Appendix L: Status Report of Woronoco Permits

Appendix M: 2009 Juvenile American Eel Effectiveness Counts and Passability Test Report

WORONOCO HYDROELECTRIC PROJECT
(FERC NO. 2631)

2009 UPSTREAM EEL LADDER PASSAGE REPORT

REQUIREMENTS:

The Middle, South and rebuilt North eel ladders were to remain in service from May 15 to November 15. The capture tanks are to be checked frequently and a count provided of all eels recovered and their approximate lengths. The air and water temperatures and sky conditions are to be recorded on a daily basis.

DATES OF OPERATION:

The Middle and South eel ladders were both placed into service on May 1st and were in full operation though October 31st.

We make it a practice to dismantle the bottom sections of the Middle ladder during the winter months to prevent destruction (as has happened several times). With the weather deteriorating in late October, we did not wish to expose our personnel to what might have been hazardous conditions by the middle of November. We had not recovered any eels from our tanks since October 10. We contacted Caleb Slater and with his approval, took both the Middle and South ladders out of service on November 1st.

NORTH LADDER:

We did not rebuild the North ladder, which had been carried away by ice, as the steel structure was damaged beyond repair. We are now investigated the feasibility of rebuilding this ladder to run from the deep gate discharge pool up over the North dam, close to the abutment.

FREQUENCY OF EEL RECOVERY:

The capture tanks were checked for eels every morning when possible, throughout the course of the ladders' operation. There were however, a few occasions when the river flow over the dam precluded our getting to the tanks to check them for a day or so.

SUMMARY OF EELS CAPTURED:

- The first eel appeared in the capture tanks on June 3rd, the last on October 10th.
- There were a total of 1,278 eels recovered, 891 from the South tank and 387 from the middle tank.

- There were 1,182 eels that were 4-8 inches in length, 816 from the South tank and 366 from the middle tank.

- There were 75 eels that were 8-12 inches in length, 55 from the South tank and 20 from the middle tank.

- There were 21 eels that were over a foot in length, 20 from the South tank and 1 from the middle tank.

IMPROVEMENTS WE HAVE MADE THIS SEASON:

I believe that there are a number of things that contributed to the 2009 improved eel passage counts through the two active ladders this season:

- The new pump proved to be very reliable. Even during periods of high river flow over the dam, we were able to keep the ladder system operating continuously without shutdowns for repairs. Last year, we went through I believe, three pumps, and there was a lot of down time when flows varied, when pumps failed and when the system would plug up during periods of high river flow. The ladders were virtually in continuous operation this year.

- The new pump, rated at 57 gallons per minute for continuous duty, was set up in a steel cage enclosure in the impoundment, tight against the dam. This helped to keep it clear of debris and allows the floating pump controller to function without hanging up.

- We have redone all of the piping to the capture tanks with 2-inch header pipe up to the tanks, where it is reduced to ¾" piping. We have also incorporated a blow-off valve in the system to prevent the pump from running dry in the event of a clog in the piping.

- The system, as it is setup now, is capable of providing more conveyance water than we can use, whereas last year we were always struggling to get enough water to both ladders. We periodically did an actual measurement of the flow provided to the ladders to ensure that we were putting a minimum of 6 gallons per minute down each ladder.

- We have also piped the overflow from the tanks back down the ladders, augmenting their flow. We were probably pumping about three times more volume of water down the ladders than what we were able to flow last year.

- We added oversize strainers to both attractant flow lines and to the capture tanks' overflow outlets to reduce the incidences of blockage and to extend the time between necessary cleanings.

- We also redesigned the capture tanks to conform to the specifications of a design for eel tanks that we found posted on the Internet by Dr. Alex Haro, of the Conte Center. These changes have made the tanks and ladders into virtually sealed units. The redesign also provides the clearance necessary between the surface of the water in the tank and the top of the ladder, to prevent eels in the tank from getting back onto the ladder once they have been captured. We also purchased the nozzles referenced, and these have worked out very well, eliminating many of the clogging problems we had been experiencing. I think that some eels last year may have been escaping the tanks; I don't believe that any were able to escape in 2009.

- We have also built sturdier, hinged covers for the capture tanks and put locks on the covers and drain valves of the tanks to prevent theft of the eels by fishermen vandalizing the eel ladders and/or predation as observed in 2008. We did not see Blue Herons around the ladders or dam this year.

COMMENTS:

We were able to maintain the ladders' operation throughout the testing period with very few interruptions in either the attraction or conveyance water supplies. The conveyance flow we provided was continually monitored to ensure we were providing a minimum of 6 gallons per minute flow to each ladder. We did experiment with lower conveyance and attractant flow rates on the South (short) ladder and had continued good passage on these occasions.

Other than during periods of high river flow, when river flows were greater than the combined hydraulic capacity of the station and bypass flows, 824 cfs., the head pond level was maintained at 2 ½ inches below the crest of the South dam. During one night time survey, on August 5th, we kept the head pond 1 inch below the South dam crest so there would be increased spillage through the cracks along the North dam and to initiate some spillage over the South dam. We were doing this to try and encourage eel passage over the dams as part of our nighttime eel surveys.

We made the eel ladders' continuous operation a priority this year. We established a daily and weekly maintenance program, which we strictly adhered to. Swift River Hydro employees (mostly the station crew) spent a total of 343.5 man-hours on the eel ladders this season.

Woronoco Hydro UPSTREAM American Eel Data Collection & Monitoring

May 2009

Date	Number of Eels 4 to 8"		Number of Eels 8 to 12"		Number of Eels > 12"		Morning Weather Conditions			River	
	Eel Ladder (MIDDLE)	Eel Ladder (SOUTH)	Eel Ladder (MIDDLE)	Eel Ladder (SOUTH)	Eel Ladder (MIDDLE)	Eel Ladder (SOUTH)	Water Temp. (C.)	Air Temp. (C.)	Sky Condition Overnight	Avg. Daily cfs. At Site	
5/1/09										403	
5/2/09										439	
5/3/09										422	
5/4/09										402	
5/5/09										392	
5/6/09										532	
5/7/09										1,397	
5/8/09										1,036	
5/9/09								17	Light Rain	755	***
5/10/09								12	Thunderstorms	1,233	***
5/11/09								8	Clear	809	***
5/12/09										641	
5/13/09							11	6	Clear	567	
5/14/09							11	11	Light Rain	519	
5/15/09							12	13	Rain	635	
5/16/09							14	15	Partly Cloudy	536	
5/17/09							8	9	Heavy Rain	1,556	***
5/18/09							11	7	Overcast	1,060	***
5/19/09							10	6	Clear	764	***
5/20/09							13	11	Clear	615	
5/21/09							15	14	Clear	513	
5/22/09							17	16	Clear	440	
5/23/09							18	18	Overcast	386	
5/24/09							18	20	Light Rain	357	
5/25/09							19	19	Partly Cloudy	332	
5/26/09							17	10	Clear	291	
5/27/09							15	9	Rain	479	
5/28/09							11	10	Rain	609	
5/29/09							8	7	Rain	582	
5/30/09							9	18	Rain	632	***
5/31/09							9	12	Partly Cloudy	465	
Totals	0	0	0	0	0	0					

Total eels in the capture tanks this month 0

*** Water spilling over the dam

Woronoco Hydro UPSTREAM American Eel Data Collection & Monitoring

June 2009

Date	Number of Eels 4 to 8"		Number of Eels 8 to 12"		Number of Eels > 12"		Morning Weather Conditions			River	
	Eel Ladder (MIDDLE)	Eel Ladder (SOUTH)	Eel Ladder (MIDDLE)	Eel Ladder (SOUTH)	Eel Ladder (MIDDLE)	Eel Ladder (SOUTH)	Water Temp. (C.)	Air Temp. (C.)	Sky Condition Overnight	Avg. Daily cfs. At Site	
6/1/09							9	5	Overcast	382	
6/2/09							10	7	Clear	334	
6/3/09		1					11	8	Mostly cloudy	298	
6/4/09							11	9	Mostly cloudy	272	
6/5/09	2	2		1			10	7	Mostly cloudy	249	
6/6/09							10	10	Overcast	234	
6/7/09		4		1			11	13	Partly cloudy	213	
6/8/09	10	3		1		1	11	9	Partly cloudy	194	
6/9/09	9	14	2	3			11	8	Light rain	205	
6/10/09	1	3					11	7	Light rain	270	
6/11/09	8	1	2				11	8	Light rain	252	
6/12/09	3	3	1				10	11	Heavy rain	1,562	***
6/13/09							10	10	Partly cloudy	952	***
6/14/09							10	9	Heavy rain	2,225	***
6/15/09			1	2		2	10	7	Rain	1,947	***
6/16/09							9	7	Rain	1,730	***
6/17/09	1						9	9	Mostly cloudy	1,075	***
6/18/09							9	6	Rain	2,098	***
6/19/09							9	9	Rain	4,589	***
6/20/09							9	13	Partly cloudy	2,266	***
6/21/09							10	13	Rain	2,184	***
6/22/09							10	11	Light rain	1,518	***
6/23/09							10	13	Overcast	1,090	***
6/24/09							11	14	Overcast	885	***
6/25/09							11	13	Overcast	828	***
6/26/09		3					13	14	Mostly cloudy	698	
6/27/09	2	9		2			12	12	Light rain	702	
6/28/09	5	7	1	1		1	13	12	Light rain	599	
6/29/09	3	7		1			13	12	Light rain	533	
6/30/09	3	4		1			13	14	Overcast	468	
Totals	47	61	7	13	0	4					

