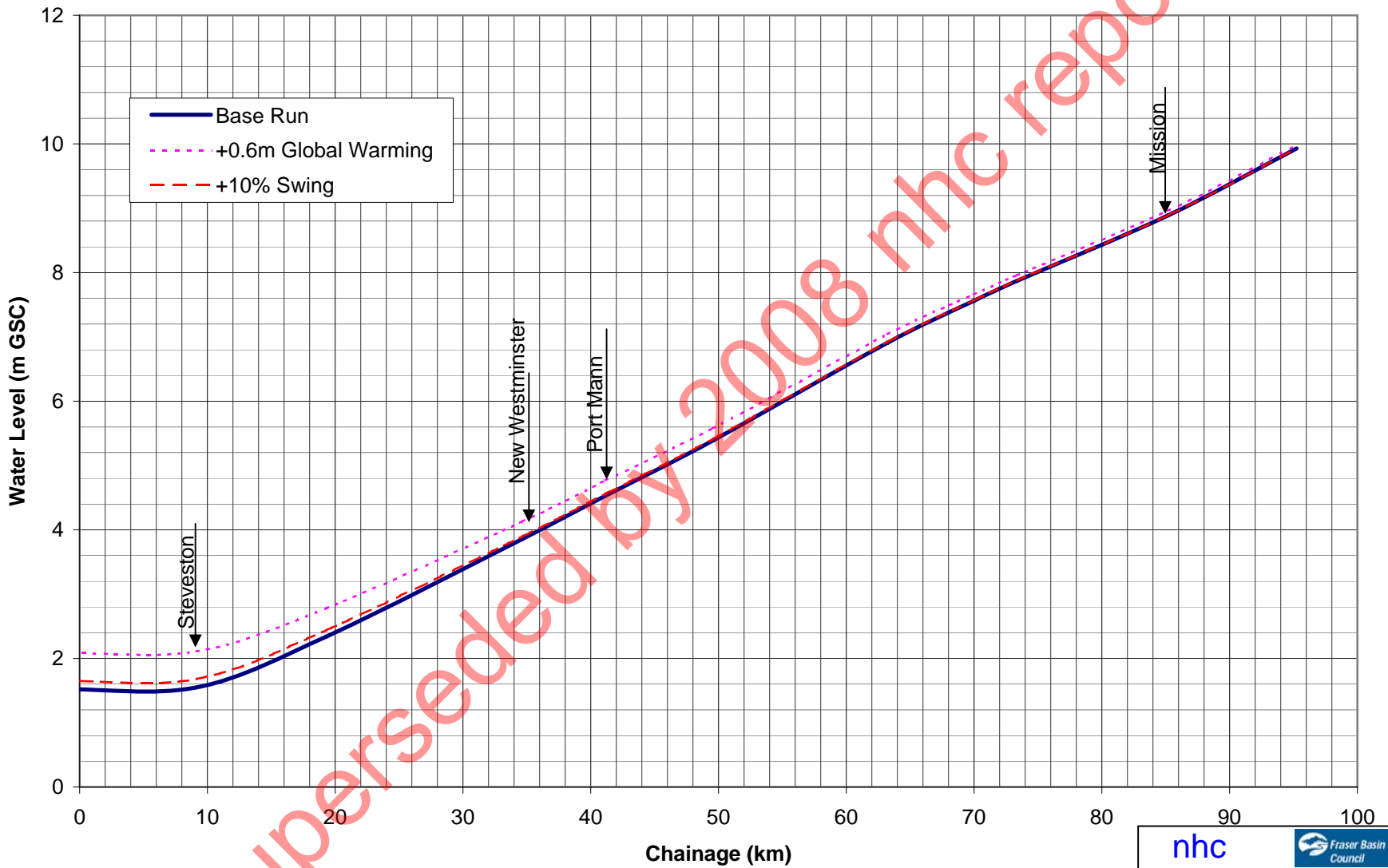




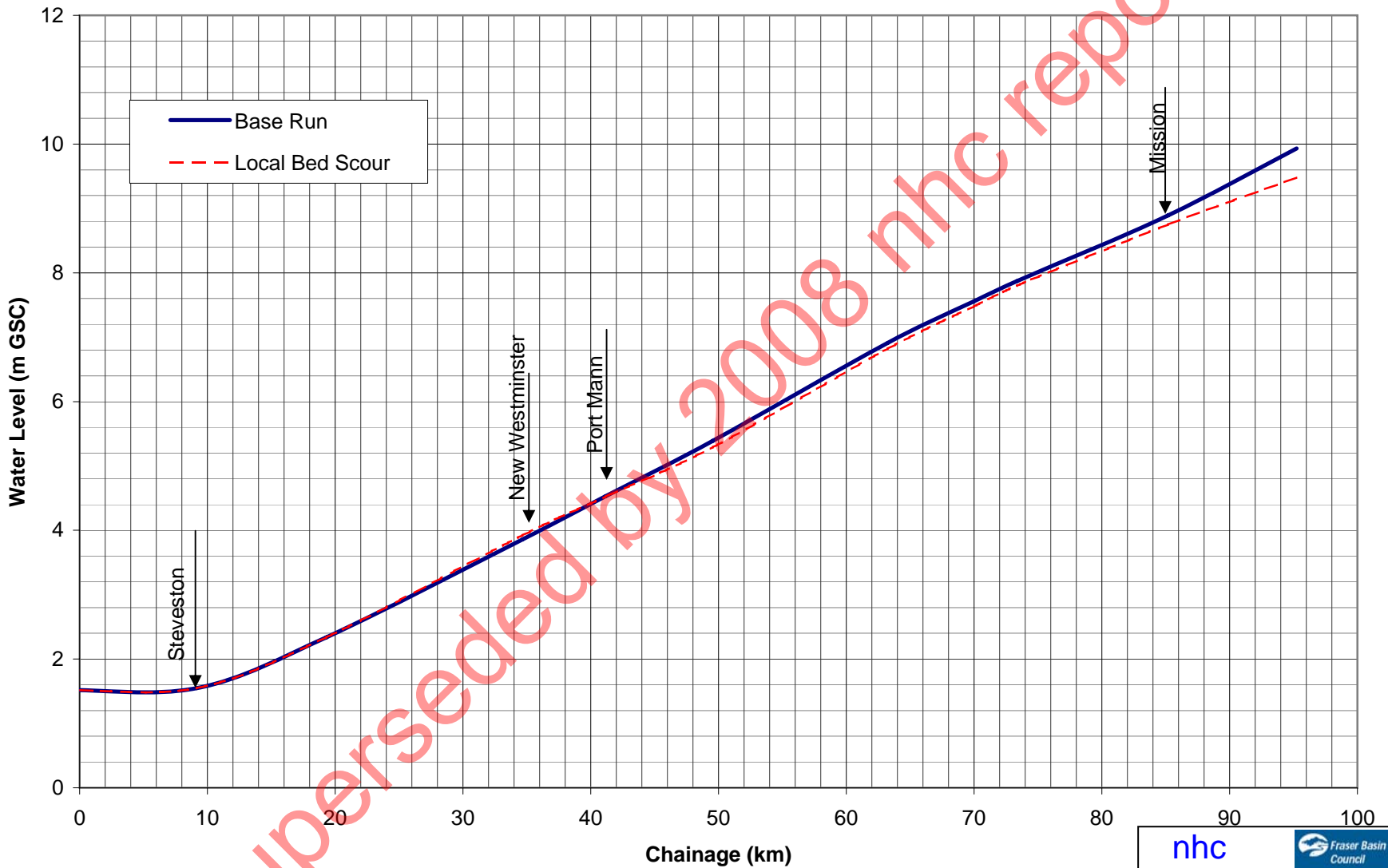




