

## 6.0 APPENDICES

# LESCO, INC.

## Nutri-Stone

### Aquatic Restoration Fertilizer Briquette

#### 16-30-0

**GUARANTEED ANALYSIS**

TOTAL NITROGEN (N) .....	16.00%
4.00% Urea .....	
12.00% Magnesium Ammonium Phosphate .....	
AVAILABLE PHOSPHORIC ACID (P <sub>2</sub> O <sub>5</sub> ) Total .....	30.00%
MAGNESIUM (Mg) Total .....	11.00%
VEGETABLE OIL .....	2.00%
Derived From: Corn Oil and Canola Oil	

To determine appropriate application rate the following example will assist in defining amount to apply.  
 0.5m3/s average water flow (width x depth x velocity)  
 Water temperature  
 Number day's nutrient required  
 2.5ug/L target concentration of phosphorous  
 13.1% Phosphorous in Nutri-Stone

**Calculations**  
 Amount of Phosphorous required to attain 2.5ug/l (micrograms per liter) P (0.5 m3/s) x (100 days) x (2.5ug/L) x (0.0864 conversion) = 10.8 kg Phosphorous

**WARRANTY**  
 LESCO warrants that this product conforms to the analysis on its label. When used in accordance with label directions, under normal conditions, this product is reasonably fit for its intended purposes. Since time, method of application, weather, plant and soil conditions, mixture with other chemicals, and other factors affecting the use of this product are beyond our control, no warranty is given concerning the use of this product contrary to label directions or under conditions which are abnormal or not reasonably foreseeable. The user assumes all risks of any such use.

Nutri-Stone Calculation for amount to apply

Amount of 16-30-0 Nutri-Stone fertilizer required to add 10.8 kg P (10.8 kg P) / (0.131 P in fertilizer) = 82.4 kg

82.4 kg amount of Nutri-Stone16-30-0 required to attain 2.5ug/L P

**DIRECTIONS FOR USE:** Nutri-Stone™ is a slow release fertilizer specifically designed for fisheries habitat restoration and only should be used or applied by knowledgeable qualified individuals engaged in fisheries management or restoration of fisheries habitat. This product is designed to increase the nutrient loading of streams to increase the periphyton level for fisheries production.

Potential application sites should be monitored for Soluble Reactive Phosphorous (SRP) levels for 3 months for consideration for application on a bi-weekly basis. Ideal fisheries SRP levels are generally 2 to 3 micrograms per liter of water. Streams must be clearly SRP deficient in ¾ of monitoring tests to be a candidate for application.

**General application instructions for applications by air or ground or hand**

Product should applied in the riffle zone in a layer evenly spread across stream bed for maximum effectiveness by helicopter, mechanical means or by hand broadcast method.

LESCO is a registered trademark of LESCO Technologies, LLC.  
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Rev. 06/26/01WFR