Total eels in the capture tanks this month 132

*** Water spilling over the dam

Woronoco Hydro UPSTREAM American Eel Data Collection & Monitoring

July 2009

Date	Number of Eels 4 to 8"		Number of Eels 8 to 12"		Number of Eels > 12"		Morning Weather Conditions			River	
	Eel Ladder (MIDDLE)	Eel Ladder (SOUTH)	Eel Ladder (MIDDLE)	Eel Ladder (SOUTH)	Eel Ladder (MIDDLE)	Eel Ladder (SOUTH)	Water Temp. (C.)	Air Temp. (C.)	Sky Condition Overnight	Avg. Daily cfs. At Site	
7/1/09	5	13	1	1			13	13	Light rain	790	
7/2/09	1	1	1	2			12	13	Rain	865	
7/3/09	1	3					11	14	Rain	1,368	***
7/4/09		2		1		1	11	14	Overcast	1,008	
7/5/09	1	7					12	9	Overcast	765	
7/6/09	3	37		2			12	10	Overcast	626	
7/7/09		30					12	10	Overcast	599	
7/8/09	9	17					12	13	Mostly cloudy	1,048	
7/9/09		15					12	9	Overcast	812	
7/10/09	4	10		2			11	8	Partly cloudy	656	
7/11/09	1	12	1	1			13	11	Partly cloudy	553	
7/12/09	4	7	1	2			13	12	Rain	766	
7/13/09	10	24	1	1			12	6	Clear	724	
7/14/09	8	12					11	10	Clear	539	
7/15/09	3	9					11	7	Clear	453	
7/16/09	5	14					12	14	Partly cloudy	430	
7/17/09	6	13		2			14	15	Rain	649	
7/18/09	14	18	1	1		2	14	13	Rain	964	
7/19/09	10	45	2	3	1		15	18	Partly cloudy	754	
7/20/09	21	31	2	1			14	12	Mostly cloudy	561	
7/21/09	3	32		1			15	12	Light rain	655	
7/22/09	11	15		1		2	14	12	Heavy rain	1,977	***
7/23/09		1					13	13	Overcast	1,386	***
7/24/09		1					12	12	Heavy rain	2,534	***
7/25/09		1		1			12	18	Rain	3,108	***
7/26/09		1					14	17	Light rain	2,173	***
7/27/09						1	13	13	Partly cloudy	1,757	***
7/28/09	1	1				1	13	13	Rain	1,934	***
7/29/09	2	6		1		1	15	15	Overcast	1,454	***
7/30/09							12	14	Heavy rain	3,473	***
7/31/09	1	2		1			13	13	Overcast	3,759	***
Totals	124	380	10	24	1	8					

Total eels in the capture tanks this month **547**

*** Water spilling over the dam

Woronoco Hydro UPSTREAM American Eel Data Collection & Monitoring

August 2009

Date	Number of Eels 4 to 8"		Number of Eels 8 to 12"		Number of Eels > 12"		Morning Weather Conditions			River	
	Eel Ladder (MIDDLE)	Eel Ladder (SOUTH)	Eel Ladder (MIDDLE)	Eel Ladder (SOUTH)	Eel Ladder (MIDDLE)	Eel Ladder (SOUTH)	Water Temp. (C.)	Air Temp. (C.)	Sky Condition Overnight	Avg. Daily cfs. At Site	
8/1/09							13	12	Rain	2,649	***
8/2/09							13	13	Overcast	1,589	***
8/3/09							12	14	Light rain	1,248	***
8/4/09				2		1	12	10	Partly cloudy	970	***
8/5/09		4					14	14	Overcast	787	***
8/6/09		4					13	10	Mostly cloudy	560	***
8/7/09							12	11	Partly cloudy	446	
8/8/09		5		1			11	9	Clear	376	
8/9/09		6		1		1	10	8	Overcast	337	
8/10/09		5					12	13	Light rain	375	
8/11/09		6					15	18	Light rain	359	
8/12/09	3	11		1			16	14	Partly cloudy	305	
8/13/09	15	11	2	1			15	12	Light rain	334	
8/14/09	4	7					13	11	Partly cloudy	309	
8/15/09	10	31					17	22	Partly cloudy	262	
8/16/09	9	54					17	23	Clear	223	
8/17/09	6	61					17	28	Clear	193	
8/18/09	7	22					17	18	Clear	168	
8/19/09	13	see notes					18	25	Partly cloudy	202	
8/20/09	6	37		3			18	26	Clear	201	
8/21/09	5	34	1	3		1	18	26	Partly cloudy	214	
8/22/09	16	7					16	20	Rain	1,079	***
8/23/09		9					15	18	Heavy rain	1,277	***
8/24/09							15	18	Mostly cloudy	730	***
8/25/09	2	9					16	20	Partly cloudy	478	
8/26/09		5		2			15	12	Clear	347	
8/27/09		8		1			14	10	Partly cloudy	273	
8/28/09		1					14	15	Partly cloudy	233	
8/29/09	67	2		1			11	7	Heavy rain	2,098	***
8/30/09	21						11	12	Mostly cloudy	1,483	***
8/31/09	8						10	8	Partly cloudy	773	***
Totals	192	339	3	16	0	3					

*** Water spilling over the dam

Total eels in the capture tanks this month 553

The 96 eels recovered from the middle ladder tank on 8/29, 8/30 and 8/31 were test eels, obtained from Holyoke Power.
We recovered 100 test eels from the south ladder on 8/19 that had previously climbed our ladders and therefore were not counted again.

Woronoco Hydro UPSTREAM American Eel Data Collection & Monitoring

September 2009

Date	Number of Eels 4 to 8"		Number of Eels 8 to 12"		Number of Eels > 12"		Morning Weather Conditions			River
	Eel Ladder (MIDDLE)	Eel Ladder (SOUTH)	Eel Ladder (MIDDLE)	Eel Ladder (SOUTH)	Eel Ladder (MIDDLE)	Eel Ladder (SOUTH)	Water Temp. (C.)	Air Temp. (C.)	Sky Condition Overnight	Avg. Daily cfs. At Site
9/1							8	3	Partly cloudy	521
9/2	1						9	3	Partly cloudy	399
9/3							9	8	Partly cloudy	332
9/4							11	8	Partly cloudy	283
9/5							12	14	Clear	244
9/6		3					12	12	Clear	211
9/7		2					11	13	Overcast	185
9/8				1		1	12	10	Overcast	174
9/9		2					10	3	Mostly cloudy	161
9/10	1	5				2	9	4	Mostly cloudy	142
9/11		2					9	6	Overcast	139
9/12						1	9	9	Light rain	231
9/13		1					11	16	Light rain	276
9/14							11	8	Partly cloudy	223
9/15		1					11	9	Partly cloudy	173
9/16		1					11	8	Overcast	141
9/17		1					10	5	Overcast	130
9/18							7	3	Partly cloudy	124
9/19							6	2	Clear	114
9/20							4	1	Clear	101
9/21							6	6	Mostly cloudy	92
9/22							9	10	Overcast	84
9/23							9	11	Clear	82
9/24							10	12	Clear	82
9/25							11	8	Clear	70
9/26		2				1	7	0	Clear	58
9/27		6		1			8	5	Rain	138
9/28		1					8	7	Partly cloudy	397
9/29							6	4	Partly cloudy	271
9/30							8	7	Partly cloudy	195
Totals	2	27	0	2	0	5				

Total eels in the capture tanks this month 36

Woronoco Hydro UPSTREAM American Eel Data Collection & Monitoring

October 2009

Date	Number of Eels 4 to 8"		Number of Eels 8 to 12"		Number of Eels > 12"		Morning Weather Conditions			River	
	Eel Ladder (MIDDLE)	Eel Ladder (SOUTH)	Eel Ladder (MIDDLE)	Eel Ladder (SOUTH)	Eel Ladder (MIDDLE)	Eel Ladder (SOUTH)	Water Temp. (C.)	Air Temp. (C.)	Sky Condition Overnight	Avg. Daily cfs. At Site	
10/1/09							7	0	Partly cloudy	149	
10/2/09	1						6	8	Mostly cloudy	124	
10/3/09							7	12	Light rain	168	
10/4/09		2					8	12	Mostly cloudy	324	
10/5/09		3					8	8	Clear	254	
10/6/09							10	8	Clear	198	
10/7/09							7	8	Heavy rain	286	
10/8/09		3					6	5	Mostly cloudy	435	***
10/9/09							7	5	Mostly cloudy	291	
10/10/09		1					7	9	Partly cloudy	273	
10/11/09							5	-1	Partly cloudy	244	
10/12/09							3	0	Clear	199	
10/13/09							4	2	Rain	202	
10/14/09							2	-4	Clear	254	
10/15/09							3	-3	Overcast	215	
10/16/09							2	-4	Light Snow	191	
10/17/09							1	2	Partly cloudy	171	
10/18/09							2	3	Light rain	168	
10/19/09							3	-2	Partly cloudy	224	
10/20/09							2	-1	Partly cloudy	210	
10/21/09							3	0	Clear	183	
10/22/09							3	4	Clear	167	
10/23/09							3	5	Overcast	151	
10/24/09							2	4	Rain	557	
10/25/09							4	8	Clear	2,190	***
10/26/09							4	6	Clear	1,558	***
10/27/09							3	1	Overcast	738	***
10/28/09							4	8	Rain	1,341	***
10/29/09							3	7	Partly cloudy	1,899	***
10/30/09							4	8	Overcast	1,302	***
10/31/09							5	7	Light rain	876	***
Totals	1	9	0	0	0	0					

Total eels in the capture tanks this month

*** Water spilling over the dam

WORONOCO HYDROELECTRIC PROJECT
(FERC NO. 2631)

REPORT ON THE 2009 PHASE I PASSABILITY TESTING OF THE EEL LADDERS

REQUIREMENTS:

The tests are to consist of a minimum of 100 juvenile eels being placed in a secure containment area at the bottom of each ladder. We are then to monitor and record the eel's success at reaching the capture tanks at the top of the ladders.

COMMENTS:

We had numerous instances of high river flow and spillage over the dam through June and July and were not able to prepare our ladders for testing until August. When we were ready for testing, we were unable to obtain any juvenile eels from Holyoke Power, our previous source. We made arrangements to get eels from the DEP in Connecticut, but were unable to obtain the proper permits. We had begun asking Caleb Slater for his agency's approval to use eels recovered in our own tanks for the testing in early July, but had not received an answer by the time of our test of the south ladder. Nevertheless, with no other option at the time, we used 100 of our own recovered eels for the test. We subsequently, on August 27th, received permission from John Warner to use our own eels for testing. We were no longer capturing eels in any number, so this was not an option.

