Appendix G.1: Substrate Composition Summary by Watershed

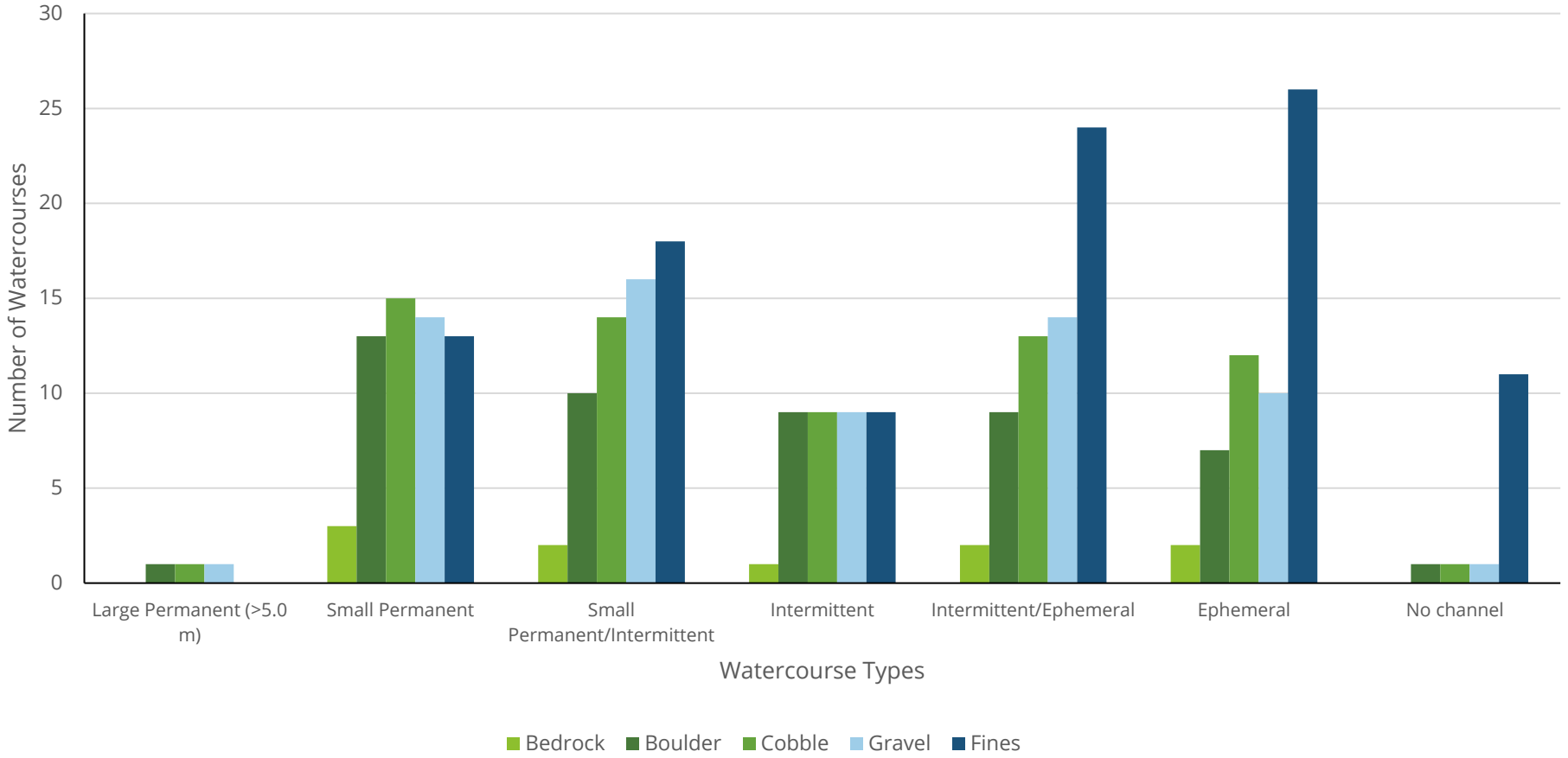

Figure G.1.1. Breakdown of number of watercourses, by substrate and watercourse type, at crossing locations in the Chiganois River watershed.

Appendix G.1: Substrate Composition Summary by Watershed

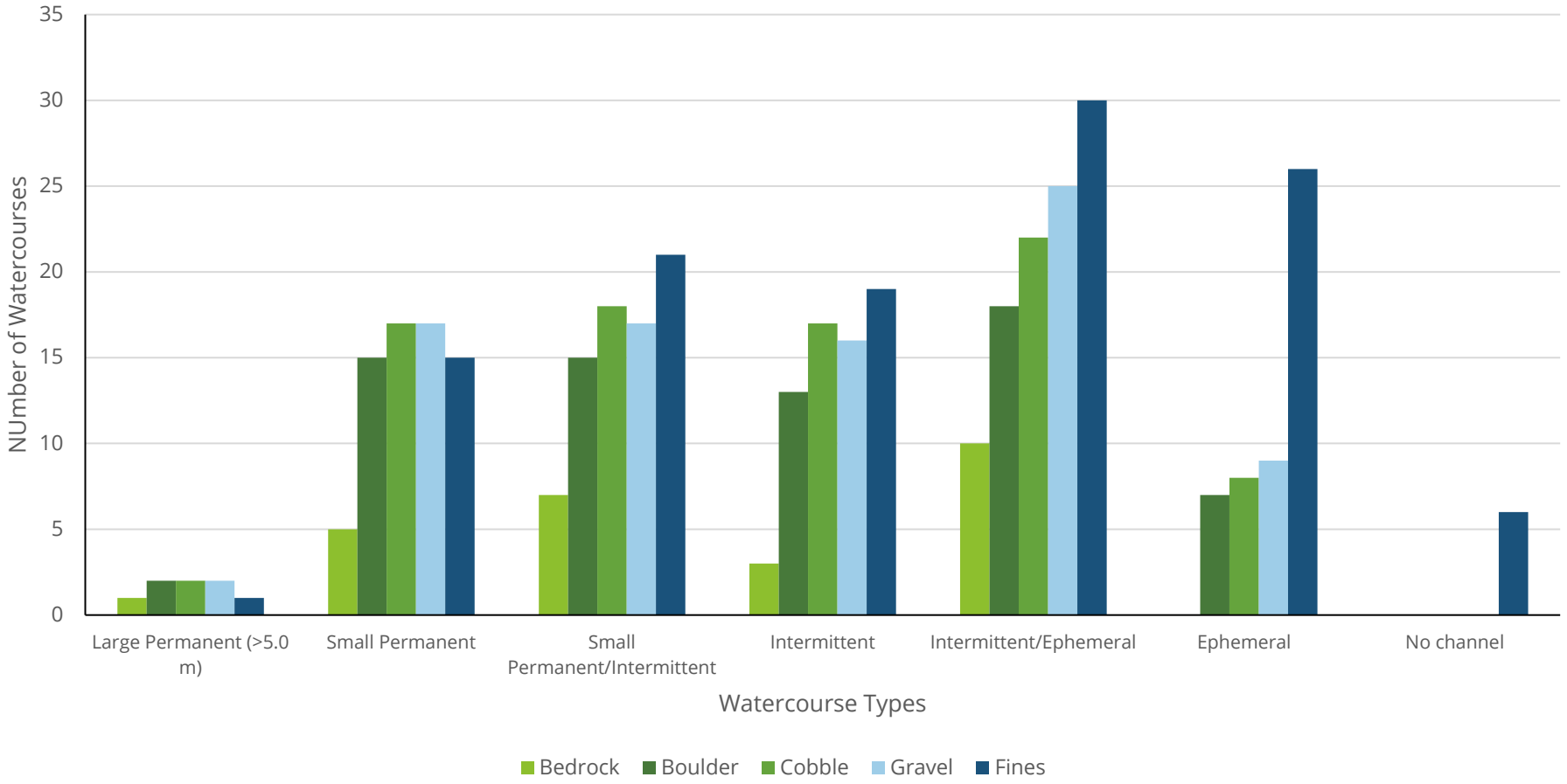

Figure G.1.2. Breakdown of number of watercourses, by substrate and watercourse type, at crossing locations in the Debert River watershed.

Appendix G.1: Substrate Composition Summary by Watershed

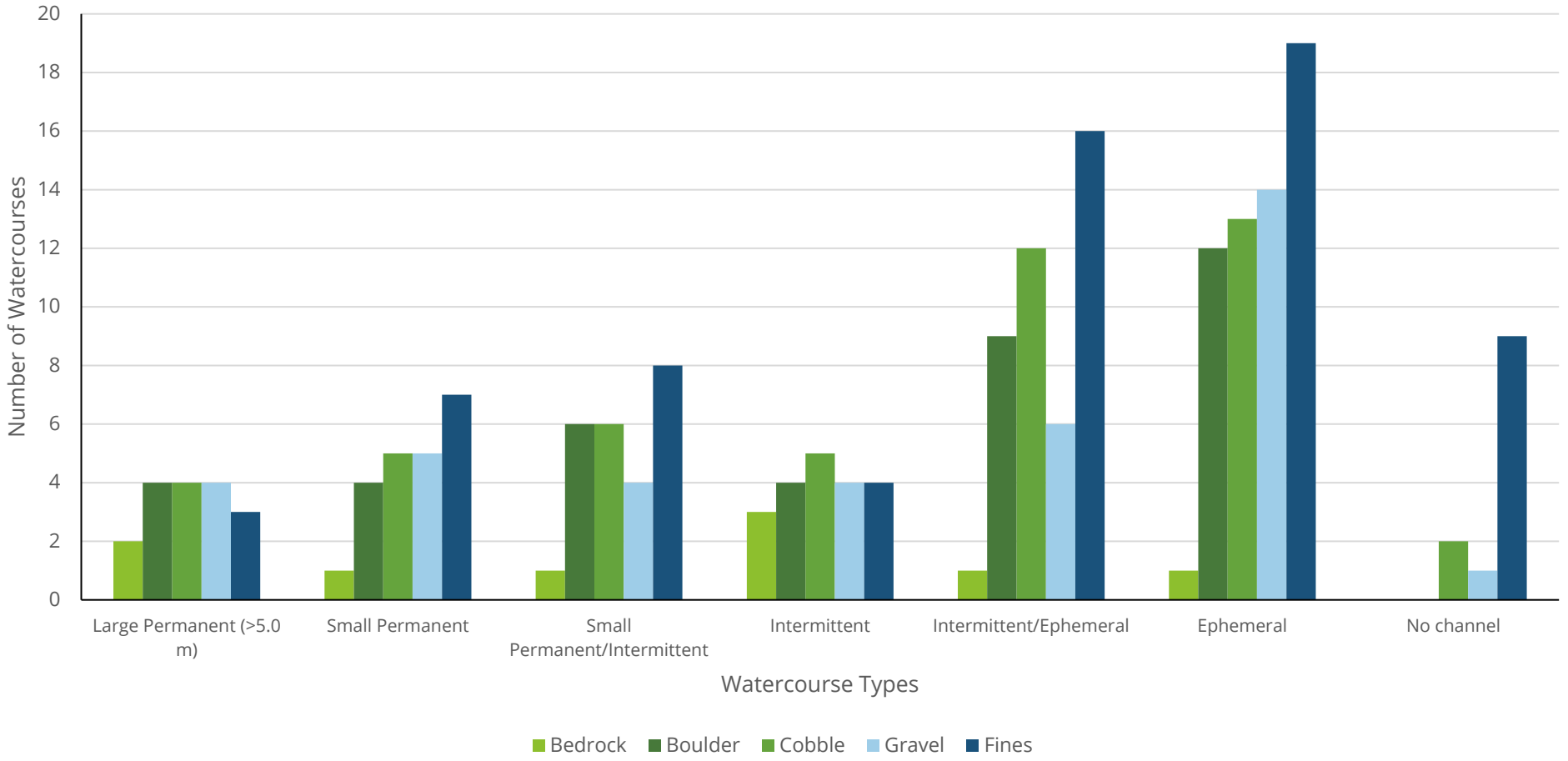

Figure G.1.3. Breakdown of number of watercourses, by substrate and watercourse type, at crossing locations in the Folly River watershed.

