

10-1972

## L.A. General Data

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THIRTY-YEAR ANNUAL REPORT  
PART FOUR  
LEWISTON-AUBURN GENERAL DATA  
1972

Introduction.

River odor intensities were very low and excepting Gulf Island Dam area not objectionable. Foam was always present but covered smaller areas and less persistent than last year. Weather and river flows were 'good'. Up-stream conditions were better than many recent years and fortunately serious 'spills' were less frequent.

Daily Reports.

The format of these reports was changed; a single sheet now contains the record of observations made on each of six days during a week. The weekly reports are numbered one to fifteen and contain a record of:

- a. River odor, type and intensity at six locations
- b. Air Temperature
- c. General Weather conditions
- d. Foam areas
- e. Wind direction
- \*f. Conditions at Gulf Island and Deer Rips Dams  
\*(Frequent but not daily)

These reports were mailed to Messrs Stubbert, Cooper and Stevens (to July 31), then Linder.

River Odor.

June to mid-August pig-pen odor was

dominant in the Pool from Mile Two northward, but often less intense than last year. Hydrogen sulfide at Gulf Island Dam became noticeable about mid-July and intermittently until the end of August, but at no time this season covered any large area. River odor in downtown Lewiston and Auburn was reported on twelve days, four were identified as 'Kraft' and eight as 'Musty'; a remarkably small number considering the fact that water was passing over the Lewiston Falls (Great Falls) on fifty-seven of the ninety observation days. Lewiston canal system was empty from July one to July six and many compliments were received on "the absence of odor". Last year, 1971, the press and public objected in no uncertain tone to the "terrible odor" when the canals were empty.

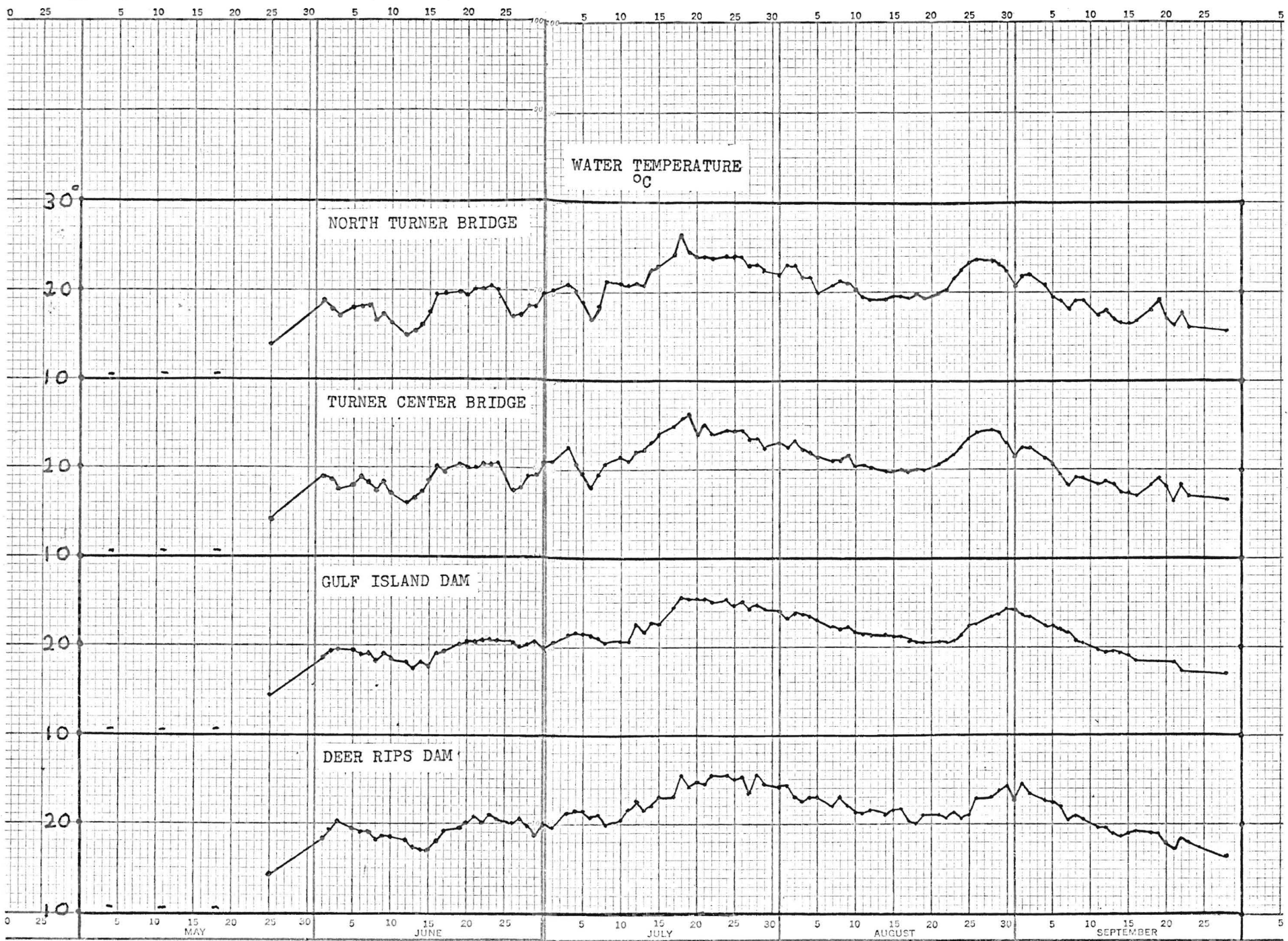
Air Temperature.