We were able to obtain 103 eels from Holyoke Power on August 28th; these were used for our test of the middle ladder on August 28th.

SOUTH LADDER TEST:

On August 18 we prepared the south ladder for testing by draining and then refilling the capture tank to ensure there were no eels already present. We adjusted the conveyance flow to a measured 6 gallons per minute. We then installed the containment basket at the bottom of the ladder taking pains to eliminate any possible method of escapement.

At approximately 9:10 PM we placed 100 eels from our holding tank into the containment basket. The next morning at 10:00 AM we recovered 96 eels from the south ladder capture tank. At noon we recovered 3 more eels and at 3:00 PM we recovered the final eel.

Results: 100% efficiency in 18 hours from the time of release.

If eels from Holyoke Power or another source had become available to us this season, we would have repeated the testing of this ladder using those eels to satisfy any objections that may arise concerning the use of our own captured eels.

MIDDLE LADDER TEST:

On August 28 we prepared the middle ladder for testing by draining and then refilling the capture tank to ensure there were no eels already present. We adjusted the conveyance flow to a measured 6 gallons per minute. We then installed the containment basket at the bottom of the ladder; again ensuring there was not the slightest opening an eel could escape through.

We had picked up a batch of eels from Holyoke Power in the morning. The weather was deteriorating in the early afternoon, with heavy rain being forecast; we decided to start the test in the afternoon, as this ladder's base is treacherous to get to when the rocks and ladder are wet.

At 3:40 PM, we placed 103 juvenile eels in the containment area at the bottom of the ladder. The next morning at 9:00 AM we recovered 47 eels from the capture tank. We recovered and released another 20 eels in small batches by 6:40 PM on this day. We recovered 19 more eels at 9:00 AM and 2 more eels at 6:00 PM on August 30. We recovered 8 more eels on the morning of the 31st. This was a total of 96 out of 103 test eels recovered.

Results: 46% efficiency in 18 hours from the time of release
65% efficiency in 27 hours from the time of release
83% efficiency in 42 hours from the time of release
93% efficiency in 66 hours from the time of release

This test may have been compromised for two reasons:

1. There was over two inches of rainfall during this period, causing the dam to overflow and fill the area below the dam at the mouth of the ladder to at least five or six feet above normal levels. There may have been some joints in the ladder covering at this depth of water that became exposed and allowed eels that hadn't progressed far up the ladder to escape. We had not anticipated this possibility.

2. The volume of water in the river was such that the river water pump became partially clogged with debris and the conveyance flow was reduced for a time on the second day of the test, before we could get to the pump and clear the lines. The slower arriving eels may have been able to get all the way up to the tank sooner otherwise.

We opened up the inspection covers in the level sections of the ladder, looking for the missing eels, before the containment basket was removed and the ladder entrance was re-opened, but did not find any of them.

We would like to have repeated the testing of this ladder. We could not obtain any more eels this season to do so.

WORONOCO HYDROELECTRIC PROJECT
(FERC NO. 2631)

REPORT ON THE 2009 NIGHTIME EEL SURVEY

LOCATIONS SURVEYED:

The Woronoco Station personnel conducted a total of eight nighttime eel surveys in 2009 at the following locations in the facility:

1. In the vicinity of the tailrace at the station.
2. In and around the fish passage plunge pool below the forebay.
3. Down the stream formed by the plunge pool discharge
4. The entrance area of the middle and South ladders
5. The vicinity of the destroyed North ladder entrance
6. Along the crests of the South, North, and forebay dams
7. Along the faces of the dams, to the extent it was possible
8. Along the base of the North dam and the rocks and pools there
9. The pool midway up the face of the North dam at its southern end
10. The pools below the forebay dam
11. The large pool below the South dam near the crest of the dam

We did not survey the area around the base of the falls, near the old bridge, as suggested by Don Pugh of Trout Unlimited. The route to this area is too dangerous, in our opinion, for our personnel to traverse at night.

This year we were attempting to document, as much as possible, the natural movement of eels up and over the dams through the possible routes we identified during the 2008 surveys. We also inspected all of the areas we had done last year. The tailrace area was checked during every survey, no eels were ever sighted here. The stream formed by the fish bypass chute was checked every survey night to a point about 30 yards downstream from the plunge pool, where the going starts to get treacherous for nighttime travel; no eels were ever seen along here, 'though it is the only way up to the South ladder. The entrance area of the destroyed North ladder was checked every survey, unless otherwise noted in the report, no eels were ever sighted here.

CONDITIONS AT THE TIME OF THE SURVEYS:

We tried to plan our surveys for overcast or cloudy nights, preferably when the dam surfaces were damp as they often are in the summer. Early in the season, we also took into account the number of eels that we were picking up in our capture tanks from the eel ladders when deciding what nights to go out on. Through July and most of August the eel counts were not a critical factor, as we were capturing a substantial number of eels nearly every night, when the dam was not overflowing. We did have many instances this past summer of high river flow when water was going over the dams to the extent that we could not do a survey; this limited our opportunities to perform surveys under the best conditions for eel movement.

Throughout the summer, except for times when the river flow exceeded the stations' hydraulic capacity and the bypass flow combined; we maintained the impoundment at a point 2 and ½" inches below the crest of the South dam, plus or minus ¼". At this level there is an estimated 5-8 cfs going over the North dam through the cracks and fissures at its crest. This is an estimate only, based on visual observation. All of the nighttime surveys, but one, were conducted when the impoundment level was being held at this point. Our equipment is capable of maintaining this level within ¼" plus or minus. A conscious effort was made by the station operators to maintain normal operating conditions during all surveys; no station procedures were modified in any way, during the surveys, other than on the night of August 5th.

We ran the impoundment at a higher than normal level through the day and night of the August 5th survey. It was kept at a point three quarters of an inch below the South dam crest and at this level there was 3-4 times the normal spill going through the cracks and crevices of the North dam (estimated 15-25 cfs). This also initiated some spill at the South dam crest through its cracks and crevices, estimated to be no more than 5 cfs in total, and created some very minor leaks along the forebay dam. We were trying to create more routes for migrating eels to come up the dam faces and improve our chances of sighting them in the act of climbing the faces of the dams. It was not a very successful effort, as we found only 2 eels climbing the dams on this night, 'though we did document one eel very near the crest of the South dam. This experiment turned out to be counter-productive in one respect: the increased water in the North dam bypass channel made it impassable to us and we could not get to some of our normal survey areas at the North dam on this night. There may well have been eels climbing on the North dam face but we could not survey it as thoroughly as we normally were able to do.

At the time of all surveys the pond level, air and water temperature, sky conditions and the combined total of the most recent stream flow reports available from the three upstream gauge stations, were recorded and are included in the Table of Nighttime Site Observations. We have also included, in this table, the number of eels retrieved from our capture tanks on the mornings following all surveys. Any other conditions, which we were aware of, and which may have affected an individual night's survey, are noted in the Woronoco 2009 Nighttime Eel Survey Observations.

LARGE POOL MIDWAY UP THE NORTH DAM:

When the pond level is maintained at its normal levels through the stations automated control equipment, approximately half of the estimated 5-8 cfs leaking over the North dam through its cracks at the crest finds its way into this pool through one large and several smaller leaks. There is another, smaller pool, located lower on the dam face, which this pool drains into, this smaller pool is also normally being fed through a small leak from above. These pools are a natural passageway for eels; formed by the ledge outcropping; this has been documented on numerous occasions.

This particular pool was discussed in last year's reports as a possible natural means of passage for eels over the dam and into the impoundment. This general area of the North dam was one of the focal points of our surveys.

On the night of July 10th, we observed 9 eels in the pool and on August 6th, there were 7 eels seen in the pool. We also, on three occasions July 10, August 18, and August 25, saw eels climbing up the face of the dam, coming out of the pool, following either the larger, or one of the smaller water streams from above. We were not able to get close enough to the pool on the night of August 5th to inspect it; the bypass reach pathway we normally use, (rocks in the streambed) was under water.

EEL PASSAGE OVER THE DAMS THROUGH NATURAL MEANS:

We were not able to document any eels passing over the crests of the dams during this year's surveys through direct observation. We did document, on several occasions, a total of 8 eels climbing up the dam faces in different locations at our facility, one of which, on the night of August 5th, was very near the crest of the South dam. It has been suggested that for these natural routes for upstream eel passage that exist at the North dam should be considered for further development as the North dam eel ladder. We attempted in 2009 to document eels, in substantial numbers, moving over the crests of the dams and into the impoundment. This is nearly an impossible thing to accomplish, in my opinion, for several reasons:

1. The presence of a nearby observer changes the eels' behavior.

2. We are only inspecting limited areas for brief periods of time; the eels have all night to move.

3. The ideal conditions for natural eel passage are very poor conditions for human observation: dark nights, wet, sloping surfaces.

We believe that many eels are finding their way over all the dams and into the impoundment but cannot prove it to the standards that have been requested in the agency consultation letters. The following assumptions I believe are fair though:

1. If an eel is capable of climbing the lowest, steepest part of the dam face, through means of whatever water trace is available, it is capable of continuing up the dam and over it, as the face gets less and less inclined.

2. If there is a water trace of sufficient quantity for an eel to make its way up it, the quantity of water is not particularly an issue; its presence is what matters. The eel will find its own comfortable flow of water within it.

3. If in our very brief observation periods, a total of eight eels were seen climbing the dams, on four occasions, many more are doing so when no one is watching.

EEL SIGHTINGS:

The two largest sightings of eels during our surveys this season were on the nights of August 6th and August 18th.