Appendix G.1: Substrate Composition Summary by Watershed

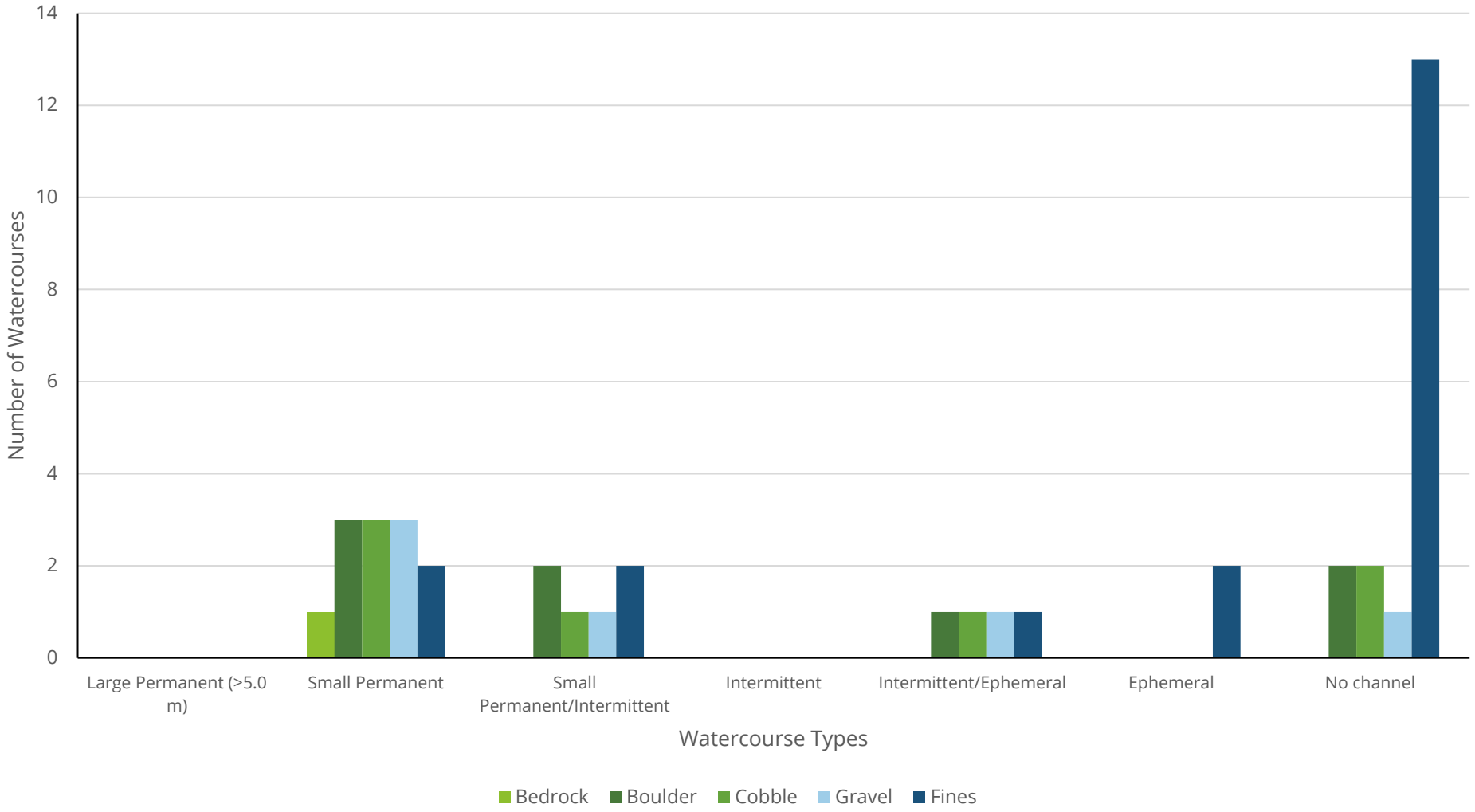

Figure G.1.4. Breakdown of number of watercourses, by substrate and watercourse type, at crossing locations in the French River watershed.

Appendix G.1: Substrate Composition Summary by Watershed

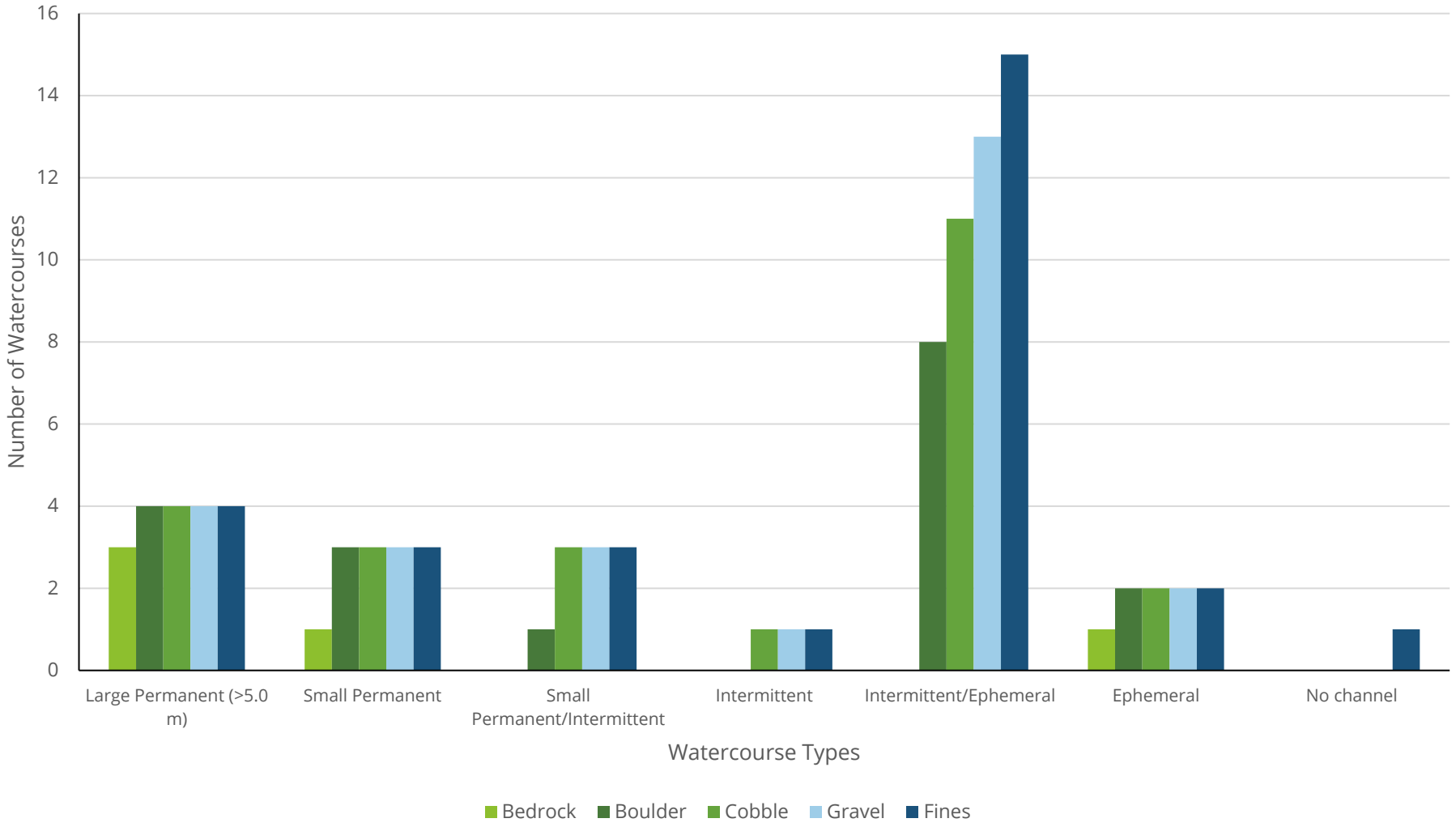

Figure G.1.5. Breakdown of number of watercourses, by substrate and watercourse type, at crossing locations in the Wallace River watershed.

Appendix G.2 Dominant and Sub-Dominant Cover Types By Watercourse Types and Watershed

Table G.2.1 Count of watercourses by dominant cover types and watercourse types at crossing locations for all watersheds.

ALL WATERSHEDS	COVER TYPES (# of watercourses)								
WATERCOURSE TYPES	**Boulder**	**Overhead Veg.**	**Undercut Bank**	**Large Woody Debris**	**Small Woody Debris**	**Instream Veg.**	**Uprooted Tree**	**Deep Pool**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	9	1	0	0	0	0	0	1	**11**
Small Permanent	17	6	5	2	6	4	2	4	**46**
Small Permanent/Intermittent	8	13	8	3	11	6	0	2	**51**
Intermittent	8	11	2	1	9	0	2	2	**35**
Intermittent/Ephemeral	9	34	3	1	21	8	1	2	**79**
Ephemeral	2	15	2	3	11	1	0	0	**34**
TOTAL BY SUBSTRATE TYPE	**53**	**80**	**20**	**10**	**58**	**19**	**5**	**11**	**256**

Table G.2.2. Count of watercourses by dominant cover types and watercourse types at crossing locations for the Chiganois River watershed.

CHIGANOIS	COVER TYPES (# of watercourses)								
WATERCOURSE TYPES	**Boulder**	**Overhead Veg.**	**Undercut Bank**	**Large Woody Debris**	**Small Woody Debris**	**Instream Veg.**	**Uprooted Tree**	**Deep Pool**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	0	1	0	0	0	0	0	0	**1**
Small Permanent	5	4	3	0	1	1	2	0	**16**
Small Permanent/Intermittent	2	5	5	1	1	3	0	1	**18**
Intermittent	2	6	0	1	1	0	0	0	**10**
Intermittent/Ephemeral	1	14	0	0	2	3	0	1	**21**
Ephemeral	0	4	2	0	0	1	0	0	**7**
TOTAL BY SUBSTRATE TYPE	**10**	**34**	**10**	**2**	**5**	**8**	**2**	**2**	**73**

Table G.2.3. Count of watercourses by dominant cover types and watercourse types at crossing locations for the Debert River watershed.

DEBERT	COVER TYPES (# of watercourses)								
WATERCOURSE TYPES	**Boulder**	**Overhead Veg.**	**Undercut Bank**	**Large Woody Debris**	**Small Woody Debris**	**Instream Veg.**	**Uprooted Tree**	**Deep Pool**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	2	0	0	0	0	0	0	0	**2**
Small Permanent	7	2	2	1	0	3	0	3	**18**
Small Permanent/Intermittent	4	5	2	2	5	1	0	1	**20**
Intermittent	4	4	1	0	7	0	1	2	**19**
Intermittent/Ephemeral	2	8	1	0	9	4	0	1	**25**
Ephemeral	1	5	0	0	3	0	0	0	**9**
TOTAL BY SUBSTRATE TYPE	**20**	**24**	**6**	**3**	**24**	**8**	**1**	**7**	**93**

Table G.2.4. Count of watercourses by dominant cover types and watercourse types at crossing locations for the Folly River watershed.

FOLLY	COVER TYPES (# of watercourses)								
WATERCOURSE TYPES	**Boulder**	**Overhead Veg.**	**Undercut Bank**	**Large Woody Debris**	**Small Woody Debris**	**Instream Veg.**	**Uprooted Tree**	**Deep Pool**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	4	0	0	0	0	0	0	0	**4**
Small Permanent	3	0	0	1	2	0	0	0	**6**
Small Permanent/Intermittent	1	1	1	0	3	2	0	0	**8**
Intermittent	2	1	1	0	1	0	0	0	**5**
Intermittent/Ephemeral	2	5	2	1	5	0	1	0	**16**
Ephemeral	1	5	0	2	7	0	0	0	**15**
TOTAL BY SUBSTRATE TYPE	**13**	**12**	**4**	**4**	**18**	**2**	**1**	**0**	**54**

Table G.2.5. Count of watercourses by dominant cover types and watercourse types at crossing locations for the French River watershed.

FRENCH	COVER TYPES (# of watercourses)								
WATERCOURSE TYPES	**Boulder**	**Overhead Veg.**	**Undercut Bank**	**Large Woody Debris**	**Small Woody Debris**	**Instream Veg.**	**Uprooted Tree**	**Deep Pool**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	0	0	0	0	0	0	0	0	**0**
Small Permanent	0	0	0	0	3	0	0	0	**3**
Small Permanent/Intermittent	1	1	0	0	0	0	0	0	**2**
Intermittent	0	0	0	0	0	0	0	0	**0**
Intermittent/Ephemeral	0	0	0	0	1	0	0	0	**1**
Ephemeral	0	0	0	1	0	0	0	0	**1**
TOTAL BY SUBSTRATE TYPE	**1**	**1**	**0**	**1**	**4**	**0**	**0**	**0**	**7**

Table G.2.6. Count of watercourses by dominant cover types and watercourse types at crossing locations for the Wallace River watershed.

WALLACE	COVER TYPES (# of watercourses)								
WATERCOURSE TYPES	**Boulder**	**Overhead Veg.**	**Undercut Bank**	**Large Woody Debris**	**Small Woody Debris**	**Instream Veg.**	**Uprooted Tree**	**Deep Pool**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	3	0	0	0	0	0	0	1	**4**
Small Permanent	2	0	0	0	0	0	0	1	**3**
Small Permanent/Intermittent	0	1	0	0	2	0	0	0	**3**
Intermittent	0	0	0	0	0	0	1	0	**1**
Intermittent/Ephemeral	4	7	0	0	4	1	0	0	**16**
Ephemeral	0	1	0	0	1	0	0	0	**2**
TOTAL BY SUBSTRATE TYPE	**9**	**9**	**0**	**0**	**7**	**1**	**1**	**2**	**29**

Table G.2.7. Count of watercourses by sub-dominant cover types and watercourse types at crossing locations for all watersheds.

ALL WATERSHEDS	COVER TYPES (# of watercourses)								
WATERCOURSE TYPES	**Boulder**	**Overhead Veg.**	**Undercut Bank**	**Large Woody Debris**	**Small Woody Debris**	**Instream Veg.**	**Uprooted Tree**	**Deep Pool**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	4	0	1	0	1	1	0	4	**11**
Small Permanent	14	8	9	2	7	0	0	6	**46**
Small Permanent/Intermittent	9	10	10	3	13	4	0	1	**50**
Intermittent	8	6	5	3	8	3	0	1	**34**
Intermittent/Ephemeral	10	20	10	3	14	14	0	1	**72**
Ephemeral	5	9	3	3	9	2	0	0	**31**
TOTAL BY SUBSTRATE TYPE	**50**	**53**	**38**	**14**	**52**	**24**	**0**	**13**	**244**

Table G.2.8. Count of watercourses by sub-dominant cover types and watercourse types at crossing locations for the Chiganois River watershed.