Mean hourly temperatures reported by Union Water Power Company were above the eighty-eight year average during May, July and September but below during June and August.

Table #1

Mean Hourly Temperatures (°F)  
(Lewiston)

Year	May	June	July	August	September
1972	54.83	61.96	69.33	66.49	59.99
1971	53.66	65.81	69.64	68.40	62.40
1970	55.94	64.64	70.62	69.56	59.58
1969	53.47	64.23	67.44	69.50	59.46
1968	53.01	60.60	70.39	65.76	61.31
1967		65.37	69.19	68.23	60.19
1966		64.43	69.01	67.07	56.88
88 year aver.	53.64	63.29	68.90	66.75	59.27
Deviation from average	+1.19	-1.33	+0.43	-0.26	+0.72



1972

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Water Temperatures.

River water temperatures at Gulf Island Dam were below the thirty year average, May through August and 0.5°C above the long range average for September. From July seventeen to nineteen inclusive the temperature at Mile 4.25 was 25.5°C. The season's high was 26.0°C at Mile 2.5 on July eighteen.

Table #2

Water Temperature (°C)  
Gulf Island Dam

Year	May*	June	July	August	September**
1972	9.3	19.3	23.1	21.2	20.0
1971	11.5	20.7	24.2	23.6	20.7
1970	11.4	21.1	23.1	24.7	19.1
1969	9.0	19.4	22.5	22.4	20.2
1968	12.6	18.0	23.5	22.4	20.0
1967	8.9	19.7	23.4	23.8	20.4
1966	10.9	20.4	24.1	23.0	20.2
30 year average	12.0	19.8	23.5	22.9	19.5
Deviation	-2.7	-0.3	-0.4	-1.7	0.5

\*Thursday's only

\*\*To September 23

Precipitation.

Monthly precipitation exceeded the ninety-eight year average May, June, July and September but was 1.17 inches less than the long range average in August. Precipitation in June, 6.13 inches, was the largest in at least a decade.

Table #3  
Monthly Precipitation (inches)  
(Lewiston)

Year	May	June	July	August	September
1972	3.59	6.13	3.82	1.90	3.97
1971	3.84	2.80	4.48	3.59	3.37
1970	2.87	2.36	3.04	2.39	3.17
1969	2.47	4.23	3.11	3.76	4.50
1968	4.02	4.20	1.94	2.02	2.29
1967	2.94	4.22	3.78	2.23	3.09
1966	3.82	5.57	2.09	3.72	3.94
1965		2.15	1.39	2.30	1.91
98 year average	3.36	3.38	3.45	3.07	3.48
Deviation from average	+0.33	+2.75	+0.37	-1.17	+0.49

River Flows.