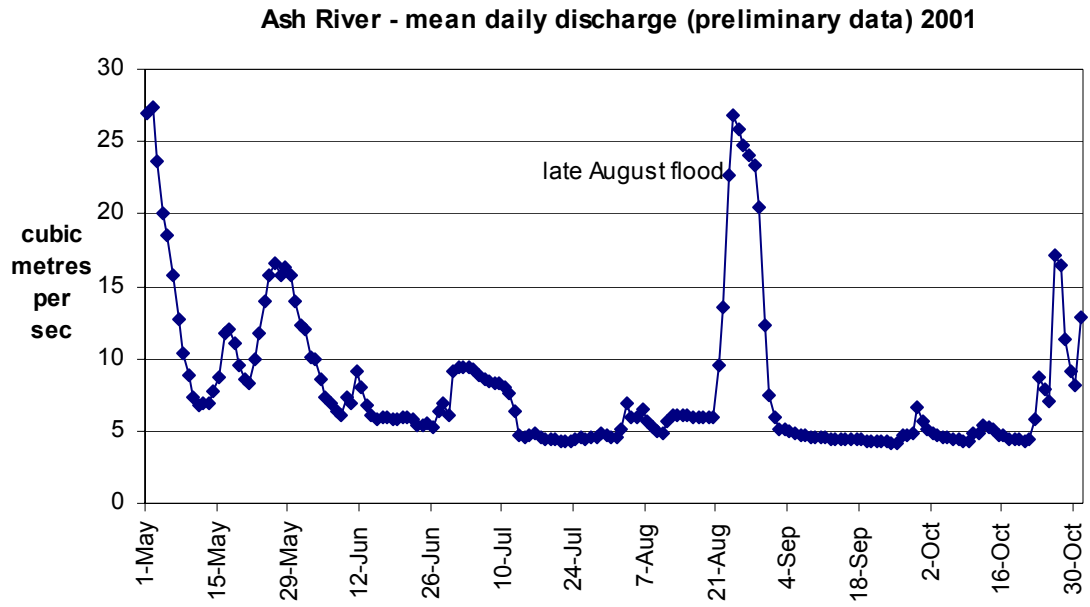
**Net Weight 14 Kg**

Made in U.S.A. by LESCO, Inc. / 15885 Sprague Road / Strongsville, OH 44136-1799 / USA / 440-783-9250

**APPENDIX ii. Ash River mean daily discharge from May 1 to October 31, 2001,  
(below Moran Creek, #08HB023) provided by Water Survey of Canada  
(finalized data).**

Date	m <sup>3</sup> /s	Date	m <sup>3</sup> /s	Date	m <sup>3</sup> /s	Date	m <sup>3</sup> /s
5/1/01	27.5	6/16/01	5.96	8/1/01	4.52	9/16/01	4.39
5/2/01	27.9	6/17/01	5.89	8/2/01	5.07	9/17/01	4.38
5/3/01	23.8	6/18/01	5.76	8/3/01	6.85	9/18/01	4.35
5/4/01	20	6/19/01	5.81	8/4/01	5.92	9/19/01	4.31
5/5/01	18.5	6/20/01	5.89	8/5/01	5.89	9/20/01	4.31
5/6/01	15.7	6/21/01	5.98	8/6/01	6.45	9/21/01	4.3
5/7/01	12.7	6/22/01	5.87	8/7/01	5.65	9/22/01	4.29
5/8/01	10.3	6/23/01	5.41	8/8/01	5.22	9/23/01	4.25
5/9/01	8.86	6/24/01	5.33	8/9/01	5.01	9/24/01	4.18
5/10/01	7.39	6/25/01	5.57	8/10/01	4.87	9/25/01	4.17
5/11/01	6.82	6/26/01	5.3	8/11/01	5.64	9/26/01	4.71
5/12/01	6.87	6/27/01	6.3	8/12/01	6.07	9/27/01	4.64
5/13/01	6.92	6/28/01	6.95	8/13/01	6.09	9/28/01	4.82
5/14/01	7.78	6/29/01	6.12	8/14/01	6.13	9/29/01	6.63
5/15/01	8.71	6/30/01	9.08	8/15/01	6.08	9/30/01	5.68
5/16/01	11.7	7/1/01	9.39	8/16/01	6	10/1/01	5.1
5/17/01	12	7/2/01	9.39	8/17/01	6	10/2/01	4.86
5/18/01	11	7/3/01	9.49	8/18/01	5.95	10/3/01	4.72
5/19/01	9.62	7/4/01	9.3	8/19/01	5.96	10/4/01	4.62
5/20/01	8.55	7/5/01	8.83	8/20/01	5.93	10/5/01	4.56
5/21/01	8.26	7/6/01	8.55	8/21/01	9.59	10/6/01	4.49
5/22/01	9.98	7/7/01	8.38	8/22/01	13.5	10/7/01	4.4
5/23/01	11.8	7/8/01	8.3	8/23/01	22.9	10/8/01	4.35
5/24/01	14	7/9/01	8.26	8/24/01	27.2	10/9/01	4.22
5/25/01	15.8	7/10/01	7.98	8/25/01	26.1	10/10/01	4.88
5/26/01	16.6	7/11/01	7.67	8/26/01	24.9	10/11/01	4.88
5/27/01	15.7	7/12/01	6.41	8/27/01	24	10/12/01	5.34
5/28/01	16.3	7/13/01	4.66	8/28/01	23.4	10/13/01	5.23
5/29/01	15.8	7/14/01	4.52	8/29/01	20.5	10/14/01	5.17
5/30/01	14	7/15/01	4.64	8/30/01	12.4	10/15/01	4.76
5/31/01	12.3	7/16/01	4.82	8/31/01	7.46	10/16/01	4.71
6/1/01	12.1	7/17/01	4.53	9/1/01	5.97	10/17/01	4.48
6/2/01	10.1	7/18/01	4.36	9/2/01	5.07	10/18/01	4.38
6/3/01	9.99	7/19/01	4.38	9/3/01	5.1	10/19/01	4.37
6/4/01	8.57	7/20/01	4.4	9/4/01	4.92	10/20/01	4.27
6/5/01	7.27	7/21/01	4.35	9/5/01	4.8	10/21/01	4.46
6/6/01	6.97	7/22/01	4.27	9/6/01	4.75	10/22/01	5.85
6/7/01	6.37	7/23/01	4.22	9/7/01	4.67	10/23/01	8.76
6/8/01	6.1	7/24/01	4.46	9/8/01	4.61	10/24/01	7.93
6/9/01	7.33	7/25/01	4.5	9/9/01	4.58	10/25/01	7.09
6/10/01	6.91	7/26/01	4.49	9/10/01	4.56	10/26/01	17.1
6/11/01	9.14	7/27/01	4.55	9/11/01	4.53	10/27/01	16.4
6/12/01	7.96	7/28/01	4.62	9/12/01	4.48	10/28/01	11.4
6/13/01	6.84	7/29/01	4.88	9/13/01	4.46	10/29/01	9.08
6/14/01	6.05	7/30/01	4.66	9/14/01	4.43	10/30/01	8.18
6/15/01	5.87	7/31/01	4.54	9/15/01	4.41	10/31/01	12.8