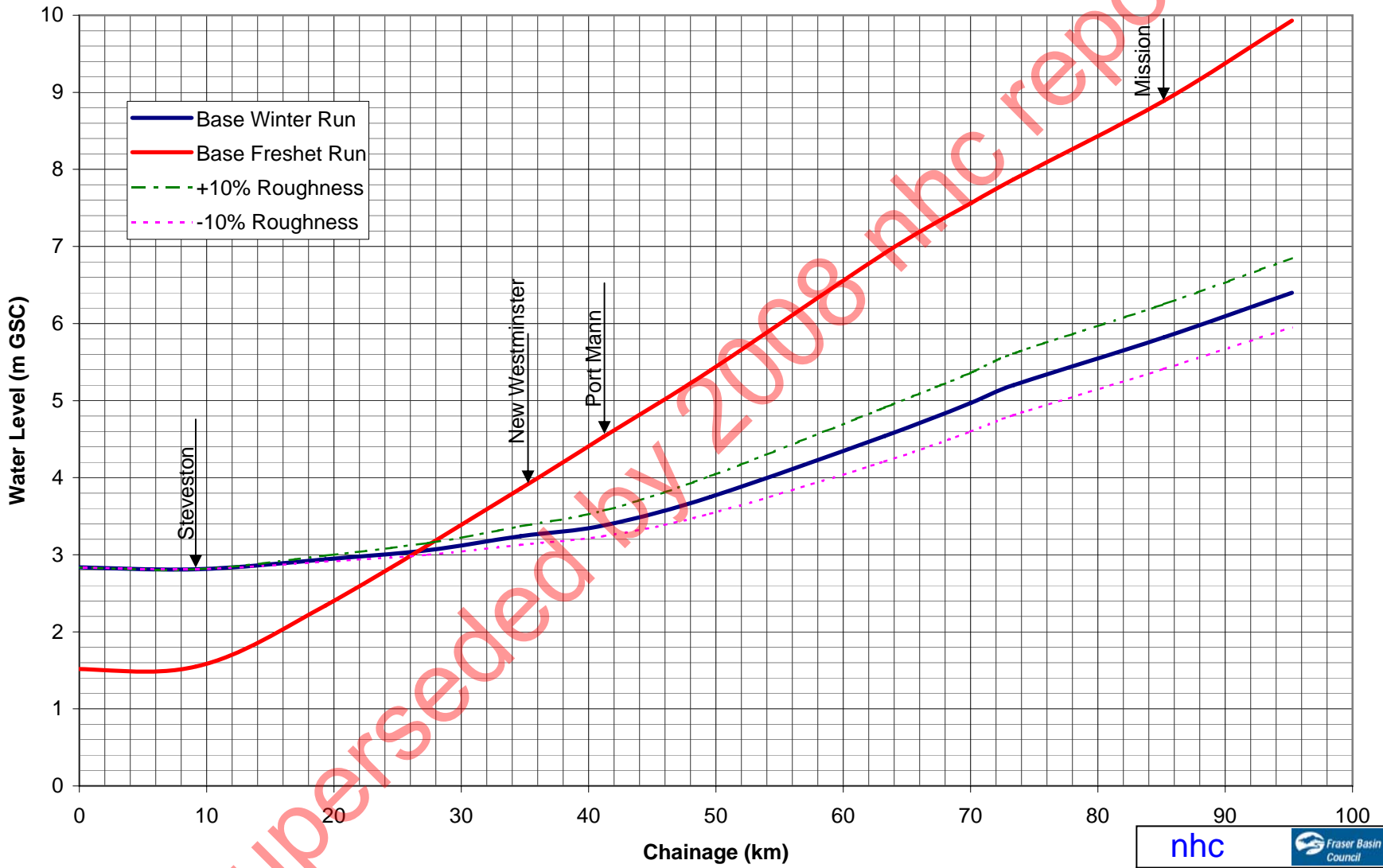
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