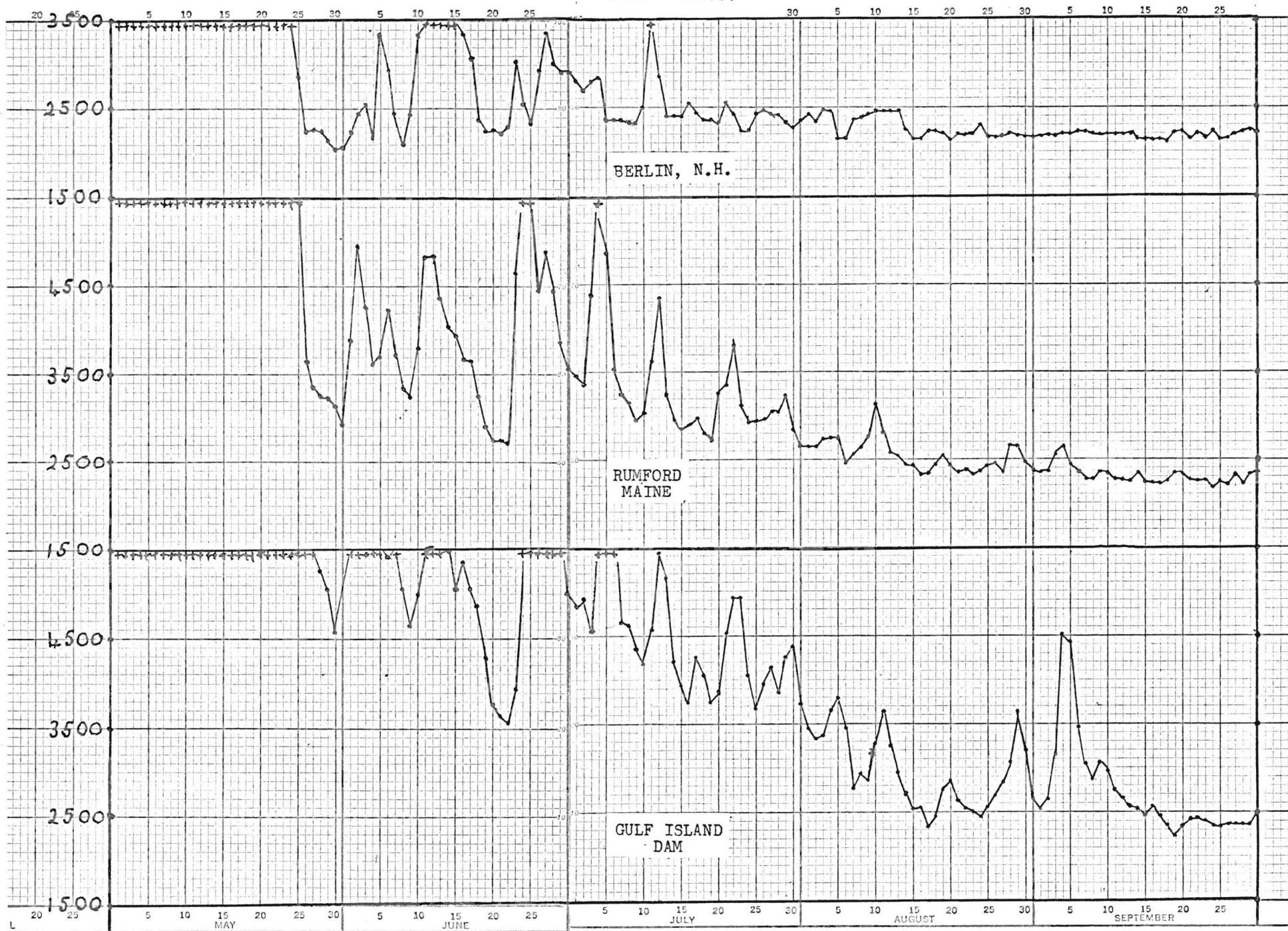
At Gulf Island Dam river flows were above the thirty-six year average May through September. July flows were the largest recorded in more than a decade, however, during August the flow was only thirty-four cfs above the long range average.