APPENDIX ii. Ash River mean daily discharge (cont'd)



**APPENDIX iii. Snorkel Survey Reports for the Ash River in 2001 and 2002, provided by the Steelhead Crew, Nanaimo, B.C. Conservation Foundation.**

**FILE NOTE**

Date: September 25, 2001  
File: 34560-20/SNORK  
xf: 34560-27/ASH

SNORKEL SURVEY REPORT  
*Ash River*

DATE: September 12 & 13, 2001  
WEATHER: Sunny, warm  
WATER TEMP.(°C): 18.5 @ 1500h (September 12)  
DISCHARGE (m<sup>3</sup>/s): 4.5 upstream of Dickson Lake (estimated, discharge from Elsie Lake LLO  
was 3.83 m<sup>3</sup>/s on the dates of survey, A. McLean, pers. comm.)  
VISIBILITY (m): 7-10  
PERSONNEL: Section 1: B. Smith, C. Hryhorczuk  
Section 2: M. McCulloch, J. Craig  
Section 3: B. Smith, C. Hryhorczuk  
Section 4: R. Axford, R. Barluk  
AREA: Section 1: from confluence of Elsie Lake spillway channel and low level outlet channel downstream to first left bank tributary (~ 1.2 km)  
Section 2: Ash Island Falls to logging spur access located 1.0 km downstream of Mainline Bridge crossing (~ 2.7 km)  
Section 3: Dickson Lake outlet to Dickson Falls Pool (~1.2 km)  
Section 4: Old bridge upstream of Lanterman Falls to Bear Creek confluence in the Stamp River (4.4 km on Ash, 0.8 km on Stamp)  
(Total distance = 10.3 km)

**1. Fish Observed:**

**Adults**

**A total of 249 steelhead were observed (in the Ash River) for a density of 26.2 fish/km.**

Fish ranged from moderate to bright in colour, and were well distributed within each of the survey sections. Estimated weights ranged from 2-7 kg, and sex ratios appeared to be 1:1.

Section 1:

15 steelhead (12 wild, 3 unconfirmed).

Section 2:

16 steelhead (12 wild, 2 hatchery, 2 unconfirmed).

1 wild resident rainbow trout @ 45 cm

1 wild resident cutthroat trout @ 35 cm

Section 3:

53 steelhead (40 wild, 1 hatchery, 12 unconfirmed). Twenty-eight fish were evenly distributed above Dickson Falls, 10 were observed resting in a bedrock pool halfway up the falls and 15 fish were holding in the tailout of the Dickson Falls pool.