CHIGANOIS	COVER TYPES (# of watercourses)								
WATERCOURSE TYPES	**Boulder**	**Overhead Veg.**	**Undercut Bank**	**Large Woody Debris**	**Small Woody Debris**	**Instream Veg.**	**Uprooted Tree**	**Deep Pool**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	1	0	0	0	0	0	0	0	**1**
Small Permanent	3	4	3	0	4	0	0	2	**16**
Small Permanent/Intermittent	2	2	4	0	7	2	0	0	**17**
Intermittent	3	0	3	1	2	1	0	0	**10**
Intermittent/Ephemeral	3	2	4	1	2	6	0	0	**18**
Ephemeral	1	3	0	0	2	0	0	0	**6**
TOTAL BY SUBSTRATE TYPE	**13**	**11**	**14**	**2**	**17**	**9**	**0**	**2**	**68**

Table G.2.9. Count of watercourses by sub-dominant cover types and watercourse types at crossing locations for the Debert River watershed.

DEBERT	COVER TYPES (# of watercourses)								
WATERCOURSE TYPES	**Boulder**	**Overhead Veg.**	**Undercut Bank**	**Large Woody Debris**	**Small Woody Debris**	**Instream Veg.**	**Uprooted Tree**	**Deep Pool**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	0	0	0	0	0	0	0	2	**2**
Small Permanent	7	2	4	1	1	0	0	3	**18**
Small Permanent/Intermittent	5	4	4	2	3	1	0	1	**20**
Intermittent	3	6	0	2	4	2	0	1	**18**
Intermittent/Ephemeral	3	9	3	1	5	1	0	1	**23**
Ephemeral	1	1	1	0	3	2	0	0	**8**
TOTAL BY SUBSTRATE TYPE	**19**	**22**	**12**	**6**	**16**	**6**	**0**	**8**	**89**

Table G.2.10. Count of watercourses by sub-dominant cover types and watercourse types at crossing locations for the Folly River watershed.

FOLLY	COVER TYPES (# of watercourses)								
WATERCOURSE TYPES	**Boulder**	**Overhead Veg.**	**Undercut Bank**	**Large Woody Debris**	**Small Woody Debris**	**Instream Veg.**	**Uprooted Tree**	**Deep Pool**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	1	0	1	0	0	0	0	2	**4**
Small Permanent	2	2	1	1	0	0	0	0	**6**
Small Permanent/Intermittent	0	3	1	1	2	1	0	0	**8**
Intermittent	2	0	1	0	2	0	0	0	**5**
Intermittent/Ephemeral	3	2	3	1	4	2	0	0	**15**
Ephemeral	3	3	2	2	4	0	0	0	**14**
TOTAL BY SUBSTRATE TYPE	**11**	**10**	**9**	**5**	**12**	**3**	**0**	**2**	**52**

Table G.2.11. Count of watercourses by sub-dominant cover types and watercourse types at crossing locations for the French River watershed.

FRENCH	COVER TYPES (# of watercourses)								
WATERCOURSE TYPES	**Boulder**	**Overhead Veg.**	**Undercut Bank**	**Large Woody Debris**	**Small Woody Debris**	**Instream Veg.**	**Uprooted Tree**	**Deep Pool**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	0	0	0	0	0	0	0	0	**0**
Small Permanent	2	0	0	0	0	0	0	1	**3**
Small Permanent/Intermittent	1	0	0	0	1	0	0	0	**2**
Intermittent	0	0	0	0	0	0	0	0	**0**
Intermittent/Ephemeral	0	1	0	0	0	0	0	0	**1**
Ephemeral	0	0	0	1	0	0	0	0	**1**
TOTAL BY SUBSTRATE TYPE	**3**	**1**	**0**	**1**	**1**	**0**	**0**	**1**	**7**

Table G.2.12. Count of watercourses by sub-dominant cover types and watercourse types at crossing locations for Wallace River watershed.

WALLACE	COVER TYPES (# of watercourses)								
WATERCOURSE TYPES	**Boulder**	**Overhead Veg.**	**Undercut Bank**	**Large Woody Debris**	**Small Woody Debris**	**Instream Veg.**	**Uprooted Tree**	**Deep Pool**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	2	0	0	0	1	1	0	0	**4**
Small Permanent	0	0	1	0	2	0	0	0	**3**
Small Permanent/Intermittent	1	1	1	0	0	0	0	0	**3**
Intermittent	0	0	1	0	0	0	0	0	**1**
Intermittent/Ephemeral	1	6	0	0	3	5	0	0	**15**
Ephemeral	0	2	0	0	0	0	0	0	**2**
TOTAL BY SUBSTRATE TYPE	**4**	**9**	**3**	**0**	**6**	**6**	**0**	**0**	**28**

Appendix G.3 Instream Cover By Watercourse Type and Watershed

Table G.3.1 Count of watercourses by instream cover and watercourse types at crossing locations for all watersheds.

ALL WATERSHEDS	COVER TYPES (# of watercourses)								
WATERCOURSE TYPES	**Boulder**	**Overhead Vegetation**	**Undercut Bank**	**Large Woody Debris**	**Small Woody Debris**	**Instream Vegetation**	**Uprooted Tree**	**Deep Pool**	**TOTALS BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	11	3	3	4	7	3	0	7	**38**
Small Permanent	39	33	34	20	37	21	7	22	**213**
Small Permanent/Intermittent	30	33	36	21	40	29	6	18	**213**
Intermittent	22	24	22	14	29	15	7	7	**140**
Intermittent/Ephemeral	41	64	33	33	65	53	14	14	**317**
Ephemeral	14	27	16	11	28	16	1	5	**118**
TOTALS BY COVER TYPE	**157**	**184**	**144**	**103**	**206**	**137**	**35**	**73**	**1039**

Table G.3.2. Count of watercourses by instream cover and watercourse types at crossing locations for the Chiganois River watershed.

CHIGANOIS	COVER TYPES (# of watercourses)								
WATERCOURSE TYPES	**Boulder**	**Overhead Vegetation**	**Undercut Bank**	**Large Woody Debris**	**Small Woody Debris**	**Instream Vegetation**	**Uprooted Tree**	**Deep Pool**	**TOTALS BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	1	1	0	0	0	1	0	1	**4**
Small Permanent	12	11	10	5	14	10	4	5	**71**
Small Permanent/Intermittent	7	14	13	5	13	12	2	6	**72**
Intermittent	6	7	6	3	6	4	1	1	**34**
Intermittent/Ephemeral	7	18	6	7	11	13	3	4	**69**
Ephemeral	3	6	3	2	4	3	1	1	**23**
TOTALS BY COVER TYPE	**36**	**57**	**38**	**22**	**48**	**43**	**11**	**18**	**273**

Table G.3.3. Count of watercourses by instream cover and watercourse types at crossing locations for the Debert River watershed.

DEBERT	COVER TYPES (# of watercourses)								
WATERCOURSE TYPES	**Boulder**	**Overhead Vegetation**	**Undercut Bank**	**Large Woody Debris**	**Small Woody Debris**	**Instream Vegetation**	**Uprooted Tree**	**Deep Pool**	**TOTALS BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	2	0	0	0	0	0	0	2	**4**
Small Permanent	16	10	13	7	11	4	2	11	**74**
Small Permanent/Intermittent	16	11	17	8	15	8	2	8	**85**
Intermittent	12	12	12	8	17	7	5	5	**78**
Intermittent/Ephemeral	18	17	12	11	23	15	7	8	**111**
Ephemeral	2	7	6	0	7	5	0	1	**28**
TOTALS BY COVER TYPE	**66**	**57**	**60**	**34**	**73**	**39**	**16**	**35**	**380**

Table G.3.4. Count of watercourses by instream cover and watercourse types at crossing locations for the Folly River watershed.

FOLLY	COVER TYPES (# of watercourses)								
WATERCOURSE TYPES	**Boulder**	**Overhead Vegetation**	**Undercut Bank**	**Large Woody Debris**	**Small Woody Debris**	**Instream Vegetation**	**Uprooted Tree**	**Deep Pool**	**TOTALS BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	4	2	2	3	4	1	0	2	**18**
Small Permanent	5	7	5	3	6	4	0	1	**31**
Small Permanent/Intermittent	5	4	4	5	8	5	2	2	**35**
Intermittent	4	4	3	3	5	3	0	1	**23**
Intermittent/Ephemeral	7	12	9	9	15	11	3	2	**68**
Ephemeral	8	11	6	8	15	7	0	3	**58**
TOTALS BY COVER TYPE	**33**	**40**	**29**	**31**	**53**	**31**	**5**	**11**	**233**

Table G.3.5. Count of watercourses by instream cover and watercourse types at crossing locations for the French River watershed.

FRENCH	COVER TYPES (# of watercourses)								
WATERCOURSE TYPES	**Boulder**	**Overhead Vegetation**	**Undercut Bank**	**Large Woody Debris**	**Small Woody Debris**	**Instream Vegetation**	**Uprooted Tree**	**Deep Pool**	**TOTALS BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	0	0	0	0	0	0	0	0	**0**
Small Permanent	3	3	3	2	3	1	1	2	**18**
Small Permanent/Intermittent	1	2	1	1	2	2	0	1	**10**
Intermittent	0	0	0	0	0	0	0	0	**0**
Intermittent/Ephemeral	1	1	1	1	1	1	0	0	**6**
Ephemeral	0	1	0	1	0	1	0	0	**3**
TOTALS BY COVER TYPE	**5**	**7**	**5**	**5**	**6**	**5**	**1**	**3**	**37**

Table G.3.6. Count of watercourses by instream cover and watercourse types at crossing locations for the Wallace River watershed.

WALLACE	COVER TYPES (# of watercourses)								
WATERCOURSE TYPES	**Boulder**	**Overhead Veg.**	**Undercut Bank**	**Large Woody Debris**	**Small Woody Debris**	**Instream Vegetation**	**Uprooted Tree**	**Deep Pool**	**TOTALS BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	4	0	1	1	3	1	0	2	**12**
Small Permanent	3	2	3	3	3	2	0	3	**19**
Small Permanent/Intermittent	1	2	1	2	2	2	0	1	**11**
Intermittent	0	1	1	0	1	1	1	0	**5**
Intermittent/Ephemeral	8	16	5	5	15	13	1	0	**63**
Ephemeral	1	2	1	0	2	0	0	0	**6**
TOTALS BY COVER TYPE	**17**	**23**	**12**	**11**	**26**	**19**	**2**	**6**	**116**

Appendix G.4 Dominant and Sub-Dominant Substrate Types By Watercourse Type and Watershed

Table G.4.1 Count of watercourses by dominant substrate types and watercourse types at crossing locations for all watersheds.

ALL WATERSHEDS	SUBSTRATE TYPES (# of watercourses)					
WATERCOURSE TYPES	**Bedrock**	**Boulder**	**Cobble**	**Gravel**	**Fines**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	1	3	3	4	0	**11**
Small Permanent	1	4	10	20	11	**46**
Small Permanent/Intermittent	2	2	1	16	31	**52**
Intermittent	2	1	5	10	17	**35**
Intermittent/Ephemeral	0	3	6	12	67	**88**
Ephemeral	0	1	2	7	66	**76**
No Channel	0	0	1	0	39	**40**
TOTAL BY SUBSTRATE TYPE	**6**	**14**	**28**	**69**	**231**	**348**

Table G.4.2. Count of watercourses by dominant substrate types and watercourse types at crossing locations for the Chiganois River watershed.

CHIGANOIS	SUBSTRATE TYPES (# of watercourses)					
WATERCOURSE TYPES	**Bedrock**	**Boulder**	**Cobble**	**Gravel**	**Fines**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	0	0	1	0	0	**1**
Small Permanent	1	2	4	6	3	**16**
Small Permanent/Intermittent	0	1	1	6	10	**18**
Intermittent	0	0	3	4	3	**10**
Intermittent/Ephemeral	0	2	1	3	19	**25**
Ephemeral	0	0	2	1	24	**27**
No Channel	0	0	1	0	10	**11**
TOTAL BY SUBSTRATE TYPE	**1**	**5**	**13**	**20**	**69**	**108**

Table G.4.3. Count of watercourses by dominant substrate types and watercourse types at crossing locations for the Debert River watershed.

DEBERT	SUBSTRATE TYPES (# of watercourses)					
WATERCOURSE TYPES	**Bedrock**	**Boulder**	**Cobble**	**Gravel**	**Fines**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	1	0	0	1	0	**2**
Small Permanent	0	1	4	9	4	**18**
Small Permanent/Intermittent	2	0	0	9	10	**21**
Intermittent	0	0	1	5	13	**19**
Intermittent/Ephemeral	0	1	2	4	23	**30**
Ephemeral	0	0	0	2	24	**26**
No Channel	0	0	0	0	6	**6**
TOTAL BY SUBSTRATE TYPE	**3**	**2**	**7**	**30**	**80**	**122**

Table G.4.4. Count of watercourses by dominant substrate types and watercourse types at crossing locations for the Folly River watershed.

FOLLY	SUBSTRATE TYPES (# of watercourses)					
WATERCOURSE TYPES	**Bedrock**	**Boulder**	**Cobble**	**Gravel**	**Fines**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	0	2	1	1	0	**4**
Small Permanent	0	0	1	3	2	**6**
Small Permanent/Intermittent	0	1	0	1	6	**8**
Intermittent	2	1	1	0	1	**5**
Intermittent/Ephemeral	0	0	2	0	14	**16**
Ephemeral	0	1	0	4	14	**19**
No Channel	0	0	0	0	9	**9**
TOTAL BY SUBSTRATE TYPE	**2**	**5**	**5**	**9**	**46**	**67**

Table G.4.5. Count of watercourses by dominant substrate types and watercourse types at crossing locations for the French River watershed.