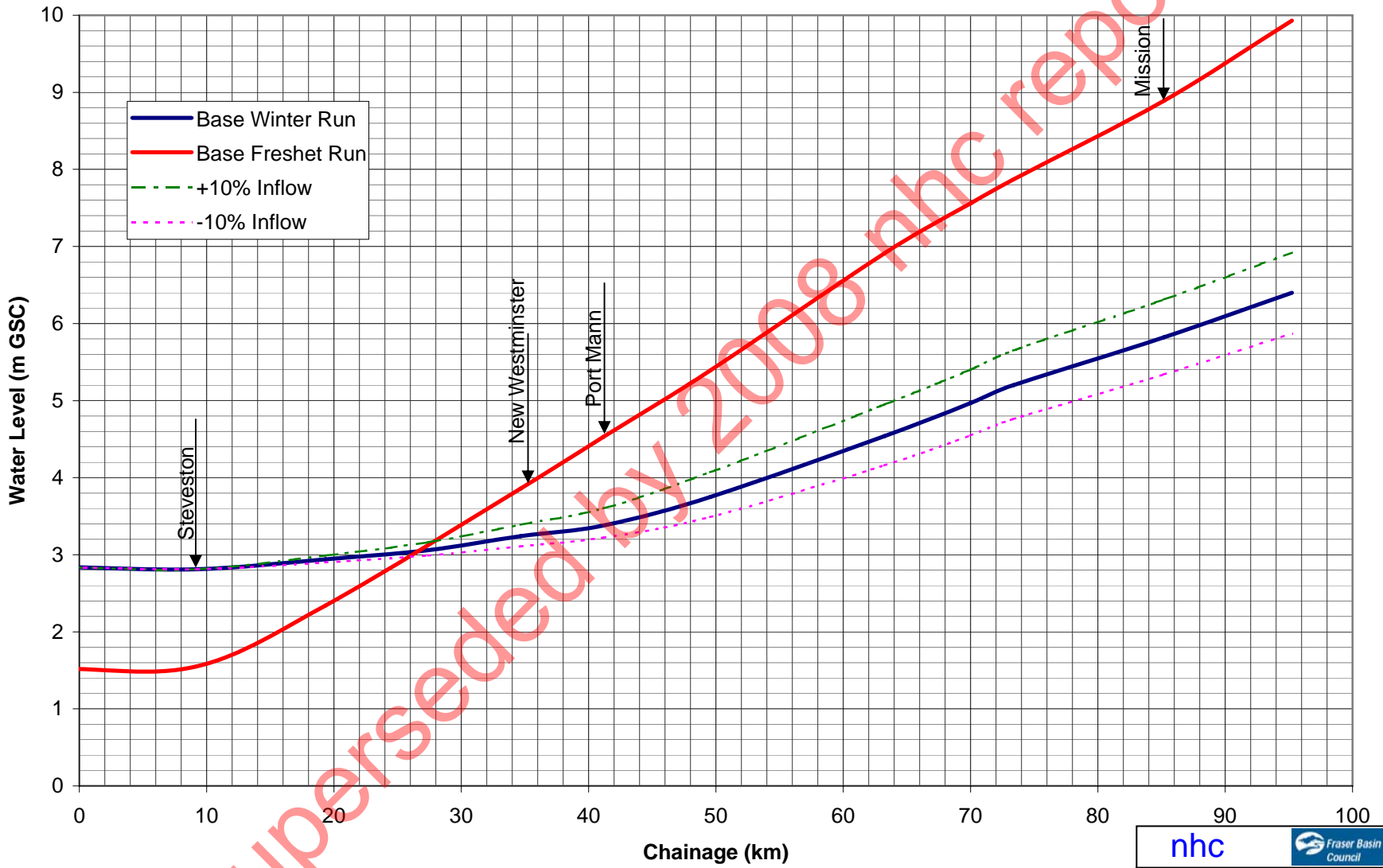