Section 4 (Ash River only):

165 steelhead (7 hatchery origin fish were observed).

10 resident rainbow trout (25-35 cm)  
78 coho (~50% hatchery; 65 in the Moran confluence pool)  
**3 sockeye**  
6 pinks

Section 4 (Stamp River, 800 m from Ash confluence to Money's take out):

245 steelhead (conservative count; ~50% hatchery)  
300 coho (60-70% hatchery)  
50 chinook (mostly 3 year-olds and jacks)

### Juveniles

- Section 1 had a low abundance of rainbow fry and parr. Densities increased to moderate in the latter half of the section.
- Sections 2 and 3 had a moderate abundance of rainbow fry and parr in suitable habitats.
- Section 4 had high densities of rainbow fry and parr in suitable habitats. The highest fry densities were noted above the Stamp River confluence (possibly winter run progeny?).

## 2. Notes

- No anglers were observed, but evidence of recent angling was noted in the bridge pool in Section 2 (new lure on bottom).
- Within Section 2, the upper half featured excellent parr rearing habitat, while the lower half contained a high abundance of moderate quality spawning gravel (several old redds).
- Because fish were observed half-way up Dickson Falls, discharge over the falls at the time of survey was likely suitable for upstream migration.
- A few fish above Dickson Falls in Section 2 were observed with recent predator injuries and claw marks.
- Recent logging with wide riparian leave strips (30 m+) has occurred near Section 4. Some trees within the leave strip have fallen into the river and are creating temporary rearing habitat.
- *Didymosphenia geminata* was not evident in the Ash, but small clumps were abundant in the Stamp. Relatively high August flows may have flushed most of the thicker mats reported earlier in the spring.
- Algae growth in the lower Ash appeared limited (possibly a fertilization candidate downstream of Dickson Lake?).
- As of September 15, DFO staff reported that 500 steelhead have been counted at the Robertson Creek brailer, and 1,500 have been counted through the fishway at Stamp Falls (since September 4).

Brad Smith  
Fisheries Technician  
BC Conservation Foundation

## FILE NOTE

Date: January 29, 2002  
File: 34560-20/SNORK  
xf: 34560-27/ASH

## SNORKEL SURVEY REPORT *Ash River*

DATE: January 24, 2002  
WEATHER: 100% overcast, 2.5°C air temperature  
WATER TEMP.(°C): 3.0 @ 1100 hrs  
DISCHARGE (m<sup>3</sup>/s): 4.0 (estimate)  
VISIBILITY (m): 3.0  
PERSONNEL: C. Hryhorczuk, B. Smith  
AREA: from confluence of Elsie Lake spillway channel and low level outlet (LLO) channel downstream to first left bank tributary (distance ~ 1.2 km)

### 1. Fish Observed:

#### Adults

**A total of 13 summer run steelhead were observed for a density of 10.8 fish/km.**

Five fish noted for origin were wild. Fish were moderate to dark coloured and ranged in size from 2.5-4.5 kg. One "two-toner" was observed. Two fish were observed in the first pool downstream of the spillway where the historical Ash River channel enters the river. The other eleven fish were in the canyon pool tailout 200 m upstream of the survey takeout. No female kelts or fresh redds were observed.

#### Juveniles

None observed.

### 3. Notes

- On February 1, 2001 a total of 54 steelhead were observed in this section. Most were observed in the pool immediately upstream of the narrow bedrock canyon and in the canyon pool tailout. On February 27, 2001, approximately 15-20 redds and several fish that appeared post-spawned were observed in this survey section. Most of the redds were located in the deeper pool tailouts. Additional swims of this section in 2002 are planned for February to further confirm spawning timing and locations.
- No anglers were noted. However, one piece of broken off line with an artificial fly (a piece of orange wool) was observed in the deep pool upstream of the narrow bedrock canyon section. A few fresh beer cans were noted in the tailout of this pool. This section of the Ash River between Elsie and Dickson lakes is closed to fishing year-round.
- A moderate abundance of caddis larvae were observed on boulders and LWD in the shallow riffle and glide sections of the survey. Observed growth rates and densities of invertebrate life were only slightly higher in the section "treated" with slow release fertilizer (200 m downstream from the start of the snorkel section) in July, 2001.
- The historical Ash River channel (now off-channel habitat located on the left bank ~200 m downstream of the LLO channel) was surveyed as a candidate restoration project in the upper Ash River watershed. This was proposed as part of a compensation package tabled by BC Hydro in exchange for moving the hollow cone valve at Elsie Lake further downstream. Meetings to determine mitigation plans are still ongoing and currently no formal agreement has been ratified to conduct any compensation work in the Ash River watershed (A. McLean, pers. comm.).