FRENCH	SUBSTRATE TYPES (# of watercourses)					
WATERCOURSE TYPES	**Bedrock**	**Boulder**	**Cobble**	**Gravel**	**Fines**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	0	0	0	0	0	**0**
Small Permanent	0	0	1	1	1	**3**
Small Permanent/Intermittent	0	0	0	0	2	**2**
Intermittent	0	0	0	0	0	**0**
Intermittent/Ephemeral	0	0	0	0	1	**1**
Ephemeral	0	0	0	0	2	**2**
No Channel	0	0	0	0	13	**13**
TOTAL BY SUBSTRATE TYPE	**0**	**0**	**1**	**1**	**19**	**21**

Table G.4.6. Count of watercourses by dominant substrate types and watercourse types at crossing locations for the Wallace River watershed.

WALLACE	SUBSTRATE TYPES (# of watercourses)					
WATERCOURSE TYPES	**Bedrock**	**Boulder**	**Cobble**	**Gravel**	**Fines**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	0	1	1	2	0	**4**
Small Permanent	0	1	0	1	1	**3**
Small Permanent/Intermittent	0	0	0	0	3	**3**
Intermittent	0	0	0	1	0	**1**
Intermittent/Ephemeral	0	0	1	5	10	**16**
Ephemeral	0	0	0	0	2	**2**
No Channel	0	0	0	0	1	**1**
TOTAL BY SUBSTRATE TYPE	**0**	**2**	**2**	**9**	**17**	**30**

Table G.4.7. Count of watercourses by sub-dominant substrate types and watercourse types at crossing locations for all watersheds.

ALL WATERSHEDS	SUBSTRATE TYPES (# of watercourses)					
WATERCOURSE TYPES	**Bedrock**	**Boulder**	**Cobble**	**Gravel**	**Fines**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	0	3	3	5	0	**11**
Small Permanent	2	10	21	9	2	**44**
Small Permanent/Intermittent	5	7	13	15	7	**47**
Intermittent	2	4	13	11	5	**35**
Intermittent/Ephemeral	2	13	23	29	4	**71**
Ephemeral	1	3	11	18	4	**37**
No Channel	0	2	3	1	0	**6**
TOTAL BY SUBSTRATE TYPE	**12**	**42**	**87**	**88**	**22**	**251**

Table G.4.8. Count of watercourses by sub-dominant substrate types and watercourse types at crossing locations for the Chiganois River watershed.

CHIGANOIS	SUBSTRATE TYPES (# of watercourses)					
WATERCOURSE TYPES	**Bedrock**	**Boulder**	**Cobble**	**Gravel**	**Fines**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	0	0	0	1	0	**1**
Small Permanent	0	4	9	2	1	**16**
Small Permanent/Intermittent	0	1	9	6	1	**17**
Intermittent	0	1	4	4	1	**10**
Intermittent/Ephemeral	0	2	6	7	1	**16**
Ephemeral	1	1	5	5	0	**12**
No Channel	0	0	0	1	0	**1**
TOTAL BY SUBSTRATE TYPE	**1**	**9**	**33**	**26**	**4**	**73**

Table G.4.9. Count of watercourses by sub-dominant substrate types and watercourse types at crossing locations for the Debert River watershed.

DEBERT	SUBSTRATE TYPES (# of watercourses)					
WATERCOURSE TYPES	**Bedrock**	**Boulder**	**Cobble**	**Gravel**	**Fines**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	0	1	1	0	0	**2**
Small Permanent	2	2	8	4	1	**17**
Small Permanent/Intermittent	4	3	0	6	6	**19**
Intermittent	0	2	7	7	3	**19**
Intermittent/Ephemeral	2	2	6	14	3	**27**
Ephemeral	0	1	0	7	1	**9**
No Channel	0	0	0	0	0	**0**
TOTAL BY SUBSTRATE TYPE	**8**	**11**	**22**	**38**	**14**	**93**

Table G.4.10. Count of watercourses by sub-dominant substrate types and watercourse types at crossing locations for the Folly River watershed.

FOLLY	SUBSTRATE TYPES (# of watercourses)					
WATERCOURSE TYPES	**Bedrock**	**Boulder**	**Cobble**	**Gravel**	**Fines**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	0	1	0	3	0	**4**
Small Permanent	0	0	3	2	0	**5**
Small Permanent/Intermittent	1	1	3	1	0	**6**
Intermittent	2	1	2	0	0	**5**
Intermittent/Ephemeral	0	6	7	0	0	**13**
Ephemeral	0	1	5	5	3	**14**
No Channel	0	0	2	0	0	**2**
TOTAL BY SUBSTRATE TYPE	**3**	**10**	**22**	**11**	**3**	**49**

Table G.4.11. Count of watercourses by sub-dominant substrate types and watercourse types at crossing locations for the French River watershed.

FRENCH	SUBSTRATE TYPES (# of watercourses)					
WATERCOURSE TYPES	**Bedrock**	**Boulder**	**Cobble**	**Gravel**	**Fines**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	0	0	0	0	0	**0**
Small Permanent	0	1	1	1	0	**3**
Small Permanent/Intermittent	0	2	0	0	0	**2**
Intermittent	0	0	0	0	0	**0**
Intermittent/Ephemeral	0	1	0	0	0	**1**
Ephemeral	0	0	0	0	0	**0**
No Channel	0	2	1	0	0	**3**
TOTAL BY SUBSTRATE TYPE	**0**	**6**	**2**	**1**	**0**	**9**

Table G.4.12. Count of watercourses by sub-dominant substrate types and watercourse types at crossing locations for Wallace River watershed.

WALLACE	SUBSTRATE TYPES (# of watercourses)					
WATERCOURSE TYPES	**Bedrock**	**Boulder**	**Cobble**	**Gravel**	**Fines**	**TOTAL BY WATERCOURSE TYPE**
Large Permanent (>5.0 m)	0	1	2	1	0	**4**
Small Permanent	0	3	0	0	0	**3**
Small Permanent/Intermittent	0	0	1	2	0	**3**
Intermittent	0	0	0	0	1	**1**
Intermittent/Ephemeral	0	2	4	8	0	**14**
Ephemeral	0	0	1	1	0	**2**
No Channel	0	0	0	0	0	**0**
TOTAL BY SUBSTRATE TYPE	**0**	**6**	**8**	**12**	**1**	**27**

Appendix G.5: Habitat Quality at Crossing by Watercourse Type and Watershed

Table G.5.1 Count of watercourses, by Habitat Quality rating, at crossing locations in the Chiganois River watershed.

CHIGANOIS RIVER	Overall Habitat Quality (# of watercourses)						
WATERCOURSE TYPES	Good	Mod-Good	Mod	Mod-Poor	Poor	None	Total by Watercourse Type
Large Permanent (>5.0 m)	0	1	0	0	0	0	1
Small Permanent	3	7	4	0	2	0	16
Small Permanent/Intermittent	0	2	5	0	3	0	10
Intermittent	0	0	0	0	0	1	1
Intermittent/Ephemeral	0	0	3	0	17	4	24
Ephemeral	0	0	0	0	10	18	28
No channel	0	0	0	0	2	14	16
Total by Habitat Quality	3	10	12	0	34	37	96

Table G.5.2 Count of watercourses, by Habitat Quality rating, at crossing locations in the Debert River watershed.

DEBERT RIVER	Overall Habitat Quality (# of watercourses)						
WATERCOURSE TYPES	Good	Mod-Good	Mod	Mod-Poor	Poor	None	Total by Watercourse Type
Large Permanent (>5.0 m)	2	0	0	0	0	0	2
Small Permanent	4	4	7	0	0	0	15
Small Permanent/Intermittent	1	0	2	0	14	1	18
Intermittent	0	1	0	0	0	0	1
Intermittent/Ephemeral	0	0	0	0	20	11	31
Ephemeral	0	0	0	0	7	30	37
No channel	0	0	0	0	0	17	17
Total by Habitat Quality	7	5	9	0	41	59	121

Appendix G.5: Habitat Quality at Crossing by Watercourse Type and Watershed

Table G.5.3 Count of watercourses, by Habitat Quality rating, at crossing locations in the Folly River watershed.

FOLLY RIVER	Overall Habitat Quality (# of watercourses)						
WATERCOURSE TYPES	Good	Mod-Good	Mod	Mod-Poor	Poor	None	Total by Watercourse Type
Large Permanent (>5.0 m)	4	0	0	0	0	0	4
Small Permanent	3	0	2	0	1	1	7
Small Permanent/Intermittent	0	0	2	0	5	0	7
Intermittent	0	0	0	0	0	1	1
Intermittent/Ephemeral	0	0	0	0	9	11	20
Ephemeral	0	0	0	0	13	14	27
No channel	0	0	0	0	0	12	12
Total by Habitat Quality	7	0	4	0	28	39	78

Table G.5.4 Count of watercourses, by Habitat Quality rating, at crossing locations in the French River watershed.

FRENCH RIVER	Overall Habitat Quality (# of watercourses)						
WATERCOURSE TYPES	Good	Mod-Good	Mod	Mod-Poor	Poor	None	Total by Watercourse Type
Large Permanent (>5.0 m)	0	0	0	0	0	0	0
Small Permanent	1	2	0	0	0	0	3
Small Permanent/Intermittent	0	0	0	0	0	1	1
Intermittent	0	0	0	0	0	1	1
Intermittent/Ephemeral	0	0	0	0	1	1	2
Ephemeral	0	0	0	0	1	3	4
No channel	0	0	0	0	0	16	16
Total by Habitat Quality	1	2	0	0	2	22	27

Appendix G.5: Habitat Quality at Crossing by Watercourse Type and Watershed

Table G.5.5 Count of watercourses, by Habitat Quality rating, at crossing locations in the Wallace River watershed.

WALLACE RIVER	Overall Habitat Quality (# of watercourses)						
WATERCOURSE TYPES	Good	Mod-Good	Mod	Mod-Poor	Poor	None	Total by Watercourse Type
Large Permanent (>5.0 m)	3	0	2	0	0	0	5
Small Permanent	2	0	1	0	0	0	3
Small Permanent/Intermittent	0	1	2	0	0	0	3
Intermittent	0	0	2	0	0	0	2
Intermittent/Ephemeral	0	0	0	0	11	8	19
Ephemeral	0	0	0	0	3	20	23
No channel	0	0	0	0	0	10	10
Total by Habitat Quality	5	1	7	0	14	38	65

Table G.6.1. Electrofishing summary information for effort, fish capture, and percent of sites with fish, by watershed.

Electrofishing Effort									
WATERSHEDS	**Sample Sites (#)**	**Effort (Seconds)**	**Effort (Minutes)**	**Percent of Total Effort (%)**	**Sites with Fish (#)**	**Percent of Sites with Fish Capture (%)**	**Total Fish Captured (#)**	**Percent of Total Fish Capture (%)**	**Catch Per Unit Effort (Fish/Min)**
CHIGANOIS	19	6,272	104.53	26.5	16	84.2	125	26.0	1.196
DEBERT	18	6,402	106.70	27.0	15	83.3	95	19.8	0.890
FOLLY	11	5,132	85.53	21.7	6	54.5	109	22.7	1.274
FRENCH	3	1,453	24.22	6.1	3	100.0	20	4.2	0.826
WALLACE	8	4,434	73.90	18.7	8	100.0	131	27.3	1.773
TOTALS	**59**	**23,693**	**394.88**	**100.0**	**48**	**81.4**	**480**	**100.0**	**1.216**

