

APPENDIX L

**SUMMARY OF STREAM SURVEY DATA FOR
BALLENGER, BENNETT, AND LINGANORE CREEK
MONITORING SITES SAMPLED IN 2005**

Table L-1. Summary of field habitat data from sites sampled in 2005, including results from previous years.

Station ID	Date Sampled	Avg. Wetted Width (m)	Avg. Channel Width (m)	Avg. Thalweg Depth (m)	Slope	Discharge (cfs)	Discharge (cms)	D50 (mm)	Percent Riffle	Percent Pool	Percent Run	Avg. Percent Canopy Cover	Buffer Width Left Bank (m)	Buffer Width Right Bank (m)
BALL-04	04/25/00	7.5	11.0	0.64	8.3E-05	32.27	1.055	0.125	0%	0%	100%	80%	20	>30
	06/10/03	8.10	9.9	0.99	0.003	57.17	1.619	*	14%	73%	14%	89%	50	40
	09/13/04	7.4	8.8	0.51	0.001	6.67	0.189	0.6	0%	0%	100%	69%	50	50
	03/21/05	7.4	9.0	0.48	0.002	3.34	0.095	0.8	36%	13%	51%	65%	50	50
BALL-07	09/13/04	7.1	9.2	0.44	0.0002	3.67	0.104	0.5	0%	0%	100%	44%	50	20
	03/21/05	7.2	9.2	0.33	0.0055	34.77	0.984	10.0	45%	8%	47%	55%	50	50
BENN-03	04/28/05	3.0	5.0	0.42	0.0001	5.25	0.148	22.6	25%	40%	35%	755	50	50
BENN-04	04/28/05	2.8	4.0	0.37	0.0055	5.77	0.163	32.0	33%	43%	24%	45%	50	50
LING-01	04/25/01	20.1	21.6	0.61	0.0002	51.65	1.463	6.3	0%	0%	100%	50%	12	50
	07/24/01	ns	ns	0.50	ns	19.81	0.561	ns	ns	ns	ns	90%	ns	ns
	04/27/05	20.8	21.5	0.70	0.0001	9.60	0.272	27.0	0%	0%	100%	43%	10	50
LING-02	04/25/01	18.0	25.5	0.75	0.0009	51.77	1.466	0.2	43%	17%	40%	27%	50	50
	07/27/01	ns	ns	0.50	ns	15.39	0.436	ns	ns	ns	ns	90%	ns	ns
	04/30/05	18.0	24.8	0.82	0.0013	61.36	1.737	13.3	16%	43%	41%	28%	50	50
LING-03	04/25/01	14.1	18.2	0.42	0.003	37.30	1.056	0	53%	0%	47%	37%	4	50
	08/07/01	ns	Ns	0.34	ns	**	**	ns	ns	ns	ns	30%	ns	ns
	04/27/05	14.8	17.3	0.39	0.0011	10.14	0.287	46.0	36%	8%	56%	30%	50	50

Table L-1. (Continued)

Station ID	Date Sampled	Avg. Wetted Width (m)	Avg. Channel Width (m)	Avg. Thalweg Depth (m)	Slope	Discharge (cfs)	Discharge (cms)	D50 (mm)	Percent Riffle	Percent Pool	Percent Run	Avg. Percent Canopy Cover	Buffer Width Left Bank (m)	Buffer Width Right Bank (m)
LING-04	04/25/01	2.4	4.8	0.10	0.022	0.59	0.017	19.3	81%	19%	0%	67%	2	50
	07/24/01	ns	ns	0.09	ns	0.14	0.003	ns	ns	ns	ns	90%	ns	ns
	04/26/05	2.5	4.4	0.18	0.019	0.27	0.008	22.6	32%	51%	17%	75%	40	40
LING-06	04/24/01	1.9	7.0	0.16	0.011	1.11	0.031	16	76%	16%	8%	80%	50	8
	07/12/01	ns	ns	0.14	ns	0.66	0.018	ns	ns	ns	ns	90%	ns	ns
	04/27/05	2.9	5.6	0.20	0.001	1.17	0.033	22.6	41%	25%	33%	73%	50	25
LING-07	04/25/01	3.8	6.1	0.20	0.001	5.42	0.154	2	63%	12%	25%	0%	0	0
	07/13/01	ns	ns	0.20	Ns	2.64	0.075	ns	ns	ns	ns	0%	ns	Ns
	04/27/05	3.3	4.0	0.22	0.004	4.17	0.118	13.0	48%	36%	16%	0%	50	45
LING-08	04/24/01	3.0	6.8	0.12	0.012	0.37	0.011	15.9	61%	7%	32%	70%	50	10
	07/12/01	ns	ns	0.08	ns	0.25	0.007	ns	ns	ns	ns	95%	ns	ns
	04/27/05	3.0	5.7	0.13	0.012	0.20	0.006	30.0	67%	9%	24%	75%	50	35
LING-09	04/24/01	3.1	6.1	0.23	0.009	1.94	0.055	13.6	41%	37%	22%	50%	35	25
	07/23/01	ns	ns	0.20	ns	0.33	0.009	ns	ns	ns	ns	80%	ns	ns
	04/27/05	2.8	4.6	0.25	0.010	0.85	0.024	31.0	39%	47%	15%	68%	35	40

* No pebble count performed, site was too deep.