- The channel is approximately 8000 m<sup>2</sup> and water depths range from 0.5-2.5 m. It would likely function as an off-channel refuge area for fish during both high and low flow events. It was covered in a thin sheet of ice during the time of the survey. It had very little LWD or riparian cover and may benefit from the addition of rootwads. Juvenile fish sampling (gee trapping and/or electrofishing) in the channel would be useful for determining current fish use and the potential effectiveness of adding rootwads.

Brad Smith  
 Fisheries Technician  
 BC Conservation Foundation

### **FILE NOTE**

Date: February 19, 2002  
 File: 34560-20/SNORK  
 xf: 34560-27/ASH

### SNORKEL SURVEY REPORT *Ash River*

DATE: February 14, 2002  
 WEATHER: sunny  
 WATER TEMP.(°C): 2.5 (estimate)  
 DISCHARGE (m<sup>3</sup>/s): 4.0 (estimate)  
 VISIBILITY (m): 3.5  
 PERSONNEL: C. Hryhorczuk, H. Wright  
 AREA: Section 1: from confluence of Elsie Lake spillway channel and low level outlet (LLO) channel downstream to first left bank tributary (distance ~ 1.2 km)  
 Section 2 (spot swim): upper Ash River Road bridge crossing (distance ~ 100 m)  
 Section 3 (spot swim): Dickson Lake outlet to the lower Ash River Road bridge crossing (distance ~ 150 m)

#### **1. Fish Observed:**

##### **Adults**

**Section 1:** A total of 3 summer run steelhead (1 wild male, 2 unidentified) were observed. Only 6 redds and approximately 10 small test redds were noted.

**Section 2:** No fish or evidence of spawning were observed.

**Section 3:** Three summer run steelhead (2 wild males, 1 unidentified) were observed. Six large steelhead redds were noted immediately upstream of the riffle break at the lake outlet. Two more were observed downstream. One wild male was observed 'guarding' redds. The other two fish were holding under the bridge.

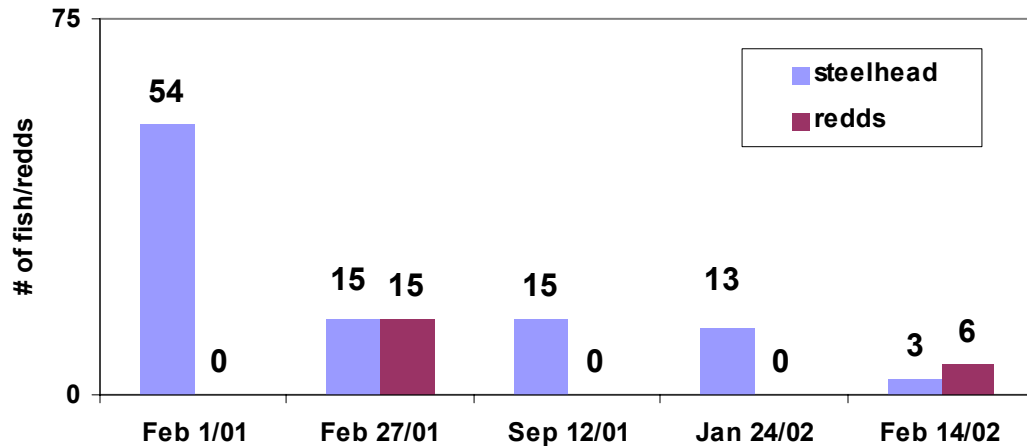
##### **Juveniles**

None were observed.