Appendix G.7: Fish Capture Summary by Species and Watershed

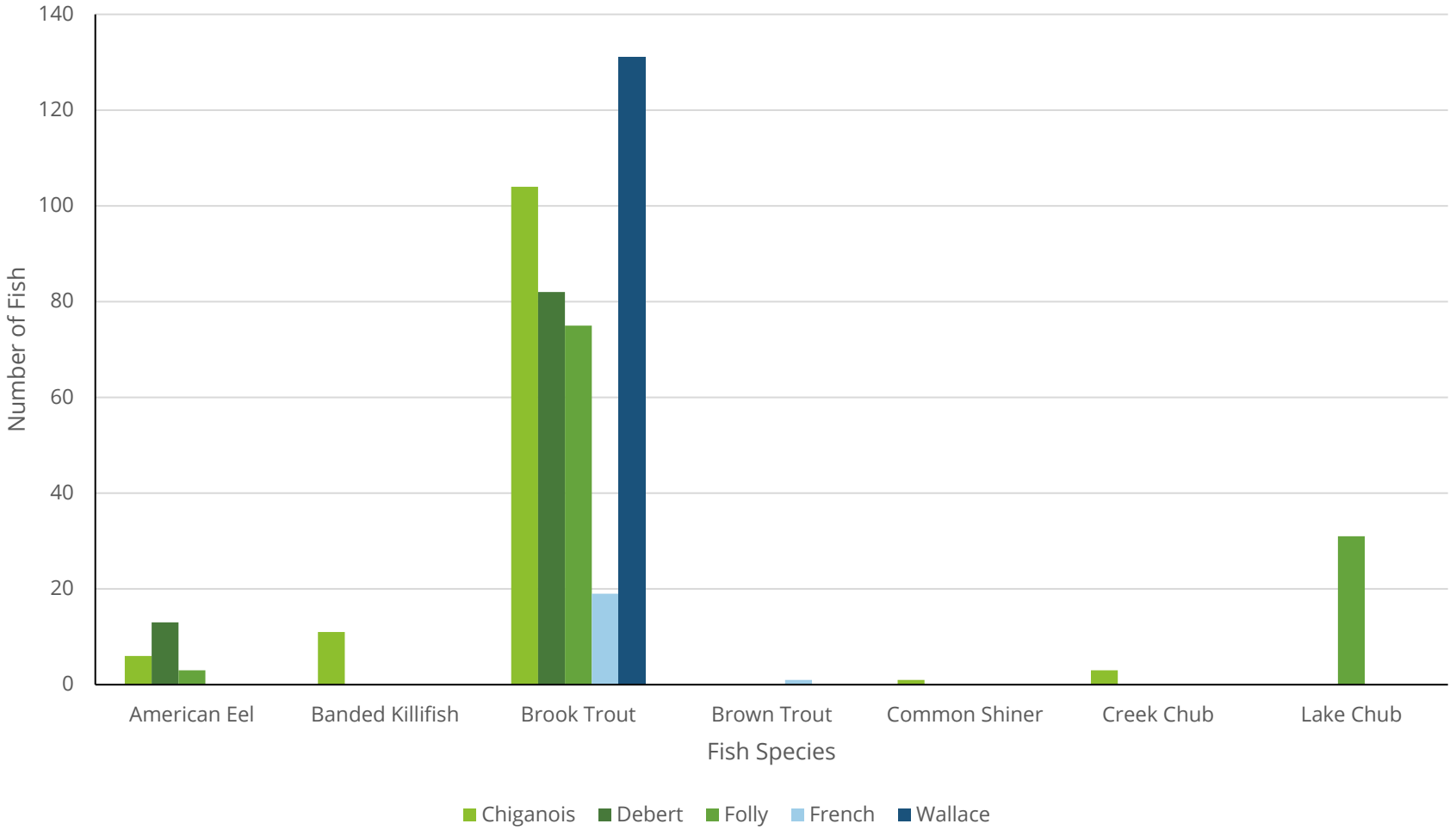

Figure G.7.1. Total number of fish captured by species and watershed.

Appendix G.7: Fish Capture Summary by Species and Watershed

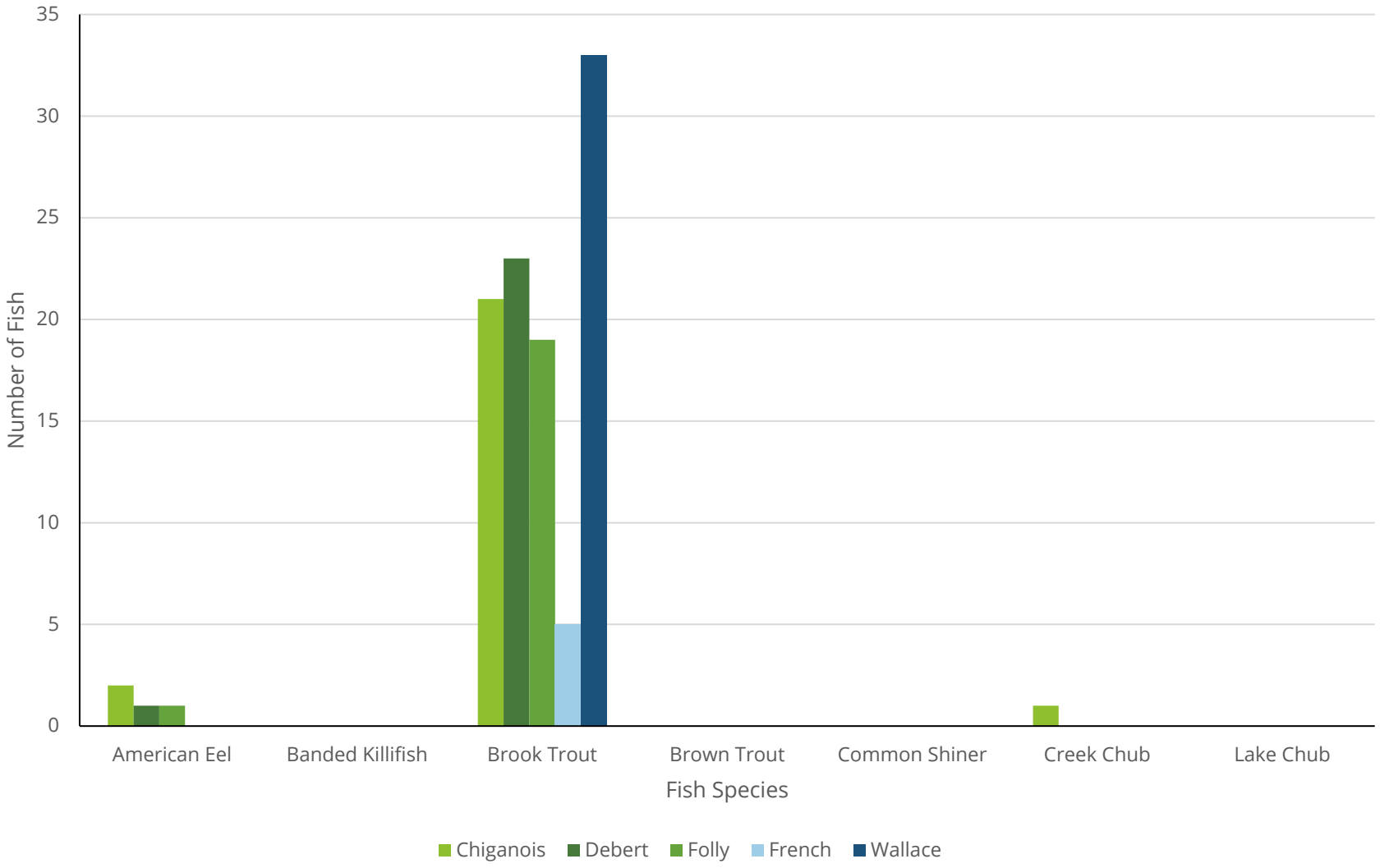

Figure G.7.2. Number of Adult / Mature fish captured by species and watershed.

Appendix G.7: Fish Capture Summary by Species and Watershed

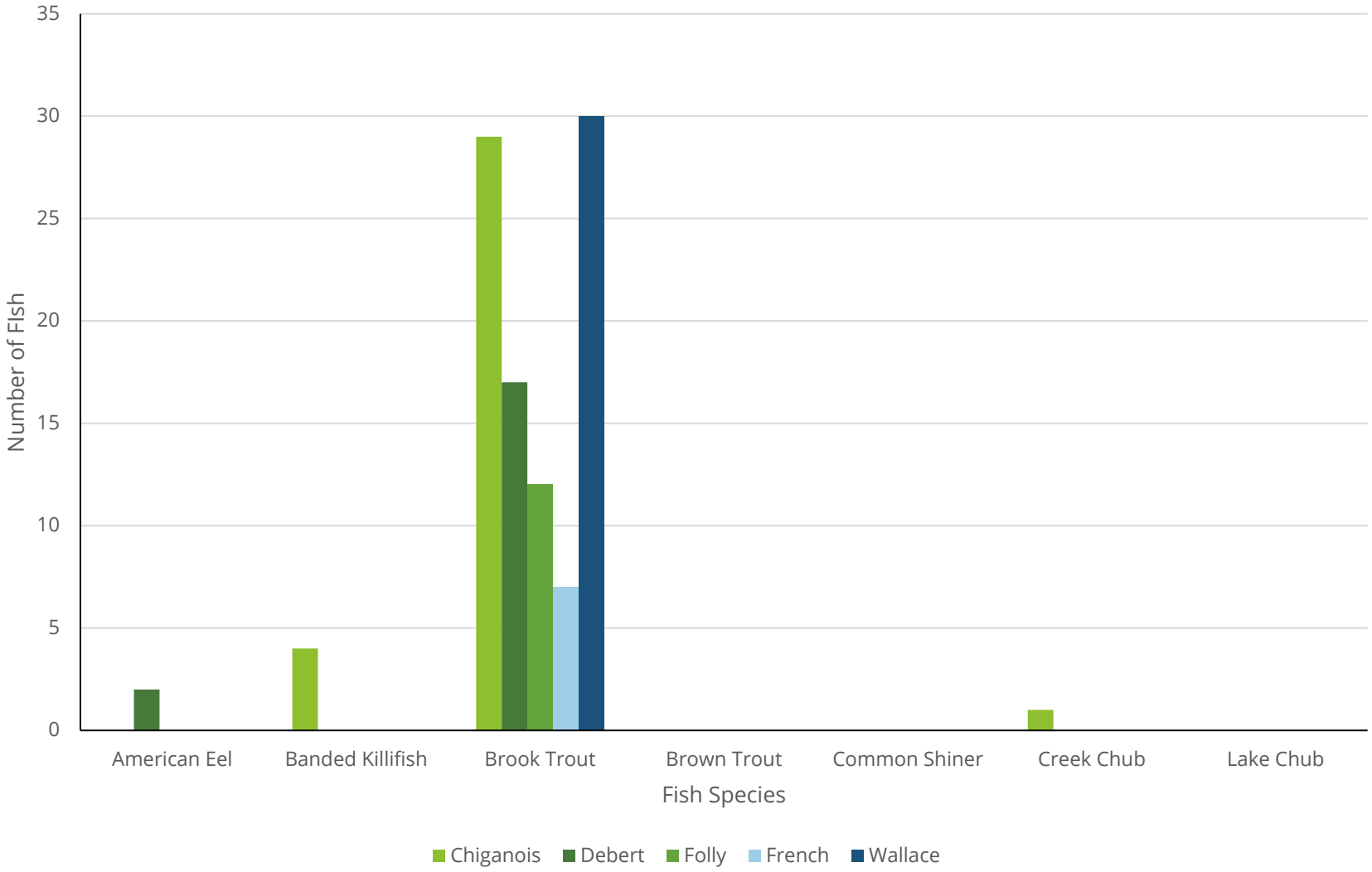

Figure G.7.3. Number of Young-of-the-Year fish captured by species and watershed.

Appendix G.7: Fish Capture Summary by Species and Watershed

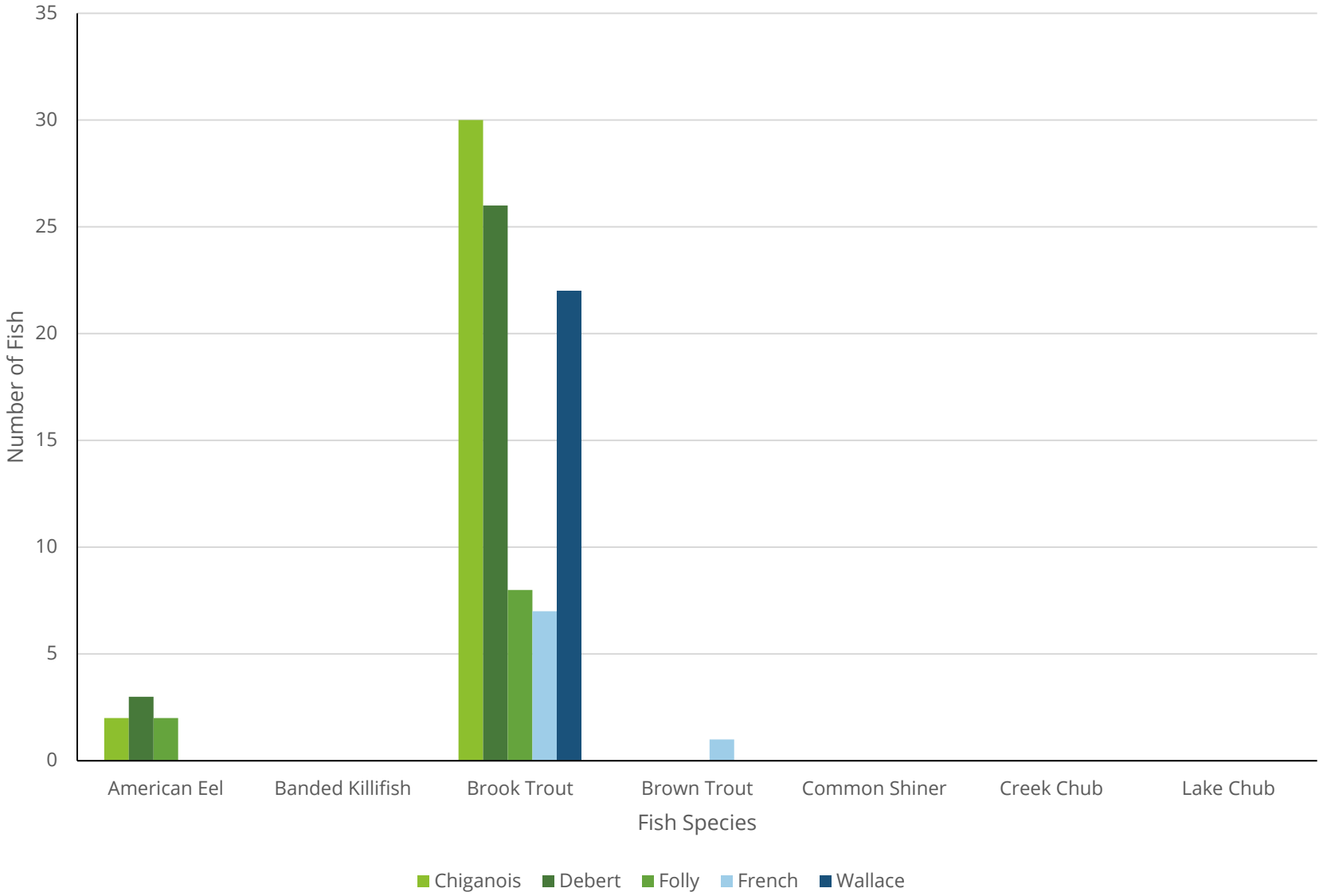

Figure G.7.4. Number of Immature fish captured by species and watershed.