** Not measured due to equipment malfunction in the field.

ns = Not Sampled.

Table L-2. Summary of field water quality data from sites sampled in 2005, including results from previous years.

Station ID	Date Sampled	Water Temperature (°C)	Dissolved Oxygen (mg/l)	pH	Specific Conductivity (mS/cm)	Turbidity (NTU)
BALL-04	04/25/00	11.26	8.94	6.81	0.362	12.2
	10/05/00	16.09	5.75	7.96	0.485	5.0
	3/25/03	12.86	15.95	7.52	0.418	*
	04/28/04	9.64	14.2	7.42	0.403	*
	09/13/04	17.0	10.4	7.03	0.518	16.2
	03/21/05	7.1	10.4	7.25	0.168	49.1
	08/16/05	20.3	5.7	7.66	0.545	12.8
BALL-07	04/28/04	10.3	19.4	7.54	0.401	*
	09/13/04	20.5	13.1	7.51	0.476	9.5
	03/21/05	6.8	10.6	7.38	0.240	61.1
	09/21/05	17.1	6.4	7.42	0.514	9.4
BENN-03	04/28/05	12.0	10.4	7.97	0.154	8.2
	06/30/05	20.8	9.4	6.94	0.178	*
BENN-04	04/28/05	15.2	8.3	7.96	0.164	9.5
	07/13/05	21.2	7.3	7.40	0.178	13.2
LING-01	04/25/01	13.5	10.4	7.91	0.226	6.9
	07/24/01	23.5	6.7	7.53	0.259	12.9
	04/27/05	13.0	7.1	8.22	0.217	84.2
	09/22/05	21.0	8.8	7.44	0.240	19.3
LING-02	04/25/01	12.8	11.4	7.86	0.239	26.8
	07/27/01	21.0	7.6	7.50	0.243	19.6
	04/30/05	12.2	10.0	7.61	0.169	40.6
	09/27/05	19.5	12.0	6.90	0.267	6.3
LING-03	04/25/01	12.9	12.2	8.27	0.240	2.9
	08/07/01	25.1	10.3	7.37	0.246	49.2
	04/27/05	16.2	8.3	8.89	0.216	23.2
	09/22/05	19.0	9.6	7.94	0.272	4.4
LING-04	04/25/01	12.3	10.5	7.47	0.218	5.4
	07/24/01	19.6	8.2	7.61	0.213	11.6
	04/26/05	16.0	10.1	8.24	0.212	13.8
	07/13/05	21.3	8.4	7.10	0.233	10.2

Table L-2. (Continued)

Station ID	Date Sampled	Water Temperature (°C)	Dissolved Oxygen (mg/l)	pH	Specific Conductivity (mS/cm)	Turbidity (NTU)
LING-06	04/24/01	18.9	9.1	8.11	0.324	6.8
	07/12/01	20.1	10.5	8.02	0.421	24.4
	04/27/05	12.8	10.8	8.00	0.372	24.2
	06/22/05	17.6	9.1	7.92	0.401	20.7
LING-07	04/25/01	14.4	12.5	8.48	0.170	7.3
	07/13/01	21.6	**	7.83	0.250	10.4
	04/27/05	14.2	8.8	8.00	0.167	81.0
	06/27/05	22.5	8.9	7.80	0.420	10.6
LING-08	04/24/01	17.6	9.9	7.94	0.302	0.7
	07/12/01	19.2	10.8	7.88	0.361	2.8
	04/27/05	15.8	7.8	8.68	0.324	7.5
	07/13/05	22.1	10.2	7.59	0.42	10.6
LING-09	04/24/01	19.1	10.5	8.10	0.361	0.5
	07/23/01	19.1	9.1	7.54	0.753	20.9
	04/27/05	12.5	10.9	7.67	0.364	23.7
	06/27/05	20.8	7.1	6.89	0.394	5.3
* Data not available.						
** Not measured due to equipment malfunction in the field.						