#### **4. Notes**

- Last year a greater abundance of steelhead and redds were observed in section 1. Discharge at the Moran Creek gauging station on the lower Ash River peaked at 327 m<sup>3</sup>/s on January 7, 2002. The flood may have restricted steelhead use of the upper Ash River in close proximity to Elsie Lake.

Upper Ash River summer steelhead abundance and redd counts, 2001/02  
(Section 1)



- One large steelhead spinner was snagged on the bottom at the outlet of Dickson Lake. No anglers or evidence of angling were observed in the closed section between Dickson Lake and Elsie Lake.
- A moderate abundance of good quality spawning gravel still exists at the outlet of Dickson Lake. The gravel was placed by volunteers under direction of R.P. Griffith and Associates and the Ministry of Environment, Lands, and Parks in August 1990.

Harlan Wright  
Fisheries Technician  
BC Conservation Foundation

**APPENDIX iv. Juvenile assessment results (2001) for the Ash River.**

(Provided by the Steelhead Crew, Nanaimo.)

**ELECTROFISHING SITE DESCRIPTION FORM**

Watershed: Ash River Stream Code: 930-137400-99500-20200								
System	Site #	Site Description	Site Ref. (km)	Date	UTM Code	Site Dimensions		
						Length	Width	Area
Ash River	1	Ash River Road Bridge u/s of Dickson lake	x	13-Sep- 01	349858, 5475478	19.5	4.7	91.72
Ash River	2	Conf. of 1st left bank tributary d/s of Elsie Lake	x	13-Sep- 01	348604, 5480850	15.3	6.4	98.43
Ash River	3	Upper control #1 (right bank channel)	x	12-Sep- 01	347826, 5481135	15.2	7.8	118.37
Ash River	4	Upper control #2 (below left bank channel falls)	x	25-Sep- 01	347865, 5481238	14	6.9	96.76

APPENDIX iv. Juvenile assessment results (2001) for the Ash River (cont'd).  
(Provided by the Steelhead Crew, Nanaimo.)

Site 1

<b>Stream: Ash River</b>	
<b>Watershed Code: 930-137400-99500-20200</b>	
<b>Site Number:</b>	1
<b>Date:</b>	13, Sept 2001
<b>Surveyed by:</b>	J.C,M.M
<b>Hydraulic type:</b> B/R	
<b>Main/side-channel (m/sc):</b> M	
<b>Field gradient:</b>	%
<b>Stream width:</b>	14 m
<b>Channel width:</b>	65 m
<b>Mean depth:</b>	0.2 m
<b>Maximum depth:</b>	0.45 m
<b>Mean velocity:</b>	0.265 m/s
<b>Maximum velocity:</b>	0.48 m/s
<b>Turbidity:</b>	C
<b>Temperature (deg.C):</b>	18.5
<b>Stream stage:</b>	L
<b>Conductivity (mS*cm-1):</b>	31.4

<b>COVER (%)</b>	
<b>log:</b>	0 %
<b>boulder:</b>	25 %
<b>instream vegetation:</b>	0 %
<b>overstream vegetation:</b>	0 %
<b>cutbank:</b>	0 %

<b>SUBSTRATE (%)</b>	
<b>finest:</b>	T %
<b>small gravel:</b>	5 %
<b>large gravel:</b>	5 %
<b>cobble:</b>	50 %
<b>boulder:</b>	40 %
<b>bedrock:</b>	0 %

<b>Compaction:</b>	L/M
<b>Sand:</b>	T
<b>d90:</b>	0.4 m
<b>dMax:</b>	0.85 m

<b>Site length (m):</b>	19.5 m
<b>Site width (m):</b>	4.7 M
<b>Site area (m2)*:</b>	91.72 M2

\*At non-symmetrical sites, area is calculated from field measurements, not as site length\* site width