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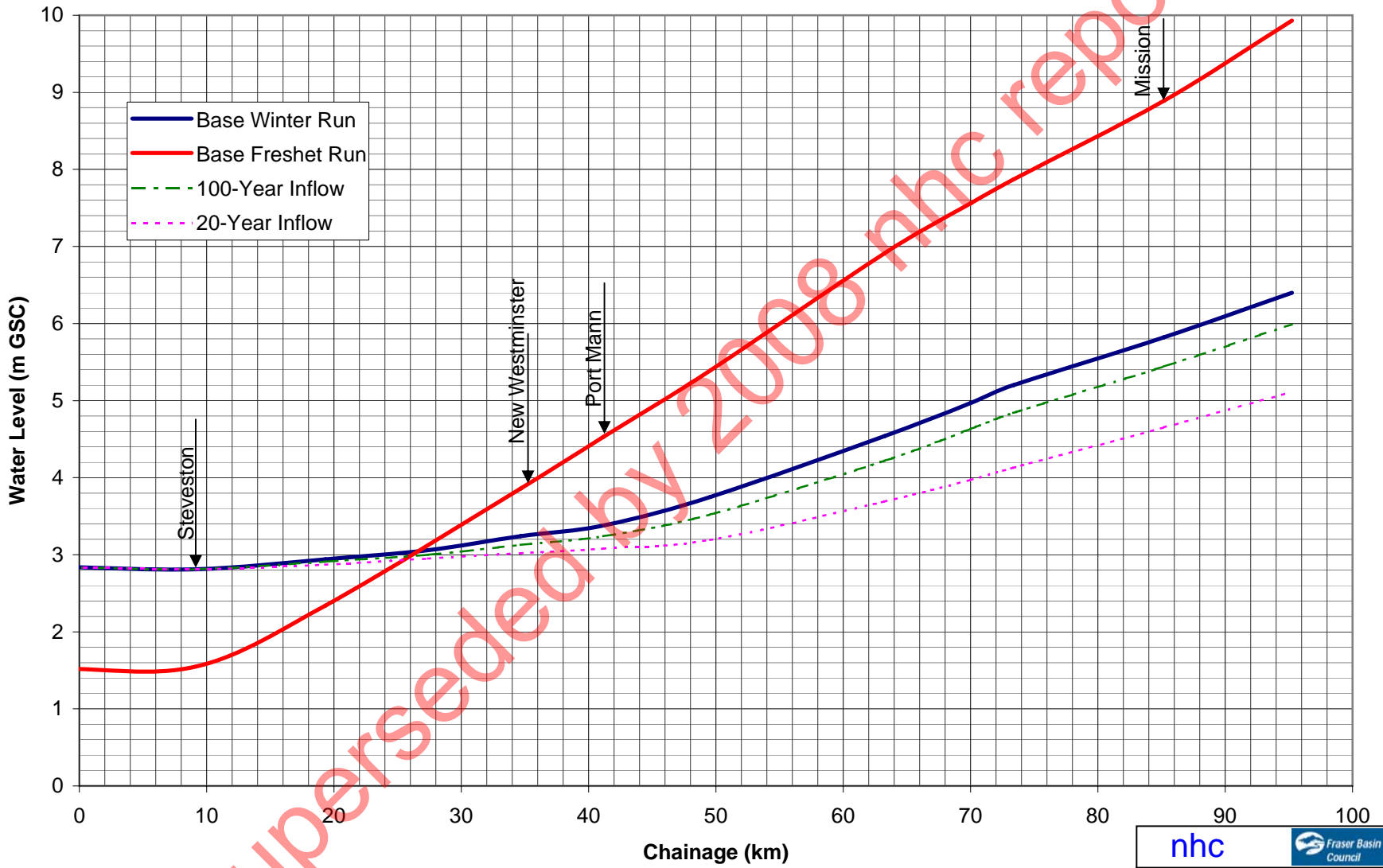