On August 6th while making our way to the pool midway up the North dam, through the rocks on the South side of the bypass reach, we discovered an isolated, fairly large pool about 30 yards from the base of the dam. There were 15 to 20 eels in it. This pool would not normally exist. It is a formation of rocks substantially higher than the surrounding terrain, which can only get filled when the water is extremely high in the bypass reach. We had been spilling over the dam for 16 days just prior to this night's survey; thus creating the pool. We went back the next morning to try and capture some of the eels in it to use for our eel ladder efficiency testing, but they were gone. Since this pool does not normally exist and, in my opinion, would be impractical to try and use to our advantage in passing eels upstream over the dam, I think that our best course of action here would be to deny the eels access to it as they are at risk once in it. It would be a simple matter to place concrete among the rocks that make up the pool, or possibly just roll a few rocks to the side.

On the night of August 18th we made our most significant eel sighting of the 2009 season's nighttime surveys. There is a pool formed at the location of the North dam low-level outlet that was not always accessible to close inspection during night surveys. If the rocks around it are damp, it is too dangerous, in our opinion, to approach. The discharge from this outlet is, effectively, the furthest point upstream in the river, below the Woronoco Dam. We were only able to check it a total of three times during the surveys.

On this night, there was what we estimated to be several hundred eels in the pool. The flow through the outlet was somewhat reduced at this time from its normal discharge of 22 cfs, possibly by as much as half. This happens from time to time as debris clogs the relatively small opening that the gate provides at the 22 cfs set point. The reduced flow through the gate's opening created a spray effect and wetted the surfaces of the rocks surrounding the pool and area leading up to the gate. Many eels were seen on these wet surfaces making their way as far as possible upstream against the flow of water. Many eels were also seen congregating around the opening of the gate, moving about, until they

could no longer maintain their hold on the rocks and were ejected back towards the pool. At the time, we were having difficulty finding eels to use for our eel ladder efficiency testing, so we went back the next morning with buckets and a long-handled net to try and capture some of these eels. There were no longer any eels present in this pool or the nearby areas. We do not know if eels are often in this pool in such numbers, or if it was a result of the reduced outflow from the gate on that occasion.

In my opinion this would be an ideal location for the North dam eel ladder to be constructed. Woronoco Hydro is evaluating all of its options for constructing a new North dam eel ladder. I believe it would be a challenge to build one here, particularly in devising a means to capture and count the number of eels that use it. The design must make it feasible to maintain the ladder and to count the eels using the new ladder. We may have to experiment with different flow rates though the gate to create the optimum environment for the eels, and make up the difference with discharge into the bypass reach elsewhere at the North dam without attracting eels to this new discharge point. Perhaps repairing the cracks in the crest and constructing a controlled discharge point above the ledge pool would add another natural route over the dam to expand the effectiveness of passage over the North dam. If this is not deemed a suitable strategy, using some of the 22 cfs to augment the flow through the downstream passage at the intake racks would lower the discharge at the North dam to a rate that would attract all eels during their migration season to the North ladder without washing them back downstream with the full 22 cfs discharge rate.

All of the other eels sighted during the 2009 nighttime surveys that were not seen climbing on the dams, were found either in the pool midway up the North dam, at the base of the operating eel ladders or below the forebay dam, near the base of the South eel ladder.

WORONOCO HYDRO
TABLE OF NIGHTIME SITE OBSERVATIONS DURING 2009 PHASE I TESTING OF EEL LADDERS

Date, Time and Conditions	Base of South Ladder	Base of Middle Ladder	Forebay Dam	South Dam	North Dam	Other Locations Where Eels Were Observed
Date: 5-27-2009 Time: 9:30 pm to 11:00 pm Sky: Light rain, overcast Air Temp:12 deg C Water Temp:14 deg C River Flow:732 cfs Pond Level:229.02 ft Eels in the capture tanks the next morning: None	No eels observed	No eels observed	No eels observed	No eels observed	No eels observed	No eels were observed at any other locations
Date: 6-11-2009 Time: 9:00 pm to 10:40 pm Sky: Overcast, rain coming Air Temp:8 deg C Water Temp:11 deg C River Flow:255 cfs Pond Level:229.00 ft Eels in the capture tanks the next morning: 7	No eels observed	No eels observed	No eels observed	No eels observed	No eels observed	No eels were observed at any other locations
Date: 7-2-2009 Time: 9:10 pm to 10:00 pm Sky: Rain, storms coming in Air Temp:12 deg C Water Temp:11 deg C River Flow:1,126 cfs Pond Level:229.31 ft (spilling) Eels in the capture tanks the next morning: 4	No eels observed	Could not survey this area, lightning storms approaching	No eels observed	No eels observed	Could not survey this area, lightning storms approaching	No eels were observed at any other locations
Date: 7-10-2009 Time: 9:20 pm to 10:40 pm Sky: Partly Cloudy Air Temp:9 deg C Water Temp:11 deg C River Flow:413 cfs Pond Level:229.00 ft Eels in the capture tanks the next morning: 15	About 12 eels seen between base of ladder and plunge pool	No eels observed	No eels observed	No eels observed	9 eels seen in the pool midway up the dam that was proposed as a natural route last year 1 eel seen climbing the dam, coming from this pool, about halfway to the crest of the dam	No eels were observed at any other locations

WORONOCO HYDRO

TABLE OF NIGHTIME SITE OBSERVATIONS DURING 2009 PHASE I TESTING OF EEL LADDERS

Date, Time and Conditions	Base of South Ladder	Base of Middle Ladder	Forebay Dam	South Dam	North Dam	Other Locations Where Eels Were Observed
Date: 8-5-2009 Time: 9:10 pm to 10:25 pm Sky: Overcast Air Temp:13 deg C Water Temp:14 deg C River Flow:678 cfs Pond Level:229.15 ft Eels in the capture tanks the next morning: 4	No eels observed	No eels observed	4 eels seen in the pool at the base of the dam 1 eel seen climbing the dam, photographed it	1 eel seen climbing the dam, near the crest, following a water trace from a crack at the top could not get a photo	Could not survey this area, the water in the bypass channel was too deep to cross the rocks	No eels were observed at any other locations
Date: 8-6-2009 Time: 8:55 pm to 10:55 pm Sky: Mostly cloudy Air Temp:11 deg C Water Temp:14 deg C River Flow:511 cfs Pond Level:228.99 ft Eels in the capture tanks the next morning: None	4 eels were seen near the ladder entrance	No eels observed	No eels observed	No eels observed	7 eels seen in the pool midway up the dam that was proposed as a natural route last year	15-20 eels were seen in a pool which is remote from the dam and has no natural route to get it, except during periods of high water flow over the dam
Date: 8-18-2009 Time: 8:50 pm to 10:55 pm Sky: Partly Cloudy Air Temp:15 deg C Water Temp:18 deg C River Flow:290 cfs Pond Level:228.99 ft Eels in the capture tanks the next morning: 13	6 eels were seen near the ladder entrance	This ladder's entrance was closed for passage efficiency testing on this night 3 eels were seen near the ladder entrance	No eels observed	No eels observed	3 eels seen climbing the dam, near the crest, following the main feed into the pool that is midway up the dam could not get a photo	An estimated several hundred eels were seen in the pool formed by the low level discharge gate. Many were seen on the wet rocks around the gate opening, trying to make their way to it
Date: 8-25-2009 Time: 8:00 pm to 9:00 pm Sky: Partly Cloudy Air Temp:15 deg C Water Temp:17 deg C River Flow:511 cfs Pond Level:229.00 ft Eels in the capture tanks the next morning: 9	4 eels were seen near the ladder entrance	1 eel was seen near the ladder entrance	No eels observed	No eels observed	2 eels seen climbing the dam, near the pool midway up the dam, following the main feed into the pool could not get a photo	No eels were observed at any other locations

Woronoco 2009 Nighttime Eel Survey Observations

May 27, 2009

Shawn Regan and Pete Anderson started the survey at 2130, finished at 2300.
We surveyed the tailrace, plunge pool area, at the base of the South and North dams, and on the crests of the dams themselves. We found there to be no eel activity in any of the pools, on the dams or in the tailrace area.

River flow at site: 732 cfs. at 2030
Pond level: 229.02 feet
Sky conditions: Light rain, overcast
Water temperature: 14° c
Air temperature: 12° c
Eels in the capture tanks the next morning: None

June 11, 2009

Shawn Regan and Pete Anderson started the survey at 2100, finished at 2240.
We surveyed the tailrace, plunge pool area, the base of the South and North dams, and on the crests of the dams themselves. We found there to be no eel activity in the tailrace area or in any of the pools or on the dams. In the days prior to this survey we had begun passing fairly large numbers of eels up the ladders.

River flow at site: 255 cfs. at 2030
Pond level: 229.0 feet
Sky conditions: Overcast, light rain
Water temperature: 11° c
Air temperature: 8° c
Eels in the capture tanks the next morning: 7

July 2, 2009

Shawn Regan and Pete Anderson started the survey at 2110, finished at 2200.
We surveyed the tailrace area, and around the base of the South dam. Our survey was cut short due to severe thunderstorms. The river was spilling over the dam and this also limited the areas we could get to observe.

River flow at site: 1,126 cfs. at 2030
Pond level: 229.31 feet (spilling over the dam)
Sky conditions: Moderate rain / storms moving in
Water temperature: 11° c
Air temperature: 12° c
July 10, 2009
Eels in the capture tanks the next morning: 4

July 10, 2009

Shawn Regan and Pete Anderson started the survey at 2120, finished at 2240.
We surveyed the tailrace, plunge pool area, the base of the South and North dams, and on the crests of the dams themselves. We did not see any eels around the tailrace area. There were approximately a dozen eels at the bottom of the South eel ladder. All were between four and eight inches in length. No other eels were observed around the South dam or in the pools at its base. At the North dam we observed nine eels in the pool at the base of the large crack in the center of the dam (a possible natural eel passage route leads to this pool). One eel was also seen ascending the dam from this pool, following one of the smaller leaks that feed this pool. It was about midway up, between the pool and the top of the dam. No other eels were seen in any of the lower pools or near any of the other cracks in the crest of the North dam.