Table L-3. Summary of benthic macroinvertebrate results from sites sampled in 2005, including results from previous years.			
Station	Date sampled	Number of taxa	Benthic IBI Score
BALL-04	03/25/03	27	2.00
	04/28/04	24	2.50
	03/21/05	27	2.75
BALL-07	04/28/04	22	1.75
	03/21/05	24	2.25
BENN-03	04/28/05	38	2.75
BENN-04	04/28/05	23	3.25
LING-01	04/25/01	23	1.50
	04/27/05	21	2.25
LING-02	04/25/01	28	2.75
	04/30/05	20	1.75
LING-03	04/25/01	30	2.25
	04/27/05	28	2.50
LING-04	04/25/01	29	3.25
	04/26/05	29	3.00
LING-06	04/24/01	28	2.75
	04/27/05	23	2.00
LING-07	04/25/01	37	2.25
	04/27/05	29	3.00
LING-08	04/24/01	28	3.75
	04/27/05	14	1.50
LING-09	04/24/01	28	2.00
	04/27/05	12	1.50

Table L-4. Summary of fish results from sites sampled in 2005, including results from previous years.					
Station ID	Date Sampled	Number of Taxa	Percent of Tolerant Individuals	Fish IBI Score	Fish IBI Rating
BALL-04	10/05/00	15	23%	3.33	Fair
	08/20/02	9	1	3.67	Fair
	09/13/04	12	43%	4.33	Good
	08/16/05	15	43%	4.67	Good
BALL-07	09/13/04	12	35%	4.67	Good
	09/21/05	15	33%	5.00	Good
BENN-03	06/30/05	10	62%	3.67	Fair
BENN-04	07/13/05	15	58%	3.67	Fair
LING-01	07/24/01	15	68%	3.33	Fair
	07/13/05	20	61%	3.33	Fair
LING-02	07/27/01	24	69%	3.67	Fair
	06/22/05	19	67%	3.67	Fair
LING-03	08/07/01	20	52%	4.00	Good
	09/22/05	22	55%	3.67	Fair
LING-04	07/24/01	5	81%	3.33	Fair
	09/27/05	9	92%	3.33	Fair
LING-06	07/12/01	11	39%	4.33	Good
	09/22/05	13	39%	4.33	Good
LING-07	07/13/01	15	50%	4.00	Good
	06/27/05	14	34%	5.00	Good
LING-08	07/12/01	6	87%	3.33	Fair
	07/13/05	9	96%	3.33	Fair
LING-09	07/23/01	10	38%	5.00	Good
	06/27/05	12	30%	4.67	Good

Table L-5. Qualitative habitat scores using MBSS protocols for sites sampled in 2005, including results from previous years.

Site	Date	Instream habitat (0-20)	Epifaunal substrate (0-20)	Velocity-depth diversity (0-20)	Pool-glide quality (0-20)	Riffle-run quality (0-20)	Embeddedness	Shading
BALL-04	08/20/02	10	7	14	17	8	30%	90%
	09/13/04	10	8	14	13	11	100%	65%
	08/16/05	14	8	12	14	13	80%	70%
BALL-07	09/13/04	11	7	13	14	14	80%	55%
	09/21/05	12	7	13	16	12	75%	30%
BENN-03	06/30/05	14	13	14	13	15	60%	85%
BENN-04	07/13/05	15	8	17	17	18	70%	35%
LING-01	07/24/01	10	8	6	10	0	40%	65%
	09/24/01	11	9	3	13	0	45%	10%
	09/22/05	18	15	8	17	9	45%	60%
LING-02	07/27/01	8	5	16	11	13	60%	90%
	09/26/01	2	23	26	2	20	35%	60%
	09/27/05	14	10	15	15	16	70%	50%
LING-03	08/07/01	13	16	10	10	16	40%	30%
	09/26/01	15	12	14	15	11	40%	60%
	09/22/05	16	14	9	10	14	50%	50%
LING-04	07/24/01	11	14	7	6	13	15%	90%
	09/24/01	8	14	8	6	9	40%	85%
	07/13/05	18	16	10	9	15	50%	90%
LING-06	07/12/01	14	16	16	13	13	25%	90%
	09/26/01	11	14	11	11	14	20%	85%
	06/22/05	16	14	14	15	14	50%	85%
LING-07	07/12/01	12	11	7	6	14	15%	0%
	09/26/01	12	15	9	9	15	30%	0%
	06/27/05	8	10	13	14	14	50%	10%
LING-08	07/12/01	15	13	10	8	14	30%	95%
	09/24/01	10	16	7	8	10	25%	95%
	07/13/05	14	13	9	7	8	45%	85%
LING-09	07/23/01	15	12	14	15	15	25%	80%
	09/24/01	15	13	10	15	10	35%	60%
	06/27/05	17	14	14	14	13	45%	70%