Table #4  
Average Daily Flows (cfs)  
(Gulf Island Dam)

Year	May	June	July	August	Sept.	J.A.S. average
1972	16779	5642	4642	2960	2725	3442
1971	13308	3449	2310	2264	2250	2275
1970	11755	3378	2392	2034	2110	2179
1969	19297	5974	4102	4957	3065	4041
1968	5302	6527	4111	2360	2221	2897
1967	9684	4590	2725	2525	2377	2542
1966	8025	4664	2725	2146	2228	2366
1965	4000	2552	1832	1747	1990	1856
1938-1972 36 year ave.	10405	4762	2920	2520	2691	2710
Deviation from aver.	+6374	+880	+1722	+440	+34	+732



ANDROSCOGGIN RIVER  
FLOW c.f.s.



1972

YEAR OF 1

River Surface  
Conditions.

Foam covered smaller areas and was not as persistent as last year. The reduction may be attributed to the lower concentration of Mill pollution and domestic detergents in the water due to larger flows and fewer serious "spills and Dumps". Several adverse comments were received, all of them about the "unsightly foam". Foam in the region of the aerators covered a much smaller area and was not as thick as that observed last summer (1971).

Floating vegetation, water grasses, etc. occasionally were reported present in the Pool but never in large amounts and did not create any serious problems at Deer Rips Dam. Blue green algae were not observed this season.

Lewiston Canal.

Through the entire test season there were no zero dissolved oxygen analyses, only three reports below 0.5 ppm and sixteen below 1.0 ppm. Comparison of these statistics, with those listed below, indicates that this season was better than any previous one since 1965.

	Lewiston	
	Below ONE ppm	Below 0.5 ppm
1972	16 days	3 days
1971	67 "	46 "
1970	30 "	15 "
1969	14 "	5 "
1968	44 "	31 "
1967	35 "	12 "
1966	26 "	13 "
1965	0 "	0 "

Analytical and test data are recorded in Table #5 and other adjacent pages.



Table #5  
LEWISTON (CANAL) 1972  
River Statistics\*

Date	Water Temp. °C	pH	Dissolved Oxygen ppm	% Sat.	B.O.D. 5 day ppm	River Flow G.I.D.
May 4	5.9	6.6	13.0	103.8	3.3	28030
11	7.7	6.7	12.2	101.8	1.8	19910
18	9.1	6.7	11.8	102.0	1.8	17760
25	14.3	6.6	9.7	93.8	1.7	9970
June 1	18.9	6.5	6.0	63.8	2.3	6050
8	18.0	6.6	6.1	64.2	2.0	5080
15	17.2	6.7	6.4	66.3	2.1	5060
22	19.9	6.4	2.5	27.1	4.1	3580
29	18.8	6.6	5.8	61.6	2.3	5700
July 6	20.5	6.4	5.2	57.1	4.5	6250
13	21.0	6.3	2.4	26.7	1.8	5160
20	24.3	6.4	1.3	15.3	1.7	3870
27	23.4	6.4	1.9	22.0	1.5	4120
Aug. 3	22.3	6.3	1.1	12.5	2.0	3390
10	20.9	6.3	1.4	15.5	2.1	3290
17	20.0	6.4	1.1	12.0	2.3	2350
24	20.7	6.3	0.6	6.6	2.2	2450
31	22.7	6.5	0.8	9.2	2.0	2660
Sept. 7	20.3	6.6	2.1	23.0	1.8	3030
14	18.5	6.5	2.0	21.2	1.7	2520
21	17.1	6.7	2.7	27.9	2.1	2410
28	16.2	6.6	1.4	14.1	2.6	2350
Oct. 5	15.6	6.5	1.4	13.9	2.6	2430

\*Thursday data only

Fish-Kills.