River flow at site: 413 cfs. at 2030
Pond level: 229.0 feet
Sky conditions: Partly cloudy
Water temperature: 11° c
Air temperature: 9° c
Eels in the capture tanks the next morning: 15

August 5, 2009

Shawn Regan and Pete Anderson started the survey at 2110, finished at 2225.
We were running the pond level a little higher than normal to create more leakage over the crests of the dams and see if this would entice more eels to climb the dams. We surveyed the tailrace, plunge pool area, the crest and base of the South dam and the crest of the North dam. We could not get to the survey areas at the base of the North dam due to high water flowing in the bypass reach channel. This was an unattended effect caused by passing more water over the North dam. There were no eels in the tailrace area. In the pool at the base of the forebay dam, there were four eels and there was one making its way up the forebay dam, which we photographed. There was one eel near the top of the South dam following a water trace that led to the notch in the South dam that we cut for the permanent eel ladder termination point. We could not get a picture of it. We did not find any other eels on or near the crests of the North, South, or forebay dams where spills were occurring due to the increased head pond elevation.

River flow at site: 678 cfs. at 2030
Pond level: 229.15 feet
Sky conditions: Overcast
Water temperature: 14° c
Air temperature: 13° c
Eels in the capture tanks the next morning: 4

August 6, 2009

Wayne Roberts and Shawn Regan started the survey at 2055, finished at 2255.
We surveyed the tailrace, plunge pool area, the base of the South and North dams, and on the crests of the dams themselves. No eels were seen in the tailrace area, at the base of the middle ladder or near the base of the South dam. There were four eels at the base of the South ladder. There were seven eels in the pool midway up the face of the North dam that was proposed as part of a natural eel passage route last year. There were fifteen to twenty eels in a pool that has no natural route to the crest of the dam except during periods of high dam overflow.

River flow at site: 511 cfs. at 2030
Pond level: 228.99 feet
Sky conditions: Mostly cloudy
Water temperature: 14° c
Air temperature: 11° c
Eels in the capture tanks the next morning: None

August 18, 2009

Shawn Regan and Pete Anderson started the survey at 2050, finished at 2255.
We surveyed the tailrace, plunge pool area, the base of the South and North dams, and on the crests of the dams themselves. No eels were seen in the tailrace area. There were six eels at the base of the South ladder and three eels at the base of the middle ladder. There were three eels on the North dam near the crest of it, following the main feed into the pool midway up the face of the dam. We could not get close enough to get a picture.

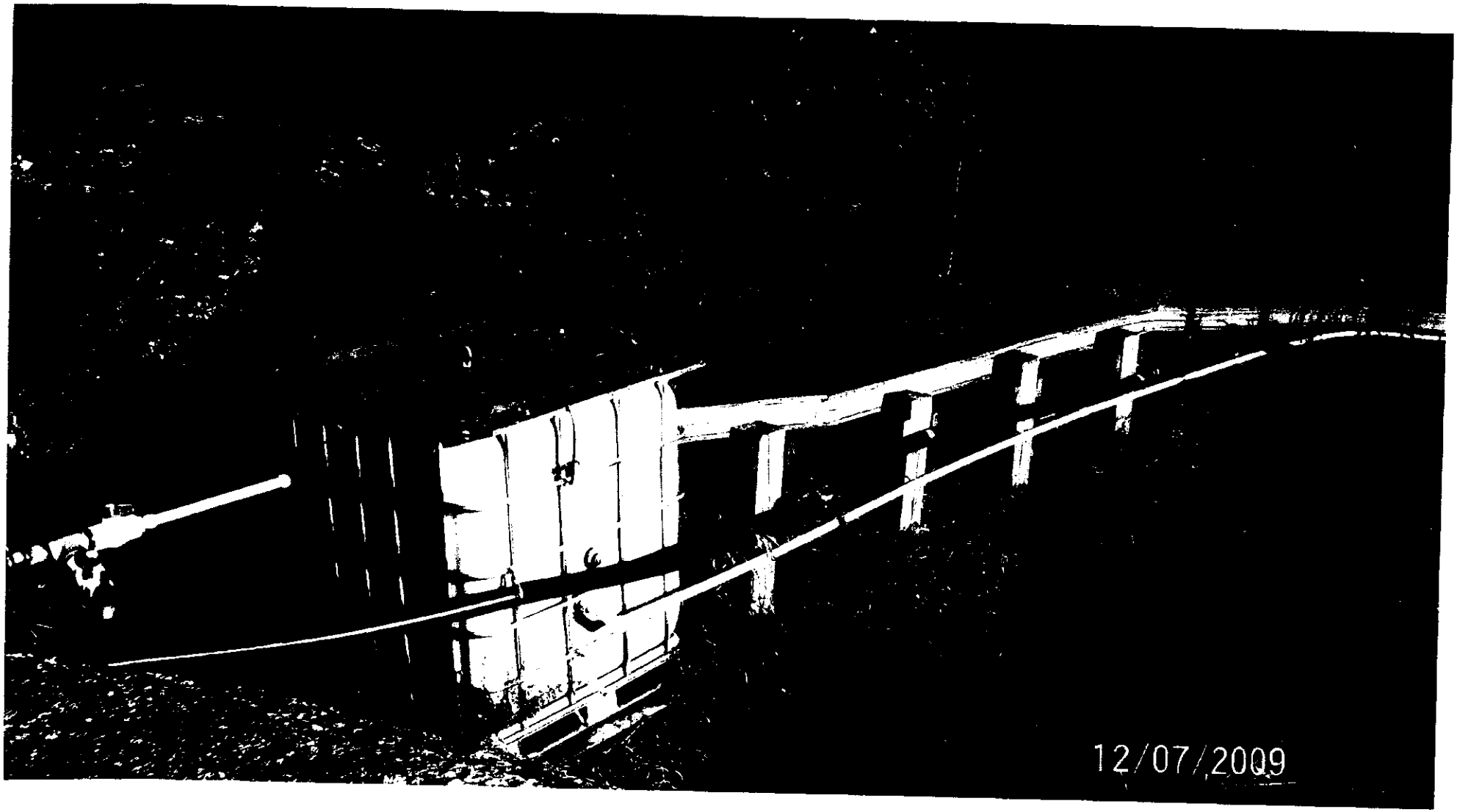
It was on this night that we made our most significant survey finding this year, in the large pool formed by the North dam low-level outlet. Here we saw hundreds of eels congregating. They were attempting to follow the wet areas around the discharge water up through the opening. Many were seen on the rocks around the opening at different points. We could not get close enough to get any photographs due to the rocky footing and discharge from the low-level gate.. We returned to this pool the next morning with buckets and a long-handled net, prepared to try and catch some eels for our ladder efficiency testing. There was no trace of them. There was no sign of any predators in the area, the eels likely dispersed to hiding spots once daylight arrived.

River flow at site: 290 cfs. at 2030
Pond level: 228.99 feet
Sky conditions: Partly cloudy
Water temperature: 18° c
Air temperature: 15° c
Eels in the capture tanks the next morning: 13

August 25, 2009

Shawn Regan and Pete Anderson started the survey at 2050, finished at 2255.
We surveyed the tailrace, plunge pool area, the base of the South and North dams, and on the crests of the dams themselves. No eels were seen in the tailrace area. There were four eels at the base of the South ladder and one eel at the base of the middle ladder. Two eels were seen climbing the North dam, coming from the pool midway up the dam, following the main water feed coming from the crest of the dam into the pool.