Appendix G.7: Fish Capture Summary by Species and Watershed

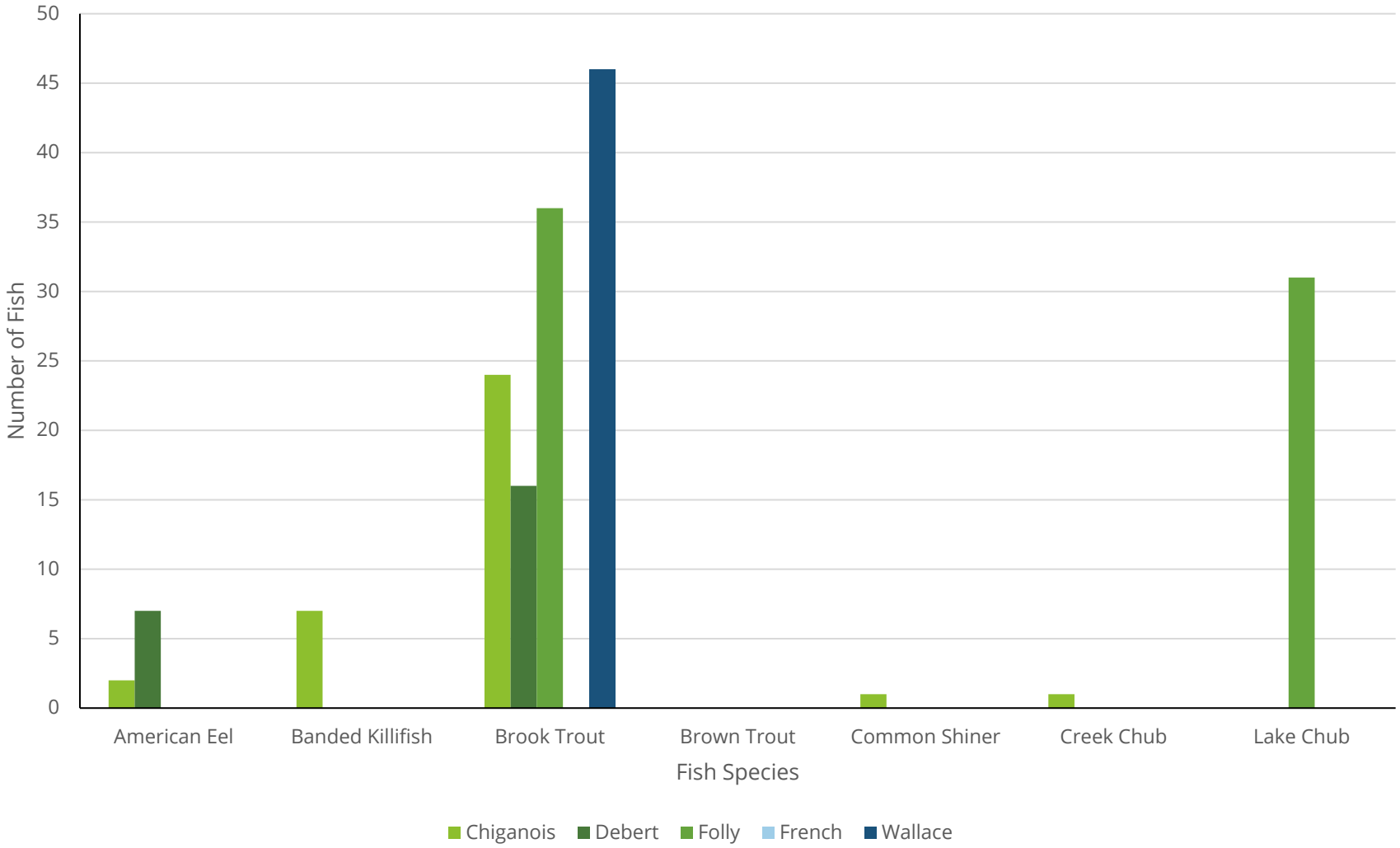

Figure G.7.5. Number of Unknown life stage fish captured by species and watershed.

Appendix G.8: Water Quality Summary by Watershed

Table G.8.1. Summary of dissolved oxygen measurements in the Chiganois River watershed. Number of watercourses, by measurement category, by watercourse types at crossing locations.

CHIGANOIS RIVER WATERSHED	Number of Watercourses by Dissolved Oxygen (mg/L) Range						
WATERCOURSE TYPES	<4	4 to 6	6 to 8	8 to 10	> 10	No Measurement	Total by Watercourse Type
Large Permanent (>5.0 m)	0	0	0	1	0	0	1
Small Permanent	0	0	2	10	4	0	16
Small Permanent/Intermittent	1	0	4	8	3	3	19
Intermittent	1	0	2	4	0	4	11
Intermittent/Ephemeral	3	5	8	10	1	13	40
Ephemeral	2	0	2	0	0	64	68
No channel	0	0	1	0	0	43	44
Blank (No WC Morph Data)	0	0	0	0	0	0	0
TOTAL BY DISSOLVED OXYGEN RANGE	7	5	19	33	8	127	199

Appendix G.8: Water Quality Summary by Watershed

Table G.8.2. Summary of dissolved oxygen measurements in the Debert River watershed. Number of watercourses, by measurement category, by watercourse types at crossing locations.

DEBERT RIVER WATERSHED	Number of Watercourses by Dissolved Oxygen (mg/L) Range						
WATERCOURSE TYPES	<4	4 to 6	6 to 8	8 to 10	> 10	No Measurement	Total by Watercourse Type
Large Permanent (>5.0 m)	0	0	0	2	0	0	2
Small Permanent	0	3	5	7	1	1	17
Small Permanent/Intermittent	2	4	4	7	0	4	21
Intermittent	1	1	9	5	0	6	22
Intermittent/Ephemeral	3	5	11	10	0	24	53
Ephemeral	2	1	1	0	0	70	74
No channel	0	0	1	0	0	82	83
Blank (No WC Morph Data)	0	0	0	0	0	1	1
TOTAL BY DISSOLVED OXYGEN RANGE	8	14	31	31	1	188	273

Appendix G.8: Water Quality Summary by Watershed

Table G.8.3. Summary of dissolved oxygen measurements in the Folly River watershed. Number of watercourses, by measurement category, by watercourse types at crossing locations.

FOLLY RIVER WATERSHED	Number of Watercourses by Dissolved Oxygen (mg/L) Range						
WATERCOURSE TYPES	<4	4 to 6	6 to 8	8 to 10	> 10	No Measurement	Total by Watercourse Type
Large Permanent (>5.0 m)	0	1	0	2	1	1	5
Small Permanent	2	1	0	2	1	1	7
Small Permanent/Intermittent	1	0	4	3	0	1	9
Intermittent	0	2	1	1	0	6	10
Intermittent/Ephemeral	2	3	6	3	0	9	23
Ephemeral	0	2	0	2	1	31	36
No channel	1	0	1	0	0	74	76
Blank (No WC Morph Data)	0	0	1	1	0	1	3
TOTAL BY DISSOLVED OXYGEN RANGE	6	9	13	14	3	124	169

Appendix G.8: Water Quality Summary by Watershed

Table G.8.4. Summary of dissolved oxygen measurements in the French River watershed. Number of watercourses, by measurement category, by watercourse types at crossing locations.

FRENCH RIVER WATERSHED	Number of Watercourses by Dissolved Oxygen (mg/L) Range						
WATERCOURSE TYPES	<4	4 to 6	6 to 8	8 to 10	> 10	No Measurement	Total by Watercourse Type
Large Permanent (>5.0 m)	0	0	0	0	0	0	0
Small Permanent	0	0	0	1	2	0	3
Small Permanent/Intermittent	0	0	1	0	0	1	2
Intermittent	0	0	0	0	0	1	1
Intermittent/Ephemeral	0	0	0	1	0	1	2
Ephemeral	0	0	0	0	0	6	6
No channel	0	0	0	0	0	27	27
Blank (No WC Morph Data)	0	0	0	0	1	0	1
TOTAL BY DISSOLVED OXYGEN RANGE	0	0	1	2	3	36	42

Appendix G.8: Water Quality Summary by Watershed

Table G.8.5. Summary of dissolved oxygen measurements in the Wallace River watershed. Number of watercourses, by measurement category, by watercourse types at crossing locations.

WALLACE RIVER WATERSHED	Number of Watercourses by Dissolved Oxygen (mg/L) Range						
WATERCOURSE TYPES	<4	4 to 6	6 to 8	8 to 10	> 10	No Measurement	Total by Watercourse Type
Large Permanent (>5.0 m)	0	0	0	1	4	0	5
Small Permanent	0	0	0	1	2	0	3
Small Permanent/Intermittent	0	0	0	2	1	0	3
Intermittent	0	0	1	1	0	4	6
Intermittent/Ephemeral	1	0	4	9	0	8	22
Ephemeral	1	0	0	1	0	28	30
No channel	0	0	0	0	0	24	24
Blank (No WC Morph Data)	0	0	0	0	0	0	0
TOTAL BY DISSOLVED OXYGEN RANGE	2	0	5	15	7	64	93

Appendix G.8: Water Quality Summary by Watershed

Table G.8.6. Summary of water temperature measurements in the Chiganois River watershed. Number of watercourses, by measurement category, by watercourse types at crossing locations.

CHIGANOIS RIVER WATERSHED	Number of Watercourses by Temperature (°C) Range						
WATERCOURSE TYPES	<5	5 to 10	10 to 15	15 to 20	> 20	No Measurement	Total by Watercourse Type
Large Permanent (>5.0 m)	0	0	0	0	1	0	1
Small Permanent	0	0	6	10	0	0	16
Small Permanent/Intermittent	0	0	12	6	0	1	19
Intermittent	0	0	4	3	0	4	11
Intermittent/Ephemeral	0	0	8	12	1	13	34
Ephemeral	0	0	1	3	0	64	68
No channel	0	0	0	1	0	43	44
Blank (No WC Morph Data)	0	0	0	0	0	0	0
TOTAL BY TEMPERATURE RANGE	0	0	31	35	2	125	193

Appendix G.8: Water Quality Summary by Watershed

Table G.8.7. Summary of water temperature measurements in the Debert River watershed. Number of watercourses, by measurement category, by watercourse types at crossing locations.

DEBERT RIVER WATERSHED	Number of Watercourses by Temperature (°C) Range						
WATERCOURSE TYPES	<5	5 to 10	10 to 15	15 to 20	> 20	No Measurement	Total by Watercourse Type
Large Permanent (>5.0 m)	0	0	0	0	2	0	2
Small Permanent	0	0	3	9	4	1	17
Small Permanent/Intermittent	0	0	5	12	1	3	21
Intermittent	0	0	0	13	3	6	22
Intermittent/Ephemeral	0	0	5	15	1	24	45
Ephemeral	0	0	0	4	0	70	74
No channel	0	0	1	0	0	82	83
Blank (No WC Morph Data)	0	0	0	0	0	1	1
TOTAL BY TEMPERATURE RANGE	0	0	14	53	11	187	265

Appendix G.8: Water Quality Summary by Watershed

Table G.8.8. Summary of water temperature measurements in the Folly River watershed. Number of watercourses, by measurement category, by watercourse types at crossing locations.

FOLLY RIVER WATERSHED	Number of Watercourses by Temperature (°C) Range						
WATERCOURSE TYPES	<5	5 to 10	10 to 15	15 to 20	> 20	No Measurement	Total by Watercourse Type
Large Permanent (>5.0 m)	0	1	1	2	0	1	5
Small Permanent	0	0	3	3	0	1	7
Small Permanent/Intermittent	0	0	1	7	0	1	9
Intermittent	0	0	1	3	0	6	10
Intermittent/Ephemeral	0	0	8	9	0	4	21
Ephemeral	0	1	2	2	0	31	36
No channel	0	0	0	2	0	74	76
Blank (No WC Morph Data)	0	0	0	2	0	1	3
TOTAL BY TEMPERATURE RANGE	0	2	16	30	0	119	167

Appendix G.8: Water Quality Summary by Watershed

Table G.8.9. Summary of water temperature measurements in the French River watershed. Number of watercourses, by measurement category, by watercourse types at crossing locations.

FRENCH RIVER WATERSHED	Number of Watercourses by Temperature (°C) Range						
WATERCOURSE TYPES	<5	5 to 10	10 to 15	15 to 20	> 20	No Measurement	Total by Watercourse Type
Large Permanent (>5.0 m)	0	0	0	0	0	0	0
Small Permanent	0	1	1	1	0	0	3
Small Permanent/Intermittent	0	0	2	0	0	0	2
Intermittent	0	0	0	0	0	1	1
Intermittent/Ephemeral	0	0	1	0	0	1	2
Ephemeral	0	0	0	0	0	6	6
No channel	0	0	0	0	0	27	27
Blank (No WC Morph Data)	0	0	1	0	0	0	1
TOTAL BY TEMPERATURE RANGE	0	1	5	1	0	35	42

Table G.8.10. Summary of water temperature measurements in the Wallace River watershed. Number of watercourses, by measurement category, by watercourse types at crossing locations.