No serious fish-kills were reported this year. One dead sucker was observed in the Mile three-four area on three different days. Five dead suckers and one perch were seen in a group of sludge floaters in the area near the dismantled bridge in the Nezinscot river, upstream from the Pool.

Press Reports.

Public interest in the environment is evidenced by the space devoted to the subject in the local and national press. Due to the almost complete absence of objectionable odor in the Lewiston-Auburn area, the major topics are Solid Waste Disposal and the building of a domestic waste treatment system. Local newspapers have published several reports on the progress made in the construction of the Lewiston-Auburn sewage treatment plant and the trunk lines to it. Target date for completion is October 1973.

LEWISTON  
May, June, 1972

Date	Temp. °C	pH	D.O. ppm	D.O. % Sat.	B.O.D. ppm
May					
4	5.9	6.6	13.0	103.8	3.3
11	7.7	6.7	12.2	101.8	1.8
18	9.1	6.7	11.8	102.0	1.8
25	14.3	6.6	9.7	93.8	1.7
June					
1	18.9	6.5	6.0	63.8	2.3
2	19.0	6.5	6.0		
3	19.9	6.5	7.0		
5	18.7	6.5	6.7		
6	18.6	6.5	5.9		
7	18.1	6.4	6.1		
8	18.0	6.6	6.1	64.2	2.0
9	18.3	6.4	5.0		
10	18.3	6.4	5.5		
12	17.5	6.3	5.5		
13	17.0	6.4	6.6		
14	17.0	6.5	6.9		
15	17.2	6.7	6.4	66.3	2.1
16	17.9	6.6	5.6		
17	18.5	6.6	5.7		
19	19.0	6.5	4.5		
20	19.0	6.5	4.0		
21	20.0	6.4	3.5		
22	19.9	6.4	2.5	27.1	4.1
23	20.5	6.3	2.6		
24	20.5	6.2	1.9		
26	20.0	6.6	5.3		
27	20.0	6.6	4.3		
28	19.5	6.5	5.7		
29	18.8	6.6	5.8	61.6	2.3
30	19.0	6.5	5.4		

## LEWISTON

July, 1972

Date	Temp. C	pH	D.O. ppm	D.O. % Sat.	B.O.D. ppm
3	20.2	6.3	3.1		
4	20.5	6.3	3.6		
5	21.2	6.6	6.8		
6	20.5	6.4	5.2	57.1	4.5
7	20.0	6.4	4.5		
8	20.0	6.4	4.5		
10	20.3	6.2	3.7		
11	20.0	6.4	3.5		
12	21.0	6.3	3.0		
13	21.0	6.3	2.4	26.7	1.8
14	22.2	6.3	2.9		
15	22.7	6.3	1.9		
17	23.5	6.3	1.5		
18	24.0	6.2	1.6		
19	24.1	6.3	1.3		
20	24.3	6.4	1.3	15.3	1.7
21	24.5	6.2	1.1		
22	24.8	6.3	0.6		
24	25.0	6.2	0.3		
25	24.1	6.2	0.9		
26	24.5	6.3	1.2		
27	23.4	6.4	1.9	22.0	1.5
28	24.1	6.3	1.8		
29	24.0	6.3	1.3		

LEWISTON  
August, 1972

Date	Temp. °C	pH	D.O. ppm	B.O.D. ppm
July 31	23.5	6.3	0.3	
Aug. 1	22.9	6.3	0.7	
2	23.0	6.3	1.0	
3	22.3	6.3	1.1	2.0
4	23.0	6.4	1.0	
5	22.8	6.3	1.5	
7	22.0	6.3	1.1	
8	22.1	6.3	1.3	
9	22.0	6.3	1.3	
10	20.9	6.3	1.4	2.1
11	21.5	6.3	2.0	
12	21.5	6.3	1.3	
14	21.0	6.3	0.5	
15	20.5	6.3	1.4	
16	20.5	6.3	1.4	
17	20.0	6.4	1.1	
18	20.1	6.3	1.1	2.3
19	20.8	6.2	0.5	
21	20.9	6.3	0.9	
22	20.1	6.2	0.7	
23	20.5	6.2	0.6	
24	20.7	6.3	0.2	2.2
25	21.2	6.3	0.7	
26	21.1	6.3	0.8	
28	22.5	6.3	1.4	
29	22.5	6.3	0.9	
30	22.9	6.4	1.4	
31	22.7	6.5	0.8	2.0