River flow at site: 511 cfs. at 1930
Pond level: 229.00 feet
Sky conditions: Partly cloudy
Water temperature: 17° c
Air temperature: 15° c
Eels in the capture tanks the next morning: 9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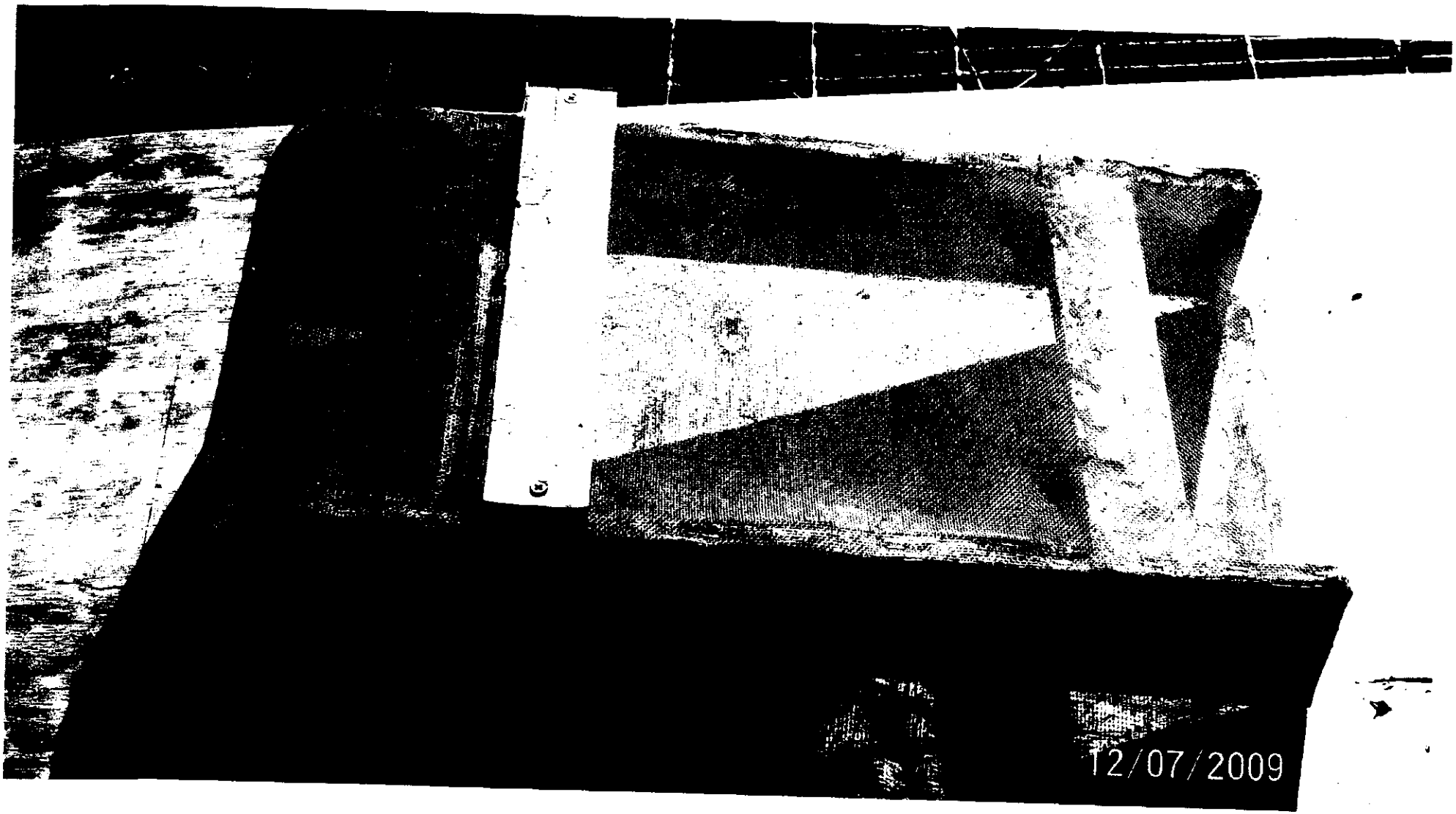
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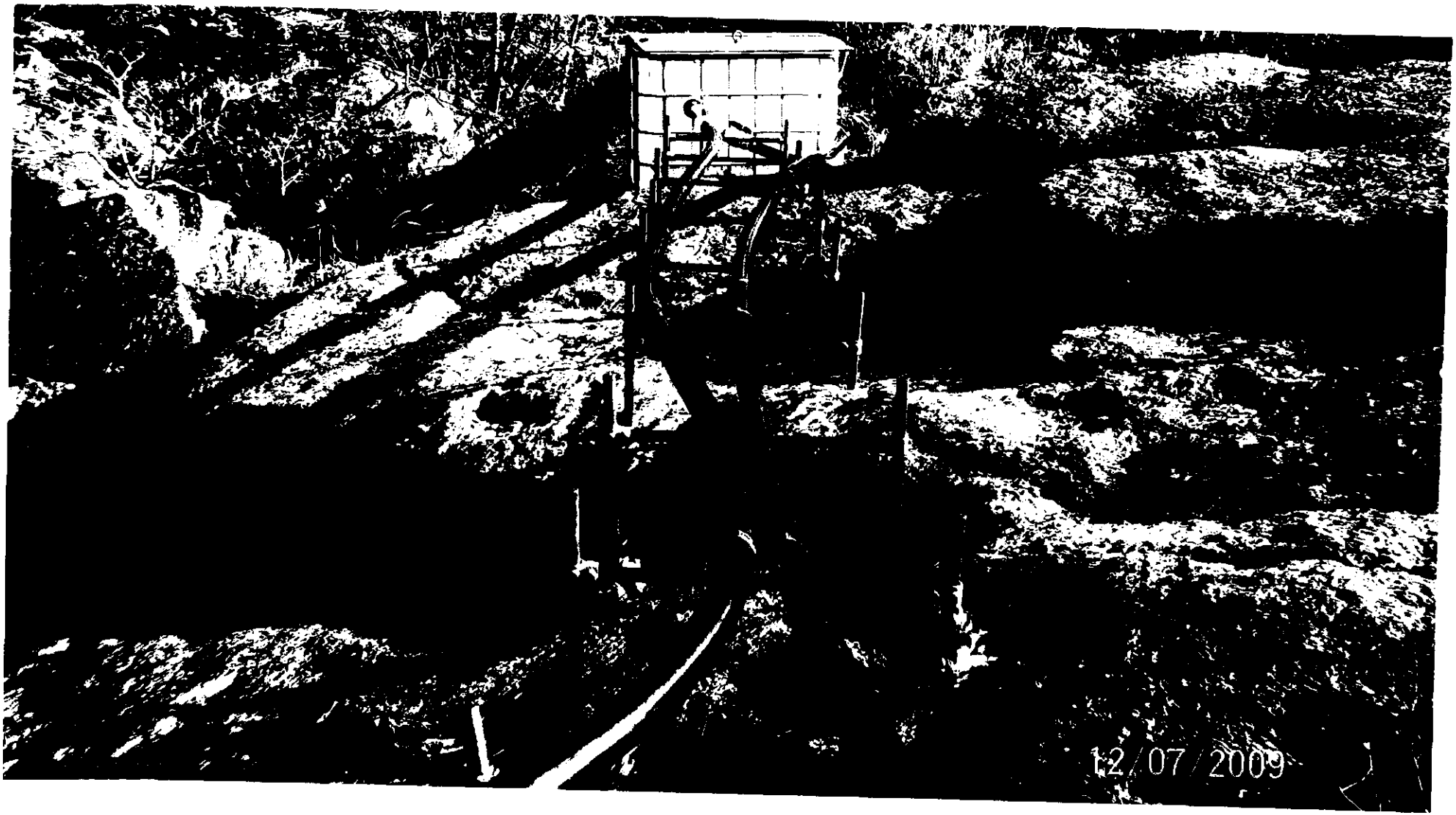
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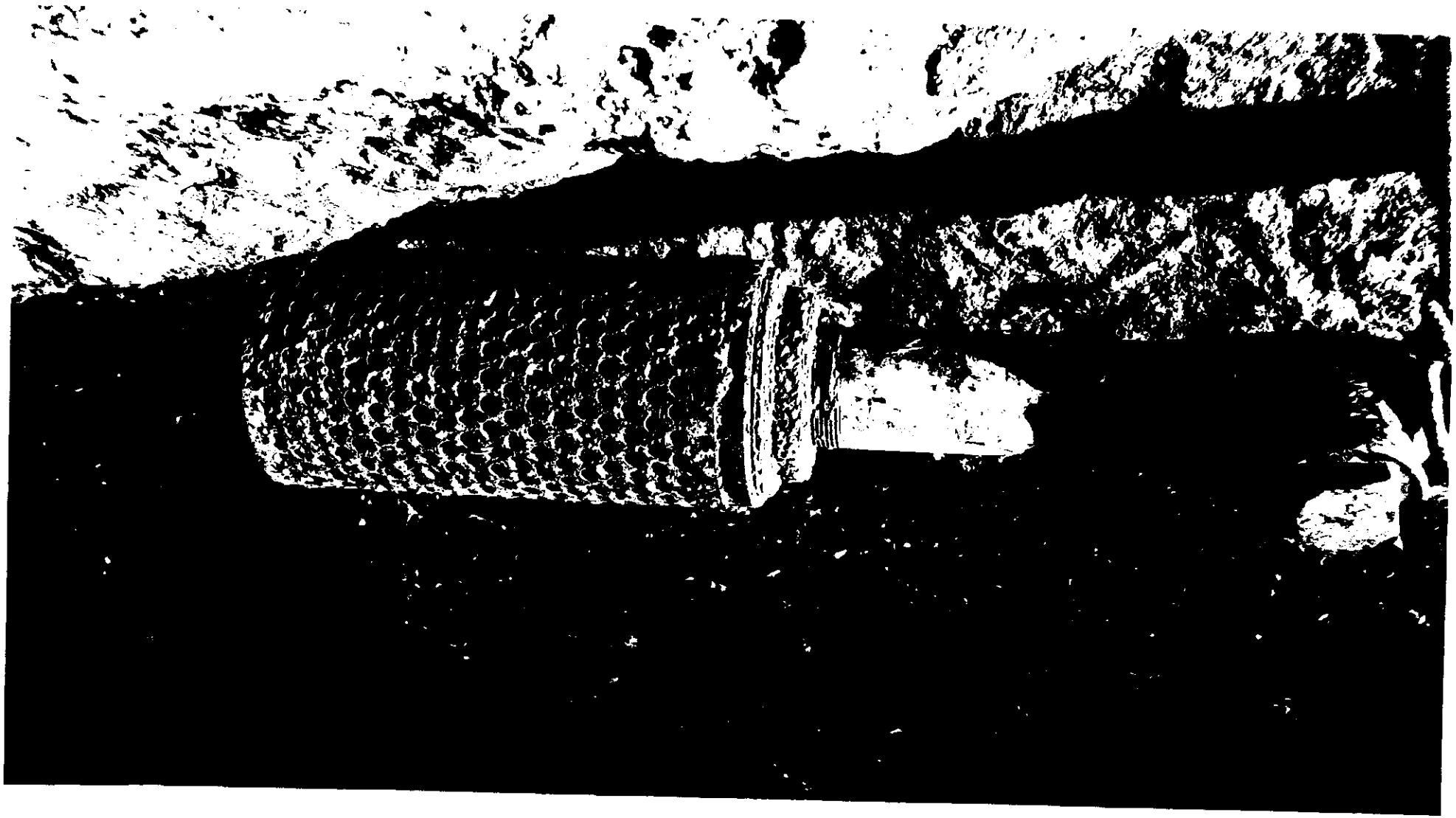



12/07/2009

Appendix N: June 2009 FERC Inspection Report of Woronoco Recreation Areas

ENVIRONMENTAL INSPECTION REPORT
(ELECTRONICALLY SUBMITTED)
FEDERAL ENERGY REGULATORY COMMISSION

New York Region

Date of Inspection May 20- 2009

Name Woronco **Project No.** 2631-MA

Licensee Woronoco Hydro LLC **License Type** Minor

License Issued April 30, 2002 **License Expires** March 31, 2042

Location Westfield River (**Waterway**) None (**Reservation**)

Hampden (**County**) Massachusetts (**State**)

Inspector Joseph Enrico

Licensee Representatives William Fay, Engineer; W. Davis Hobbs, VP & Gen'l. Mgr.; Wayne Bailey, Operations Mgr.

Other Participants Alyssa Dorval, FERC-DHAC

Summary of Findings

This licensee has made several enhancements in recreational and environmental features of the project since relicensing and repowering. The project, which is located in a former mill (now closed), is operating with new fish passage and minimum flow facilities as well as new recreational access site. A follow-up letter dated May 28, 2009 was sent as a result of this inspection.