WALLACE RIVER WATERSHED	Number of Watercourses by Temperature (°C) Range						
WATERCOURSE TYPES	<5	5 to 10	10 to 15	15 to 20	> 20	No Measurement	Total by Watercourse Type
Large Permanent (>5.0 m)	0	0	2	3	0	0	5
Small Permanent	0	0	3	0	0	0	3
Small Permanent/Intermittent	0	0	2	1	0	0	3
Intermittent	0	0	1	1	0	4	6
Intermittent/Ephemeral	0	0	5	8	1	8	22
Ephemeral	0	0	0	2	0	28	30
No channel	0	0	0	0	0	24	24
Blank (No WC Morph Data)	0	0	0	0	0	0	0
TOTAL BY TEMPERATURE RANGE	0	0	13	15	1	64	93

Appendix G.8: Water Quality Summary by Watershed

Table G.8.11. Summary of pH measurements in the Chiganois River watershed. Number of watercourses, by measurement category, by watercourse types at crossing locations.

CHIGANOIS RIVER WATERSHED	Number of Watercourses by pH Range						
WATERCOURSE TYPES	<4	4 to 5	5 to 7	7 to 9	> 9	No Measurement	Total by Watercourse Type
Large Permanent (>5.0 m)	0	0	1	0	0	0	1
Small Permanent	0	1	14	1	0	0	16
Small Permanent/Intermittent	0	5	13	0	0	1	19
Intermittent	0	0	7	0	0	4	11
Intermittent/Ephemeral	0	1	20	4	0	13	38
Ephemeral	0	0	4	0	0	64	68
No channel	0	1	0	0	0	43	44
Blank (No WC Morph Data)	0	0	0	0	0	0	0
TOTAL BY pH RANGE	0	8	59	5	0	125	197

Table G.8.12. Summary of pH measurements in the Debert River watershed. Number of watercourses, by measurement category, by watercourse types at crossing locations.

DEBERT RIVER WATERSHED	Number of Watercourses by pH Range						
WATERCOURSE TYPES	<4	4 to 5	5 to 7	7 to 9	> 9	No Measurement	Total by Watercourse Type
Large Permanent (>5.0 m)	0	0	2	0	0	0	2
Small Permanent	0	1	14	1	0	1	17
Small Permanent/Intermittent	0	2	16	0	0	3	21
Intermittent	0	1	14	1	0	6	22
Intermittent/Ephemeral	0	3	16	10	0	24	53
Ephemeral	0	0	4	0	0	70	74
No channel	0	0	1	0	0	82	83
Blank (No WC Morph Data)	0	0	0	0	0	1	1
TOTAL BY pH RANGE	0	7	67	12	0	187	273

Appendix G.8: Water Quality Summary by Watershed

Table G.8.13. Summary of pH measurements in the Folly River watershed. Number of watercourses, by measurement category, by watercourse types at crossing locations.

FOLLY RIVER WATERSHED	Number of Watercourses by pH Range						
WATERCOURSE TYPES	<4	4 to 5	5 to 7	7 to 9	> 9	No Measurement	Total by Watercourse Type
Large Permanent (>5.0 m)	0	0	4	0	0	1	5
Small Permanent	0	0	6	0	0	1	7
Small Permanent/Intermittent	0	0	8	0	0	1	9
Intermittent	0	0	4	0	0	6	10
Intermittent/Ephemeral	0	2	15	0	0	4	21
Ephemeral	0	0	5	0	0	31	36
No channel	0	1	1	0	0	74	76
Blank (No WC Morph Data)	0	0	2	0	0	1	3
TOTAL BY pH RANGE	0	3	45	0	0	119	167

Appendix G.8: Water Quality Summary by Watershed

Table G.8.14. Summary of pH measurements in the French River watershed. Number of watercourses, by measurement category, by watercourse types at crossing locations.

FRENCH RIVER WATERSHED	Number of Watercourses by pH Range						
WATERCOURSE TYPES	<4	4 to 5	5 to 7	7 to 9	> 9	No Measurement	Total by Watercourse Type
Large Permanent (>5.0 m)	0	0	0	0	0	0	0
Small Permanent	0	0	1	2	0	0	3
Small Permanent/Intermittent	0	0	2	0	0	0	2
Intermittent	0	0	0	0	0	1	1
Intermittent/Ephemeral	0	0	1	1	0	1	3
Ephemeral	0	0	0	0	0	6	6
No channel	0	0	0	0	0	27	27
Blank (No WC Morph Data)	0	0	1	0	0	0	1
TOTAL BY pH RANGE	0	0	5	3	0	35	43

Appendix G.8: Water Quality Summary by Watershed

Table G.8.15. Summary of pH measurements in the Wallace River watershed. Number of watercourses, by measurement category, by watercourse types at crossing locations.

WALLACE RIVER WATERSHED	Number of Watercourses by pH Range						
WATERCOURSE TYPES	<4	4 to 5	5 to 7	7 to 9	> 9	No Measurement	Total by Watercourse Type
Large Permanent (>5.0 m)	0	1	1	3	0	0	5
Small Permanent	0	0	1	2	0	0	3
Small Permanent/Intermittent	0	0	0	3	0	0	3
Intermittent	0	0	2	0	0	4	6
Intermittent/Ephemeral	0	0	5	9	0	8	22
Ephemeral	0	0	1	1	0	28	30
No channel	0	0	0	0	0	24	24
Blank (No WC Morph Data)	0	0	0	0	0	0	0
TOTAL BY pH RANGE	0	1	10	18	0	64	93

Table G.9.1 Summary of laboratory water quality analyses by sample location / sample ID, watershed, measurable parameters, and regulatory guidelines.

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)			Guidelines			SITES / SAMPLE IDs																		
Parameters	**UNITS**	**RDL**	*NSE Tier 1 EQS[2] Freshwater*	*Discharge Limits[3]*	*CCME FWAL[3]*	**SB-062**	**SB-054**	**SB-061**	**FR-DMB-001**		**FR-DMB-003**	**FR-DMB-000**	**DB-DR-013**	**DB-DR-000**	**DB-DR-10c**	**FOL-EB-000 upper**	**FOL-EB-002.2 lower**	**FOL-EB-003**		**CH-WB-000a**		**CH-NB-000b**	**CH-WB-006**	**CH-STP-000**	**CH-WB-000a**	**FOL-EB-000 upper**
						2023-08-15 09:05	2023-08-15 09:25	2023-08-15 10:47	2023-08-15 10:45	2023-08-15 10:45	2023-09-26 11:30	2023-09-08 14:30	2023-08-15 10:35	2023-08-15 13:28	2023-08-15 13:42	2023-09-08 11:11	2023-09-08 12:00	2023-09-08 10:12	2023-09-08 10:12	2023-08-15 12:30	2023-08-15 12:30	2023-08-15 12:12	2023-08-15 12:40	2023-08-15 12:54	2023-08-15 12:45	2023-09-08 11:11
						WALLACE	WALLACE	WALLACE	FRENCH		FRENCH	FRENCH	DEBERT	DEBERT	DEBERT	FOLLY	FOLLY	FOLLY		CHIGANOIS		CHIGANOIS	CHIGANOIS	CHIGANOIS	CHIGANOIS	FOLLY
						WQ-001	**WQ-002**	**WQ-003**	**WQ-004**	**WQ-004 Lab-Dup**	**WQ-005**	**WQ-006**	**WQ-007**	**WQ-008**	**WQ-009**	**WQ-010**	**WQ-011**	**WQ-012**	**WQ-012 Lab-Dup**	**WQ-013**	**WQ-013 Lab-Dup**	**WQ-014**	**WQ-015**	**WQ-016**	**WQ-DUP 1**	**WQ-DUP-2**
Calculated Parameters																										
Anion Sum	me/L	N/A				0.180	0.210	0.0500	0.180		0.200	0.230	0.00	0.0900	0.130	0.0700	0.140	0.150		0.0800		0.120	0.0800	0.00	0.100	0.180
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1.0				6.6	5.9	<1.0	4.2		6.0	6.0	<1.0	2.7	3.9	<1.0	3.3	4.5		2.3		4.1	2.1	<1.0	3.5	3.0
Calculated TDS	mg/L	1.0				18	18	11	16		18	19	3.0	11	14	10	11	14		10		12	10	6.0	11	14
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.0				<1.0	<1.0	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0		<1.0	<1.0	<1.0	<1.0	<1.0
Cation Sum	me/L	N/A				0.280	0.220	0.180	0.240		0.280	0.230	0.100	0.170	0.220	0.160	0.180	0.250		0.200		0.190	0.200	0.200	0.190	0.160
Hardness (CaCO3)	mg/L	1.0				8.4	6.1	2.8	7.1		8.1	7.0	1.3	3.6	6.2	2.9	3.9	6.9		4.9		4.9	5.3	4.5	5.0	3.0
Ion Balance (% Difference)	%	N/A				21.7	2.33	56.5	14.3		16.7	0.00	100	30.8	25.7	39.1	12.5	25.0		42.9		22.6	42.9	100	31.0	5.88
Langelier Index (@ 20C)	N/A					-3.00	-3.46	-	-3.65		-3.64	-3.25	-	-4.41	-3.82	-	-4.48	-3.82		-4.34		-3.73	-4.49	-	-3.77	-4.64
Langelier Index (@ 4C)	N/A					-3.26	-3.71	-	-3.91		-3.90	-3.50	-	-4.66	-4.07	-	-4.73	-4.07		-4.60		-3.99	-4.74	-	-4.02	-4.90
Nitrate (N)	mg/L	0.050	*13*	-	*13[a]*	0.060	0.056	<0.050	<0.050		<0.050	0.094	<0.050	<0.050	0.095	0.080	0.15	0.084		<0.050		<0.050	<0.050	<0.050	<0.050	0.13
Saturation pH (@ 20C)	N/A					10.1	10.3	-	10.3		10.1	10.2	-	10.9	10.4	-	10.7	10.3		10.8		10.5	10.8	-	10.6	11.0
Saturation pH (@ 4C)	N/A					10.3	10.5	-	10.6		10.4	10.5	-	11.1	10.7	-	11.0	10.6		11.0		10.8	11.0	-	10.8	11.2
Inorganics																										
Total Alkalinity (Total as CaCO3)	mg/L	2.0				6.6	5.9	<2.0	4.2		6.0	6.0	<2.0	2.7	3.9	<2.0	3.3	4.5		2.3	3.0	4.1	2.1	<2.0	3.5	3.0
Dissolved Chloride (Cl-)	mg/L	1.0	*120*		*120*	1.6	1.5	1.6	1.8	1.8	2.9	2.1	<1.0	1.2	<1.0	2.3	2.1	2.0		1.1		1.4	1.3	<1.0	1.1	3.8
Colour	TCU	25				18	11	100	37	36	120	5.3	49	41	80	72	75	72		51		27	100	270	54	73
Nitrate + Nitrite (N)	mg/L	0.050				0.060	0.056	<0.050	<0.050	<0.050	<0.050	0.094	<0.050	<0.050	0.095	0.080	0.15	0.084		<0.050		<0.050	<0.050	<0.050	<0.050	0.13
Nitrite (N)	mg/L	0.010	*0.06*		*0.06*	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		<0.010		<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L	0.050			*39.48[b]*	0.050	<0.050	0.052	<0.050	0.065	<0.050	<0.050	0.061	<0.050	<0.050	<0.050	0.073	<0.050	<0.050	0.082		<0.050	0.052	0.062	<0.050	<0.050
Total Organic Carbon (C)	mg/L	0.50				2.3	1.5	11	3.9		13	0.84	6.5	5.6	9.0	8.1	9.5	12		8.9		3.9	11	27	8.9	8.3
Orthophosphate (P)	mg/L	0.010				<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		<0.010		<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH		*6.5 - 9.0*	*6.5 - 9.0*	*6.5 - 9.0*	7.09	6.81	***5.58***	6.67		***6.47***	6.95	***5.41***	***6.45***	6.60	***5.95***	***6.24***	***6.49***		***6.42***	***6.44***	6.77	***6.28***	***4.85***	6.80	***6.32***
Reactive Silica (SiO2)	mg/L	0.50				6.7	5.8	4.9	4.8	4.7	5.6	5.5	0.85	4.2	4.7	3.7	2.4	3.2		3.7		3.8	3.2	2.1	3.6	3.8