LEWISTON  
September, 1972

Date	Temp. °C	pH	D.O. ppm	B.O.D. ppm
1	23.0	6.5	0.9	
2	23.0	6.3	0.5	
4	21.1	6.5	2.4	
5	22.7	6.4	2.2	
6	22.0	6.4	2.1	
7	20.3	6.6	2.1	1.8
8	20.5	6.4	1.9	
9	20.1	6.6	2.7	
11	19.0	6.5	3.2	
12	20.0	6.5	3.5	
13	19.0	6.5	2.5	
14	18.5	6.5	2.0	1.7
15	18.8	6.4	1.8	
16	18.1	6.4	1.5	
21	17.1	6.7	2.7	2.1
23	17.1	6.5	2.3	
28	16.2	6.6	1.4	2.6
Oct. 5	15.6	6.5	1.4	2.6



## ANDROSCOGGIN RIVER FLOW

C. F. S.

May, 1972

Date	BERLIN	RUMFORD	LIVERMORE FALLS	GULF ISLAND DAM
1	6278	15470	15080	17900
2	7766	17810	19150	22280
3	9216	19070	21220	24130
4	10347	22230	23910	28030
5	10703	23160	26190	29570
6	9620	20260	25880	28200
7	10609	21140	23670	26570
8	10625	21990	24460	27290
9	9598	18680	24440	26530
10	8569	15770	20990	22960
11	7876	13570	18010	19910
12	7171	12290	15560	17260
13	6607	11440	14150	15740
14	6837	12570	13430	15130
15	7099	14750	14980	17040
16	7548	14710	17100	19100
17	7290	14340	16770	18530
18	6980	13140	16190	17760
19	6384	11720	14960	16510
20	7054	10760	13370	14780
21	6839	11060	12590	14150
22	6503	10300	12670	14040
23	6110	8800	11600	12700
24	5026	7820	9970	10960
25	2883	5490	8980	9970
26	2245	3680	6680	7690
27	2273	3390	4900	5940
28	2251	3290	4910	5280
29	2165	3220	4240	5050
30	2058	3140	3960	4590
31	2071	2940	3910	4560
Monthly Average	6600	12516	14949	16779

## ANDROSCOGGIN RIVER FLOW

C. F. S.

June, 1972

Date	BERLIN	RUMFORD	LIVERMORE FALLS	GULF ISLAND DAM
1	2234	3900	4620	6050
2	2453	4980	6260	8270
3	2536	4290	6550	7880
4	2190	3610	5520	6560
5	3371	3700	4640	5520
6	2945	4240	4630	5420
7	2446	3710	5090	5820
8	2098	3350	4450	5080
9	2440	3240	4070	4680
10	3313	3800	4190	5000
11	4019	4840	5060	6140
12	3957	4840	5810	6640
13	3724	4380	5510	6080
14	3652	4070	4980	5500
15	3553	3940	4600	5060
16	3353	3730	4720	5380
17	3087	3680	4450	5070
18	2382	3270	4330	4890
19	2265	2900	3810	4270
20	2279	2760	3380	3790
21	2212	2740	3240	3650
22	2299	2710	3190	3580
23	3042	4680	3380	3950
24	2556	6840	5820	6790
25	2337	6550	7570	8200
26	2943	4450	6330	7000
27	3375	4900	5410	6220
28	3024	4460	5540	6090
29	2928	3870	5130	5700
30	2912	3560	4480	5000
Monthly Average	2864	4033	4892	5642