Submitted June 25, 2009

Joseph G. Enrico
Environmental Protection Specialist

A. Inspection Findings

Requirements	*Date of Requirement	Follow-up Needed	Photo Nos.
CULTURAL RESOURCES			
Article 407 requires the Licensee to consult with the SHPO and file a Historic Properties Management Plan. The HMP was filed on . **C-184**	**O:4-30-02**	No	
FISH AND WILDLIFE RESOURCES			
Article 401 requires the licensee to operate the project in a run of river mode and maintain the reservoir with a target elevation of 229.0 feet NGVD. **C-204, 188**	**O:4-30-02**	No	
Article 402 requires the licensee to release a minimum flow of 57 cfs in the channels of the bypass reach as follows: 35 cfs in the south channel, measured downstream of from the confluence of the south dam channel and downstream fish bypass channel and 22cfs in the north channel, downstream from the north dam. **C-089**	**O:4-30-02**	Yes	1
Article 403 requires the licensee to file a project operations monitoring plan to monitor ROR operations as well as minimum flows and downstream fish passage flows as required by Articles 401 and 402. Filed 5-14-04. **C-211**	**O:4-30-02** **Ap:7-24-04**	No	
Article 404 requires the licensee to develop a fish passage plan including the operation of the downstream facility and the filing of design drawings of an upstream eel passage facility. Filed 9-2-05, 3-24-08. **C-064, 071**	**O:4-30-02** **Ap:4-20-06** **Ap:4-9-08**	No	2,3
Article 405 reserves authority to the Commission to require the licensee to install, maintain and operate fish passage facilities. **C-072**	**O:4-30-02**	No	4,5
Article 406 requires the licensee to file a drawdown management plan. Filed 4-2-03. **C-210**	**O:4-30-02**	No	
PUBLIC SAFETY			
Facilities and measures to assure public safety (18 CFR, Part 12). Public Safety Plan filed 10-30-92. **C-218**	**O:4-30-02** **Ap:12-16-92**	Yes	9-12

Requirements	*Date of Requirement	Follow-up Needed	Photo Nos.
RECREATIONAL RESOURCES			
Article 408 requires the licensee to file a recreational enhancement plan. Plan to include put-in/take-out for car top boats, take-out for canoes upstream of the two dams, canoe portage with racks and signs, put-in below powerhouse along east shore of river and parking area at Bridge St. for 15 cars and trail for car top launching downstream of powerhouse. Filed 5-2-03. **C-113**	**O:4-30-02** **Ap:3-3-05**	No	6-8
Recreation signing and posting (18 CFR, Part 8) **C-186**	**O:4-30-02**	Yes	
Standard Article 18 requires the Licensee to allow public free access to project waters and adjacent lands **C-110**	**O:4-30-02**	No	
Submission of the Commission's Form 80 monitoring report. 18CFR, Part 8, Section 8.11. Due 4-1-09. **C-112**	**O:4-30-02**	No	
OTHER ENVIRONMENTAL RESOURCES			
Standard Article 11 requires the Licensee to install fish passage and other wildlife facilities when requested by state and federal resource agencies. **C-071**	**O:4-30-02**	No	
Standard Article 19 requires the Licensee to take reasonable measures to control sedimentation and other pollution at the project. **C-120**	**O:4-30-02**	No	
Article 409 gives the licensee the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. **C-202**	**O:4-30-02**	No	

O=Order C=OEP-IT Code **18CFR**=Title 18 Code of Federal Regulations, **AP**=Approved

Comments and Follow-Up Action

Recreation: The licensee is finalizing the installation of recreational enhancements at the project including the canoe takeout, rest stops and trail and associated parking areas. Some signs were in place however signs in compliance with Part 8 section 8.2(a) were not yet installed. This was noted in the follow-up letter to the licensee.

Environment: The licensee installed and operated upstream American eel passage with the use of several ladders sections located along the dam face. The downstream fish

passage facility was enhanced with a plunge pool facility, temporarily constructed of wood. Additionally the three operating units are now controlled via new PLC and switchgear, allowing unit operation to follow river flow. The system can be operated remotely from the licensee's office.

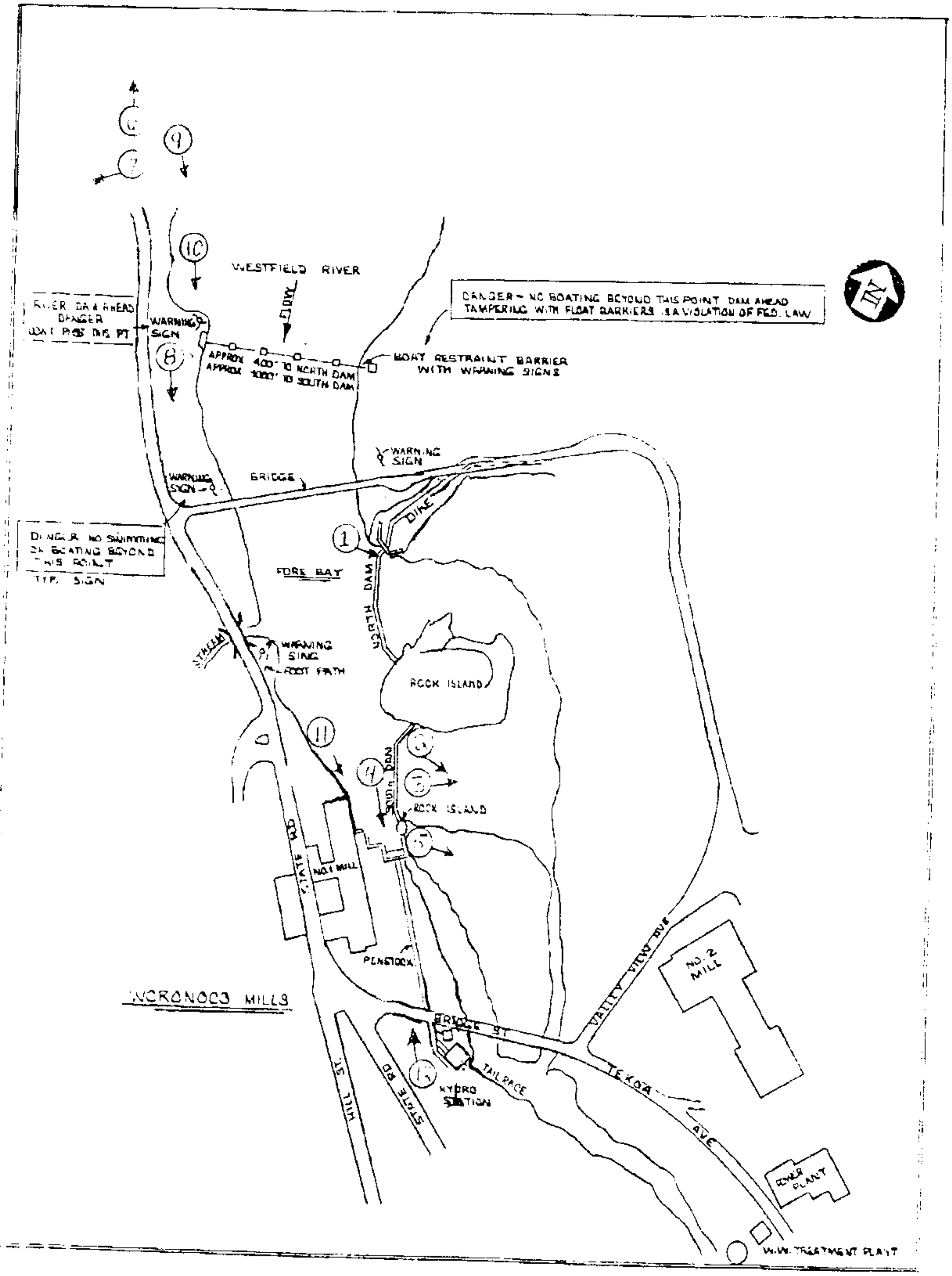
It was noted that the gate designed to release 22 cubic per second (cfs) minimum flow in the north channel was either not fully opened or was obstructed by debris **(Photo No.)**. This was noted in the follow-up letter to the licensee.

Public Safety: It was observed that upstream warning signs should be placed on an upstream bridge for increased visibility. There were older, less visible signs along the shoreline which can be removed following installation of the other recommended signage. An updated public safety plan is also needed for this project. This was also noted in the follow-up letter to the licensee.

B. Exhibits and Photographs

The following are provided to show the location of the project and to illustrate project features: Twelve photographs and photo location map.

OEP/DHAC Enrico, J.
NYRO DHAC DOCKETS ENRICO


WESTFIELD RIVER
FLOW
DANGER – NO BOATING BEYOND THIS POINT. DAM AHEAD. TAMPERING WITH FLOAT BARRIERS IS A VIOLATION OF FED. LAW
BOAT RESTRAINT BARRIER WITH WARNING SIGNS
APPROX 400' TO NORTH DAM
APPROX 1000' TO SOUTH DAM
WARNING SIGN
BRIDGE
DIKE
FORE BAY
NORTH DAM
ROCK ISLAND
SOUTH DAM
FOOT PATH
NO. 1 MILL
STATE RD
PENSTOCK
BRIDGE ST
HYDRO STATION
TAILRACE
VALLEY VIEW AVE
NO. 2 MILL
TEKOA AVE
POWER PLANT
HILL ST.
STATE RD
W.W. TREATMENT PLANT
TYP. SIGN

Photograph No. 1- View of release of minimum flow from deep gate in the north channel. Flow should be at least 22 cfs.