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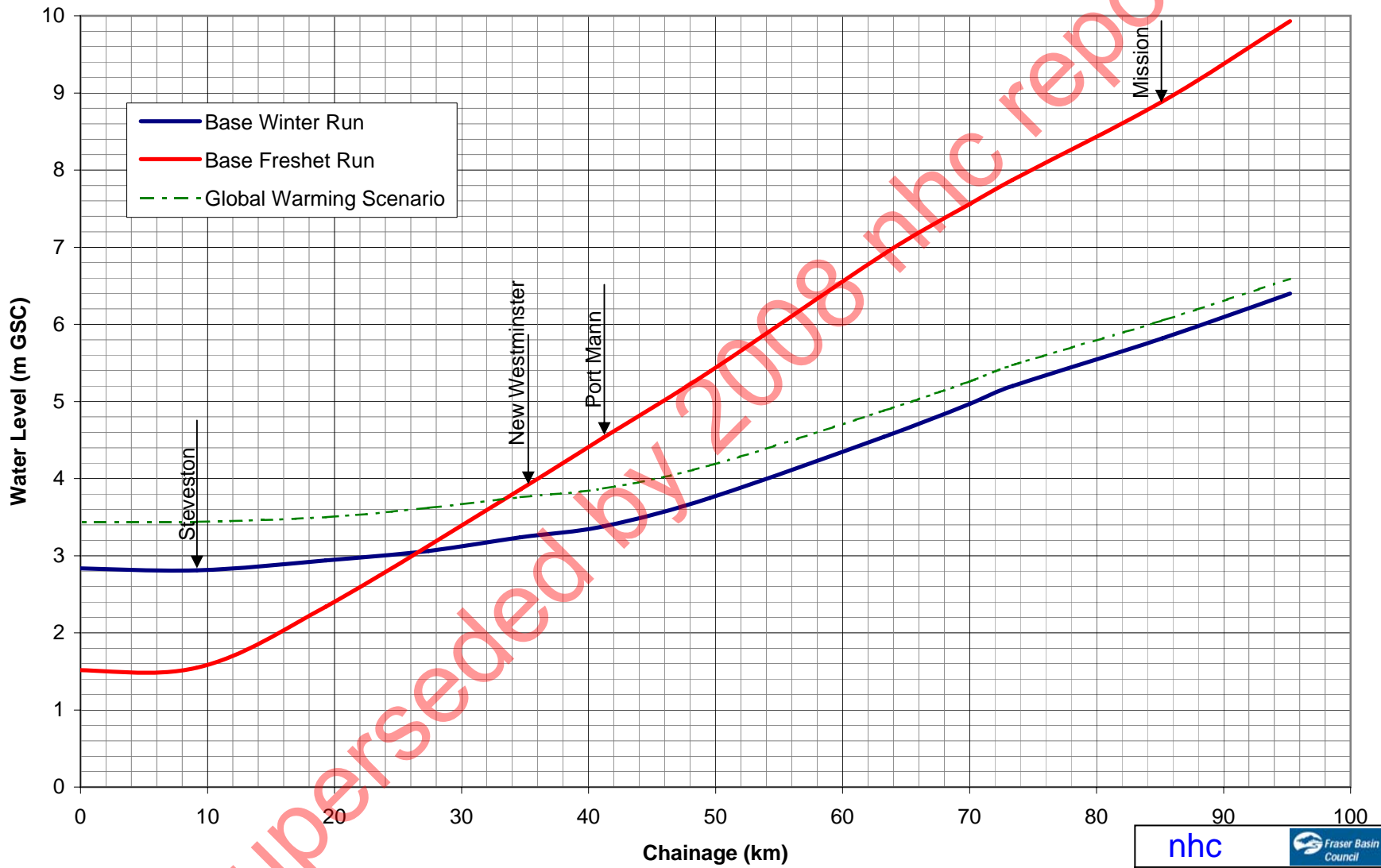