Site 2

<b>Stream: Ash River</b>	
<b>Watershed Code: 930-137400-99500-20200</b>	
<b>Site Number:</b>	2
<b>Date:</b>	13, Sept 2001
<b>Surveyed by:</b>	J.C,M.M
<b>Hydraulic type:</b> R/G	
<b>Main/side-channel (m/sc):</b> M	
<b>Field gradient:</b>	1 %
<b>Stream width:</b>	44 m
<b>Channel width:</b>	45 m
<b>Mean depth:</b>	0.15 m
<b>Maximum depth:</b>	0.35 m
<b>Mean velocity:</b>	0.169 m/s
<b>Maximum velocity:</b>	0.3 m/s
<b>Turbidity:</b>	C
<b>Temperature (deg.C):</b>	18
<b>Stream stage:</b>	L/M
<b>Conductivity (mS*cm-1):</b>	29

<b>COVER (%)</b>	
<b>log:</b>	2 %
<b>boulder:</b>	15 %
<b>instream vegetation:</b>	0 %
<b>overstream vegetation:</b>	4 %
<b>cutbank:</b>	T %

<b>SUBSTRATE (%)</b>	
<b>finest:</b>	5 %
<b>small gravel:</b>	5 %
<b>large gravel:</b>	20 %
<b>cobble:</b>	50 %
<b>boulder:</b>	20 %
<b>bedrock:</b>	0 %

<b>Compaction:</b>	L/M
<b>Sand:</b>	Y
<b>d90:</b>	0.3 m
<b>dMax:</b>	0.35 m

<b>Site length (m):</b>	15.3 m
<b>Site width (m):</b>	6.4 m
<b>Site area (m2)*:</b>	98.43 m2

\* At non-symmetrical sites, area is calculated from field measurements, not as site length\* site width

APPENDIX iv. Juvenile assessment results (2001) for the Ash River (cont'd).

Site 3

<b>Stream:</b> Ash River		<b>COVER (%)</b>	
<b>Watershed Code:</b> 930-137400-99500-20200		<b>log:</b>	2 %
<b>Site Number:</b> 3		<b>boulder:</b>	10 %
<b>Date:</b> 12, Sept 2001		<b>instream vegetation:</b>	0 %
<b>Surveyed by:</b> B.S,C.H		<b>overstream vegetation:</b>	5 %
<b>Hydraulic type:</b> R		<b>cutbank:</b>	0 %
<b>Main/side-channel (m/sc):</b> M		<b>SUBSTRATE (%)</b>	
<b>Field gradient:</b>	0.75 %	<b>finest:</b>	5 %
<b>Stream width:</b>	33 m	<b>small gravel:</b>	5 %
<b>Channel width:</b>	64 m	<b>large gravel:</b>	20 %
<b>Mean depth:</b>	0.15 m	<b>cobble:</b>	55 %
<b>Maximum depth:</b>	0.5 m	<b>boulder:</b>	15 %
<b>Mean velocity:</b>	0.171 m/s	<b>bedrock:</b>	0 %
<b>Maximum velocity:</b>	0.72 m/s	<b>Compaction:</b>	H
<b>Turbidity:</b>	C	<b>Sand:</b>	T
<b>Temperature (deg.C):</b>	17	<b>d90:</b>	0.25 m
<b>Stream stage:</b>	L/M	<b>dMax:</b>	0.7 m
<b>Conductivity (mS*cm-1):</b>	33	<b>Site length (m):</b>	15.2 m
		<b>Site width (m):</b>	7.8 m
		<b>Site area (m2)*:</b>	118.37 m2

\* At non-symmetrical sites, area is calculated from field measurements, not as site length\* site width

Site 4

<b>Stream:</b> Ash River		<b>COVER (%)</b>	
<b>Watershed Code:</b> 930-137400-99500-20200		<b>log:</b>	0 %
<b>Site Number:</b> 4		<b>boulder:</b>	20 %
<b>Date:</b> 25, Sept 2001		<b>instream vegetation:</b>	0 %
<b>Surveyed by:</b> H.W,C.H		<b>overstream vegetation:</b>	0 %
<b>Hydraulic type:</b> R		<b>cutbank:</b>	0 %
<b>Main/side-channel (m/sc):</b> M		<b>SUBSTRATE (%)</b>	
<b>Field gradient:</b>	2 %	<b>finest:</b>	0 %
<b>Stream width:</b>	23 m	<b>small gravel:</b>	5 %
<b>Channel width:</b>	67 m	<b>large gravel:</b>	15 %
<b>Mean depth:</b>	0.3 m	<b>cobble:</b>	50 %
<b>Maximum depth:</b>	0.5 m	<b>boulder:</b>	30 %
<b>Mean velocity:</b>	0.044 m/s	<b>bedrock:</b>	0 %
<b>Maximum velocity:</b>	0.29 m/s	<b>Compaction:</b>	L/M
<b>Turbidity:</b>	C	<b>Sand:</b>	N
<b>Temperature (deg.C):</b>	17	<b>d90:</b>	0.5 m
<b>Stream stage:</b>	L/M	<b>dMax:</b>	0.7 m
<b>Conductivity (mS*cm-1):</b>	N/A	<b>Site length (m):</b>	14 m
		<b>Site width (m):</b>	6.9 m
		<b>Site area (m2)*:</b>	96.76 m2