## ANDROSCOGGIN RIVER FLOW

C. F. S.

July, 1972

Date	BERLIN	RUMFORD	LIVERMORE FALLS	GULF ISLAND DAM
1	2796	3470	4230	4810
2	2698	3390	4250	4920
3	2804	4390	4030	4570
4	2846	7560	6080	7520
5	2374	4870	8220	8780
6	2395	3530	5610	6250
7	2369	3250	4140	4660
8	2316	3160	3930	4510
9	2331	2970	3810	4360
10	2499	3030	3630	4190
11	3885	3620	3870	4580
12	2873	4350	4600	5430
13	2409	3270	4790	5160
14	2391	2970	3770	4200
15	2397	2860	3480	3920
16	2531	2900	3330	3730
17	2453	2980	3640	4270
18	2386	2800	3560	4060
19	2378	2710	3300	3730
20	2325	3270	3340	3870
21	2559	3360	3940	4520
22	2407	3800	4200	4920
23	2231	3110	4400	4920
24	2245	2920	3620	4050
25	2420	2940	3340	3690
26	2468	2980	3480	3950
27	2410	3040	3600	4120
28	2409	3040	3490	3870
29	2329	3240	3690	4240
30	2290	2840	3860	4390
31	2360	2680	3310	3710
Monthly Average	2503	3397	4082	4642

## ANDROSCOGGIN RIVER FLOW

C. F. S.

August, 1972

Date	BERLIN	RUMFORD	LIVERMORE FALLS	GULF ISLAND DAM
1	2413	2670	3110	3470
2	2365	2660	3030	3330
3	2478	2720	3050	3390
4	2484	2750	3230	3670
5	2147	2730	3320	3800
6	2164	2460	3090	3400
7	2378	2540	2630	2780
8	2407	2630	2760	2940
9	2414	2780	2770	2880
10	2464	3130	3060	3290
11	2469	2810	3410	3650
12	2470	2590	3050	3260
13	2473	2530	2790	2960
14	2257	2450	2620	2700
15	2132	2420	2490	2520
16	2130	2320	2490	2550
17	2206	2330	2340	2350
18	2235	2430	2400	2460
19	2202	2530	2610	2770
20	2141	2410	2700	2850
21	2199	2360	2520	2610
22	2196	2390	2450	2530
23	2207	2330	2450	2500
24	2272	2380	2390	2450
25E*	2186	2420	2480	2560
26E	2167	2460	2570	2700
27E	2187	2360	2660	2840
28E	2200	2680	2740	3060
29E	2190	2680	3191	3630
30E	2193	2480	2960	3200
31E	2170	2390	2580	2660
Monthly Average	2277	2543	2772	2960

\*E - estimated

## ANDROSCOGGIN RIVER FLOW

C. F. S.

September, 1972

Date	BERLIN	RUMFORD	LIVERMORE FALLS	GULF ISLAND DAM
1	2181 E*	2360	2460	2520
2	2188 E	2380	2520	2650
3	2193 E	2570	2800	3160
4	2199 E	2620	3620	4510
5	2198 E	2440	3600	4440
6	2210 E	2340	3000	3480
7	2207 E	2290	2710	3030
8	2203	2290	2610	2890
9	2203	2380	2710	3060
10	2201	2360	2700	2980
11	2202	2290	2580	2770
12	2194	2290	2500	2670
13	2195	2280	2450	2580
14	2176	2340	2410	2520
15	2156	2220	2420	2480
16	2132	2220	2410	2570
17	2131	2200	2350	2470
18	2122	2260	2290	2360
19	2212	2340	2360	2440
20	2216	2310	2340	2340
21	2169	2260	2360	2410
22	2191	2260	2350	2420
23	2161	2230	2340	2400
24	2215	2190	2300	2360
25	2120	2220	2250	2310
26	2110	2210	2300	2360
27	2208	2320	2290	2360
28	2221	2210	2340	2350
29	2255	2330	2300	2370
30	2216	2360	2420	2500
Monthly Average	2186	2312	2536	2725

\*E - estimated