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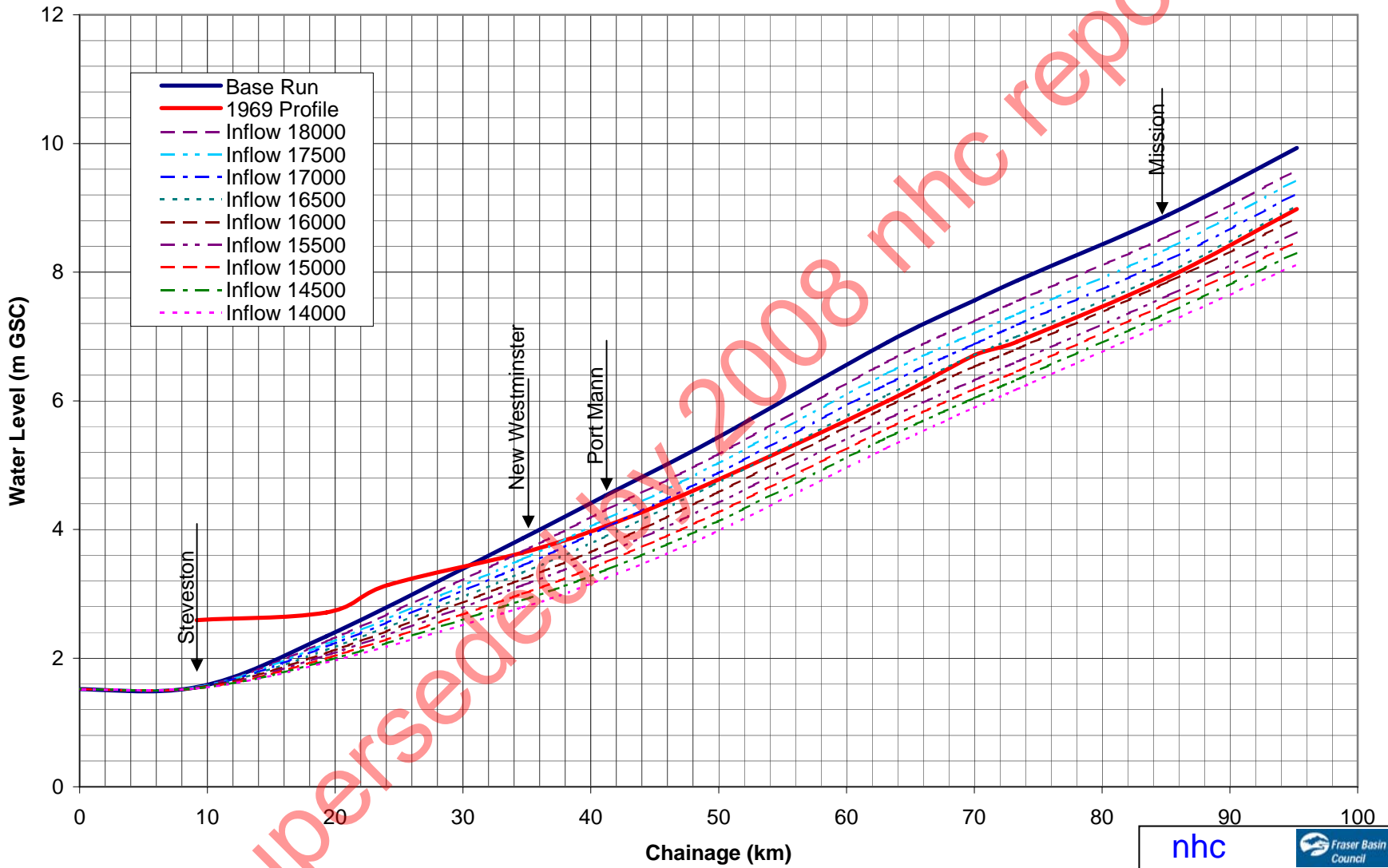




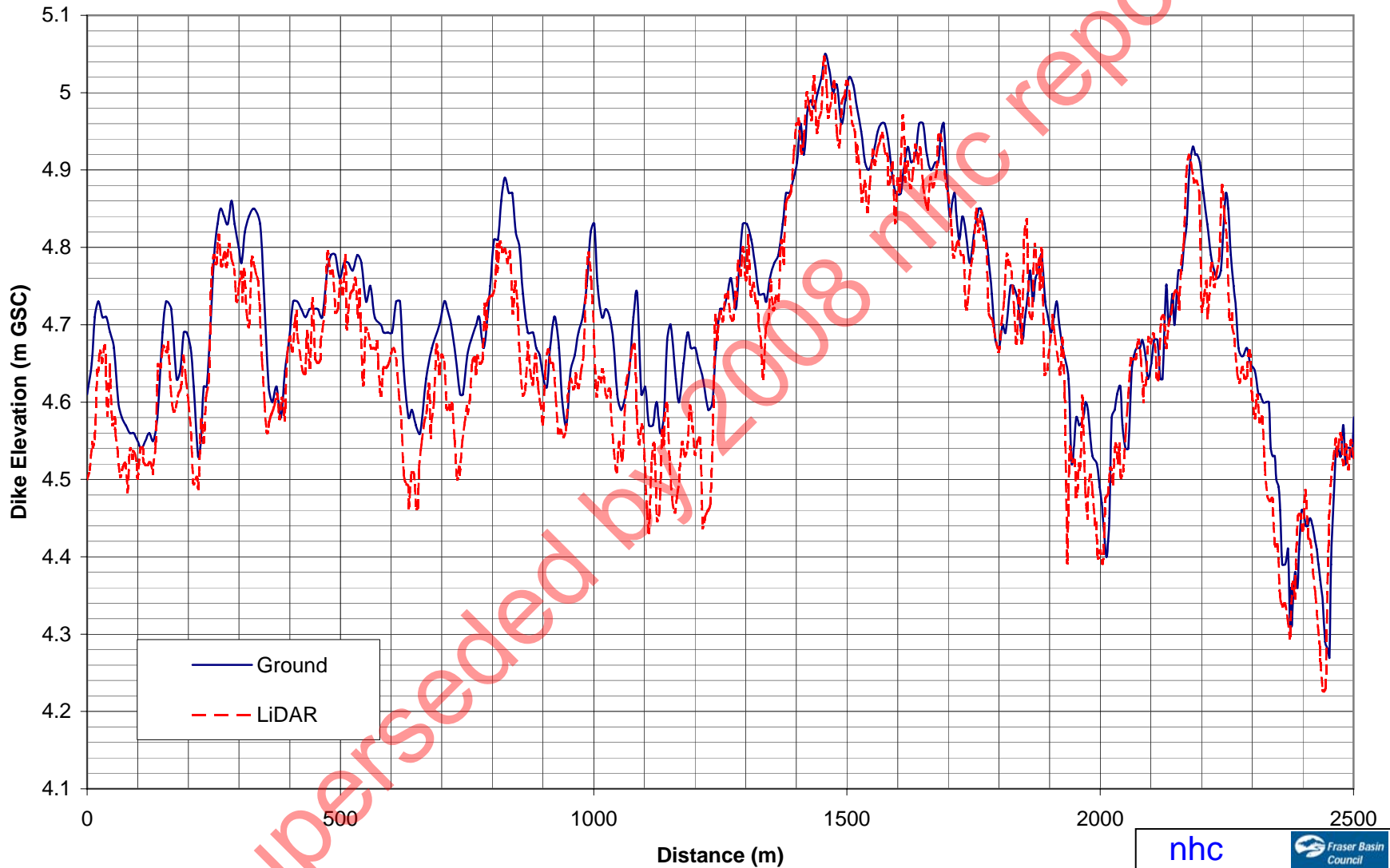