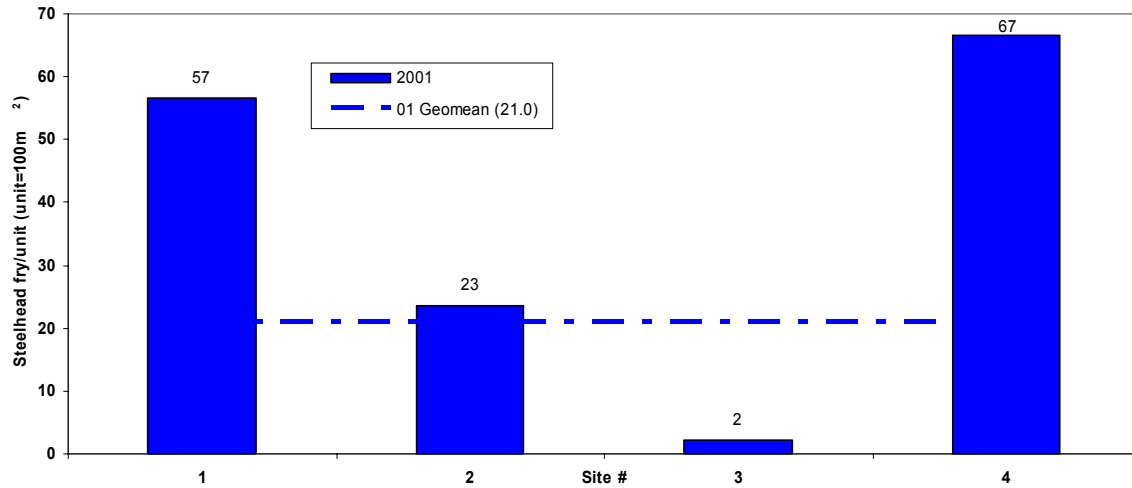
\* At non-symmetrical sites, area is calculated from field measurements, not as site length\* site width

APPENDIX iv. Juvenile assessment results (2001) for the Ash River (cont'd).

(Provided by the Steelhead Crew, Nanaimo.)

<b>Ash River</b>				
<b>Juvenile Steelhead Electrofishing Results</b>				
			<b>Alkalinity=</b>	18.40
			<b>Biomass=</b>	155.7
<b>2001</b>				
Site #	Mean Weight	D/V Adj'd	Predicted	% of
	(grams)	FPU	FPU	Predicted
1	2.68	56.73	58.2	98%
2	3.88	23.48	40.2	58%
3	2.31	2.20	67.4	3%
4	7.63	66.60	20.4	326%
<b>MEAN</b>	<b>4.12</b>	<b>*21.01</b>	<b>46.55</b>	<b>121%</b>
* NOTE: These are geometric means. To calculate a geometric mean, values in the array must be >0. For the purpose of the calculation, any zero (0) values were assumed to be 0.1				

Depth/velocity adjusted steelhead fry abundance in 4 electrofishing sites in the Ash River



APPENDIX iv. Juvenile assessment results (2001) for the Ash River (cont'd).

(Provided by the Steelhead Crew, Nanaimo.)

**Depth/velocity adjusted steelhead fry abundance at 4 electrofishing sites on the Ash River as a percentage of predicted abundance.**

Ptolemy (1993) alkalinity model. Predicted biomass for 0+ age class is 155.71 g/100m<sup>2</sup>.