Appendix G – Laboratory Water Quality Analysis Results

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)			Guidelines			SITES / SAMPLE IDs																	
Parameters	**UNITS**	**RDL**	*NSE Tier 1 EQS[2] Freshwater*	*Discharge Limits[3]*	*CCME FWAL[3]*	**SB-062**	**SB-054**	**SB-061**	**FR-DMB-001**		**FR-DMB-003**	**FR-DMB-000**	**DB-DR-013**	**DB-DR-000**	**DB-DR-10c**	**FOL-EB-000 upper**	**FOL-EB-002.2 lower**	**FOL-EB-003**		**CH-WB-000a**		**CH-NB-000b**	**CH-WB-006**	**CH-STP-000**	**CH-WB-000a**	**FOL-EB-000 upper**
						2023-08-15 09:05	2023-08-15 09:25	2023-08-15 10:47	2023-08-15 10:45	2023-08-15 10:45	2023-09-26 11:30	2023-09-08 14:30	2023-08-15 10:35	2023-08-15 13:28	2023-08-15 13:42	2023-09-08 11:11	2023-09-08 12:00	2023-09-08 10:12	2023-09-08 10:12	2023-08-15 12:30	2023-08-15 12:30	2023-08-15 12:12	2023-08-15 12:40	2023-08-15 12:54	2023-08-15 12:45	2023-09-08 11:11
						WALLACE	WALLACE	WALLACE	FRENCH		FRENCH	FRENCH	DEBERT	DEBERT	DEBERT	FOLLY	FOLLY	FOLLY		CHIGANOIS		CHIGANOIS	CHIGANOIS	CHIGANOIS	CHIGANOIS	FOLLY
						WQ-001	**WQ-002**	**WQ-003**	**WQ-004**	**WQ-004 Lab-Dup**	**WQ-005**	**WQ-006**	**WQ-007**	**WQ-008**	**WQ-009**	**WQ-010**	**WQ-011**	**WQ-012**	**WQ-012 Lab-Dup**	**WQ-013**	**WQ-013 Lab-Dup**	**WQ-014**	**WQ-015**	**WQ-016**	**WQ-DUP 1**	**WQ-DUP-2**
Dissolved Sulphate (SO4)	mg/L	2.0	*128*		*128[c]*	<2.0	2.3	<2.0	2.3	<2.0	<2.0	2.2	<2.0	<2.0	2.2	<2.0	<2.0	<2.0		<2.0		<2.0	<2.0	<2.0	<2.0	<2.0
Turbidity	NTU	0.10				0.61	0.10	0.66	0.26		0.75	0.48	0.66	0.26	0.37	0.82	1.2	0.70		0.62		0.63	0.27	0.47	0.44	0.41
Conductivity	uS/cm	1.0				28	24	17	24		27	25	12	18	21	17	17	24		19	19	20	19	26	19	18
Metals																										
Total Aluminum (Al)	ug/L	5.0	*5*	*2,900*	*5[d]*	***76***	***47***	***350***	***73***		***150***	***38***	***160***	***200***	***230***	***230***	***240***	***440***		***260***		***110***	***220***	***370***	***260***	***230***
Total Antimony (Sb)	ug/L	1.0	*9*	-	*9[c]*	<1.0	<1.0	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0		<1.0	<1.0	<1.0	<1.0	<1.0
Total Arsenic (As)	ug/L	1.0	*5*	*340*	*5*	<1.0	<1.0	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0		<1.0	<1.0	<1.0	<1.0	<1.0
Total Barium (Ba)	ug/L	1.0	*1,000*	-	*1000[c]*	4.3	3.2	3.6	2.4		4.3	6.7	<1.0	3.5	6.0	4.0	3.9	5.1		4.5		3.4	6.5	6.5	4.6	3.8
Total Beryllium (Be)	ug/L	0.10	*0.15*	-	*0.15[c]*	0.14	***0.27***	***0.37***	***0.27***		0.24	***0.24***	***0.19***	***0.24***	<0.10	***0.24***	<0.10	<0.10		<0.10		***0.28***	<0.10	<0.10	<0.10	***0.21***
Total Bismuth (Bi)	ug/L	2.0	-	-	-	<2.0	<2.0	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		<2.0		<2.0	<2.0	<2.0	<2.0	<2.0
Total Boron (B)	ug/L	50	*1,500*	-	*1,500[a]*	<50	<50	<50	<50		<50	<50	<50	<50	<50	<50	<50	<50		<50		<50	<50	<50	<50	<50
Total Cadmium (Cd)	ug/L	0.010	*0.09*	*1.1*	*0.04[e]*	0.023	0.038	0.027	0.028		0.020	***0.043***	0.014	0.021	0.015	0.017	0.016	0.039		0.013		0.027	0.024	0.037	0.018	0.017
Total Calcium (Ca)	ug/L	100	-	-	-	2300	1700	660	2100		2400	2000	250	970	1900	680	1100	2000		1400		1400	1500	1200	1400	680
Total Chromium (Cr)	ug/L	1.0	*8.9*	*180*	*1[f]*	<1.0	<1.0	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0		<1.0	<1.0	<1.0	<1.0	1.1
Total Cobalt (Co)	ug/L	0.40	*1*	-	*1[c]*	<0.40	<0.40	<0.40	<0.40		0.44	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	***3.1***		<0.40		<0.40	<0.40	0.42	<0.40	<0.40
Total Copper (Cu)	ug/L	0.50	*2*	*7.2*	*2[e]*	<0.50	<0.50	<0.50	<0.50		<0.50	<0.50	<0.50	<0.50	0.59	<0.50	<0.50	1.3		<0.50		<0.50	<0.50	<0.50	<0.50	<0.50
Total Iron (Fe)	ug/L	50	*300*	*1,500*	*300*	100	54	***1000***	170		***580***	<50	***340***	160	200	***480***	***610***	***1000***		190		81	***370***	***740***	190	***470***
Total Lead (Pb)	ug/L	0.50	*1*	*22*	*1[e]*	<0.50	<0.50	<0.50	<0.50		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.71		<0.50		<0.50	<0.50	0.79	<0.50	<0.50
Total Magnesium (Mg)	ug/L	100	-	-	-	630	450	290	450		530	490	170	300	390	290	290	440		350		360	410	400	360	300
Total Manganese (Mn)	ug/L	2.0	*430*	-	*290[a,d,e]*	6.1	26	130	54		110	14	24	11	65	33	160	***490***		16		18	36	57	16	33
Total Molybdenum (Mo)	ug/L	2.0	*73*	*29,000*	*73*	<2.0	<2.0	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		<2.0		<2.0	<2.0	<2.0	<2.0	<2.0
Total Nickel (Ni)	ug/L	2.0	*25*	*220*	*25[e]*	<2.0	<2.0	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		2.3		<2.0	<2.0	2.5	2.0	<2.0
Total Phosphorus (P)	ug/L	100	-	*153*	-	<100	<100	<100	<100		<100	<100	<100	<100	<100	<100	<100	<100		<100		<100	<100	<100	<100	<100
Total Potassium (K)	ug/L	100	-	-	-	190	210	150	160		290	290	<100	150	110	210	230	330		150		190	180	<100	160	210
Total Selenium (Se)	ug/L	0.50	*1*	*62*	*1*	<0.50	<0.50	<0.50	<0.50		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50		<0.50		<0.50	<0.50	<0.50	<0.50	<0.50
Total Silver (Ag)	ug/L	0.10	*0.25*	-	*0.25*	<0.10	<0.10	<0.10	<0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		<0.10		<0.10	<0.10	<0.10	<0.10	<0.10
Total Sodium (Na)	ug/L	100	-	-	-	2200	2000	1800	2000		2100	2000	1300	2000	1900	1800	1500	1600		1900		1900	1700	1500	1900	1900

Appendix G – Laboratory Water Quality Analysis Results

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)			Guidelines			SITES / SAMPLE IDs																	
Parameters	**UNITS**	**RDL**	*NSE Tier 1 EQS[2] Freshwater*	*Discharge Limits[3]*	*CCME FWAL[3]*	**SB-062**	**SB-054**	**SB-061**	**FR-DMB-001**		**FR-DMB-003**	**FR-DMB-000**	**DB-DR-013**	**DB-DR-000**	**DB-DR-10c**	**FOL-EB-000 upper**	**FOL-EB-002.2 lower**	**FOL-EB-003**		**CH-WB-000a**		**CH-NB-000b**	**CH-WB-006**	**CH-STP-000**	**CH-WB-000a**	**FOL-EB-000 upper**
						2023-08-15 09:05	2023-08-15 09:25	2023-08-15 10:47	2023-08-15 10:45	2023-08-15 10:45	2023-09-26 11:30	2023-09-08 14:30	2023-08-15 10:35	2023-08-15 13:28	2023-08-15 13:42	2023-09-08 11:11	2023-09-08 12:00	2023-09-08 10:12	2023-09-08 10:12	2023-08-15 12:30	2023-08-15 12:30	2023-08-15 12:12	2023-08-15 12:40	2023-08-15 12:54	2023-08-15 12:45	2023-09-08 11:11
						WALLACE	WALLACE	WALLACE	FRENCH		FRENCH	FRENCH	DEBERT	DEBERT	DEBERT	FOLLY	FOLLY	FOLLY		CHIGANOIS		CHIGANOIS	CHIGANOIS	CHIGANOIS	CHIGANOIS	FOLLY
						WQ-001	**WQ-002**	**WQ-003**	**WQ-004**	**WQ-004 Lab-Dup**	**WQ-005**	**WQ-006**	**WQ-007**	**WQ-008**	**WQ-009**	**WQ-010**	**WQ-011**	**WQ-012**	**WQ-012 Lab-Dup**	**WQ-013**	**WQ-013 Lab-Dup**	**WQ-014**	**WQ-015**	**WQ-016**	**WQ-DUP 1**	**WQ-DUP-2**
Total Strontium (Sr)	ug/L	2.0	*21,000*	-	*21000[c]*	7.0	5.6	3.3	7.0		7.8	6.6	<2.0	3.9	5.6	3.5	4.2	4.1		4.4		4.9	5.8	5.0	4.4	3.6
Total Thallium (Tl)	ug/L	0.10	*0.8*	-	*0.8*	<0.10	<0.10	<0.10	<0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		<0.10		<0.10	<0.10	<0.10	<0.10	<0.10
Total Tin (Sn)	ug/L	2.0	-	-	-	<2.0	<2.0	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		<2.0		<2.0	<2.0	<2.0	<2.0	<2.0
Total Titanium (Ti)	ug/L	2.0	-	-	-	3.2	<2.0	4.0	<2.0		3.5	<2.0	<2.0	<2.0	3.1	2.7	3.8	7.1		2.4		<2.0	3.1	5.4	3.0	2.7
Total Uranium (U)	ug/L	0.10	*15*	-	*15[a]*	<0.10	<0.10	<0.10	<0.10		<0.10	<0.10	<0.10	0.12	<0.10	<0.10	<0.10	<0.10		<0.10		<0.10	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	2.0	*120*	-	*120[c]*	<2.0	<2.0	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		<2.0		<2.0	<2.0	<2.0	<2.0	<2.0
Total Zinc (Zn)	ug/L	5.0	*7*	*62*	*5.4[a,d,e,f,g,h]*	<5.0	<5.0	<5.0	<5.0		***7.6***	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	***5.7***		<5.0		***6.7***	<5.0	***7.4***	<5.0	<5.0
Field Measurements																										
Temperature	C	-	-	-	-	14.1	11.5	17.1	16.2		14.9	12.7	24.5	22	16.3	18	17.9	15.9		15		24.1	14.1	16.5	15	18
pH	-	-	*6.5 - 9.0*	*6.0 - 9.0*	*6.5 - 9.0*	7.38	7.74	5.75	7.21		***5.97***	***6.03***	***5.27***	6.87	6.95	***5.9***	***5.46***	***5.96***		6.94		6.7	6.56	***4.63***	6.94	***5.9***
Conductivity	uS/cm	-	-	-	-	27	23.2	17.7	22.4		20	18.6	13	21	23.6	15.3	14.6	23.9		21.4		22.7	18.1	27.4	21.4	15.3
Turbidity	NTU	-	-	-	-																					
Dissolved Oxygen	mg/L	-	-	-	*5.5[h,i]*	10.84	10.96	8.27	9.15		7.51	10.43	7.01	8.95	9.71	8.77	8.95	7.36		10.08		8.1	9.55	6.9	10.08	8.77
Dissolved Oxygen	%	-	-	-	-																					
Salinity	ppt	-				0.01	0.01	0.01	0.01		0.02	0.02	0	0.01	0.01	0.01	0.01	0.02		0.01		0.02	0.02	0.02	0.01	0.01
Total Dissolved Solids	g/L	-	-	-	-			11.5			16.1	15.8				11.5	11	15.5				15	14.9	17.8		11.5

NOTES:

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

Results relate only to the items tested.

Additional Notes:

1. RDL = Reportable Detection Limit; '-' = no guideline available or parameter not analyzed; <X: Below RDL Detection limit exceeds NSE Tier 1 EQS
2. Nova Scotia Environment (NSE) Tier 1 Environmental Quality Standards (EQS) for Surface Water (Table 3), for Fresh Water Receptor Pathway (September 2021).
3. CCME FWAL = Canadian Council Ministers of Environment (CCME) Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life (Current to December 2021)

ŧElevated reporting limit due to turbidity

a. Selected based on long-term exposure

b. This guideline varies depending on water pH, temperature, etc. The guideline was selected based on a temperature of 15oC and a pH of 7.5. Guideline references CCME Factsheet for the conversion of NH3 to -N

c. In absence of CCME guidance, the Atlantic Risk-Based Corrective Action (RBCA) Ecological Tier I EQS for Surface Water for freshwater and/or marine were used (RBCA, July 2021)

d. Guideline varies with pH of site water and based on an average site pH of 5.37

e. Guideline varies with hardness of site water and based on an average site hardness of 6.1 mg/L)

f. Chromium guideline has been selected based on the more conservative value for Hexavalent Chromium (Cr VI).

g. Guideline based on DOC

h. Most stringent guideline selected if applicable

i. Lowest acceptable value

0.1 – Does not meet NSE Tier 1 EQS

0.1 – Does no meet CCME FWAL