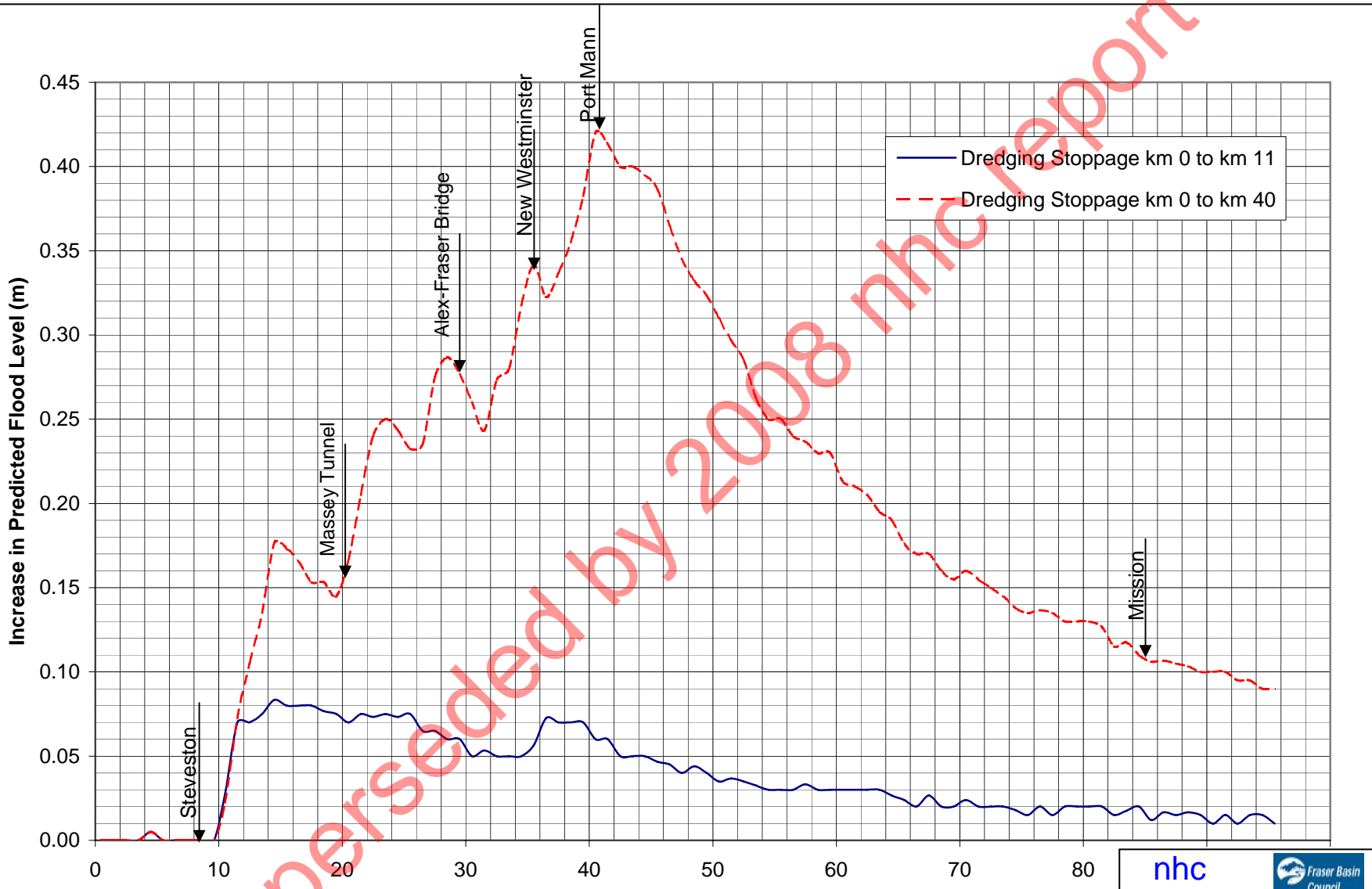


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