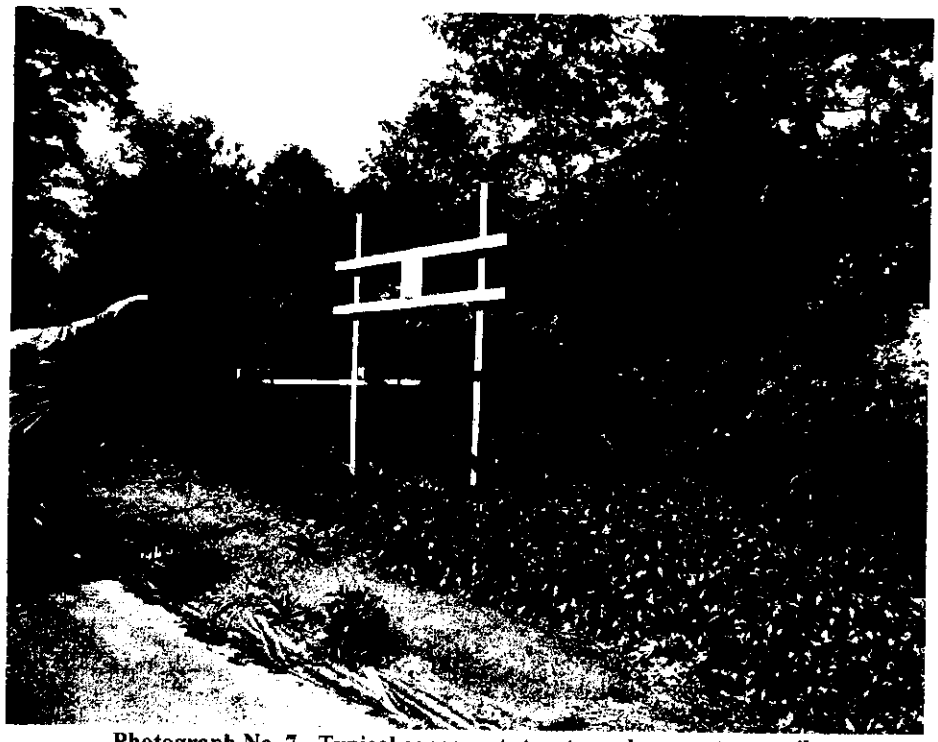
Photograph No. 2 - View of upstream eel ladder sections along the rock face downstream of the spillway.

Photograph No. 3 - Close-up view of the sections of eel ladder, fabricated from plywood with vinyl overlay.

Photograph No. 4 - View of discharge from downstream fish passage facility.

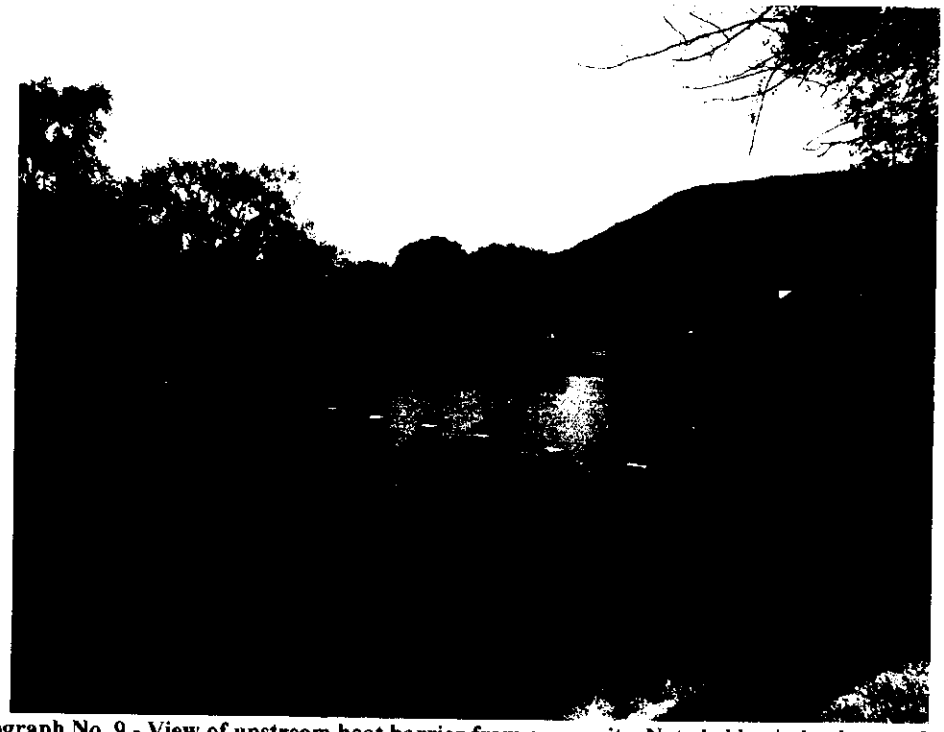
Photograph No. 5 - View of plunge pool at discharge from the downstream fish passage facility.

Photograph No. 6 - Newly installed parking area at canoe takeout, upstream of project. Small sign on pole indicates parking but no Part 8 sign was available.



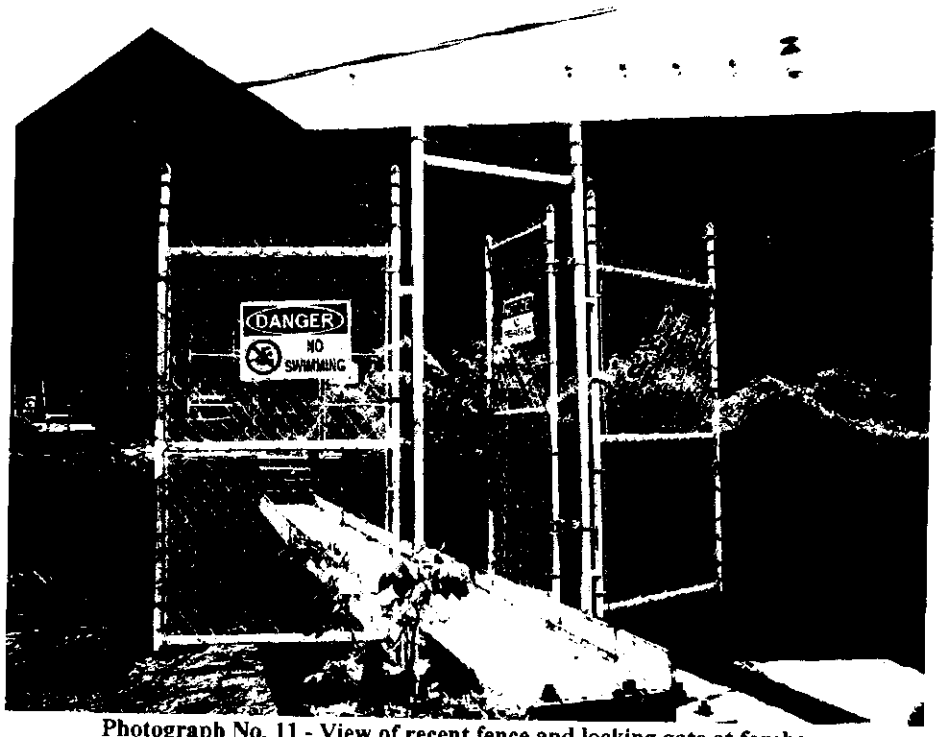
Photograph No. 7 - Typical canoe rest structure along portage trail.

Photograph No. 8 - Informal access area upstream of project that is used for takeout or put in of canoes and kayaks.



Photograph No. 9 - View of upstream boat barrier from access site. Note bridge in backgournd where warning signs can be installed.

Photograph No. 10 - Existing upstream warning sign which is weathered and not easily visible due to its size.



Photograph No. 11 - View of recent fence and locking gate at forebay.

Photograph No. 12 - View of locking gate and perimeter fencing at entrance to project.

FEDERAL ENERGY REGULATORY COMMISSION
Washington, D. C. 20426

OFFICE OF ENERGY PROJECTS

Project No. 2631-- Massachusetts
Woronoco
Woronoco Hydro LLC

Mr. Peter B. Clark
Woronoco Hydro, LLC
823 Bay Road
P.O. Box 149
Hamilton, MA 019360

OCT 02 2009

Subject: Environmental Inspection follow-up

Dear Mr. Clark:

By letter dated May 28, 2009, staff from the Commission's Division of Hydropower Administration and Compliance provided you with the results of our Environmental Inspection of the Woronoco project. That letter requested that you submit a schedule within 30 days for rectifying the issues found during the inspection.

As of this date, you have not responded to our May 28 letter placing you in possible non-compliance with the requirements of your license. Within 10 days of the date of this letter, please file a schedule for complying with items outlined in our May 29 letter.

This letter constitutes notice under Section 31(a) of the Federal Power Act. If you have any questions, please contact Mr. Joseph Enrico at (212) 273-5917.

Sincerely,

Robert H. Grieve
Biological Resources Branch
Division of Hydropower Administration
and Compliance

Woronoco Hydro LLC

PO Box 149, Hamilton, MA 01936

October 7, 2009

VIA EFILING

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

Environmental Inspection Follow-up Report: Woronoco Hydro Project (FERC No. 2631)

Dear Secretary Bose:

Woronoco Hydro LLC (Woronoco) herein submits a progress report to the Federal Energy Regulatory Commission (Commission) concerning the FERC inspector's June 20, 2009 site inspection to the Woronoco Hydro Project No. 2631.

Woronoco received Mr. Grieve's letter, dated October 2, 2009 by electronic notification from the FERC Documents E-Library. We want to point out that Woronoco Hydro LLC did not receive the FERC letter dated May 28, 2009 until the October 2nd letter caused us to search the FERC E-Library where we found the letter, which reported on the site inspection. We wish the letter had been sent by mail or that Woronoco had been notified that your letter had been placed in the e-Library (where Woronoco is registered to receive notification when official documents have been posted. In fact, Wayne Bailey, the Operations Manager hosting the FERC inspection, asked the inspector to send an example of the language that should be posted as a public notice on warning signs located in Woronoco Hydro's recreation area. This week he downloaded the letter report of the FERC inspection along with an Electronic Inspection Report dated June 25, 2009 from the E-Library. We are now reviewing the report and will respond to the questions posed in FERC's October 2, 2006 letter.

Woronoco Hydro carried out several of the tasks that the inspector suggested during his walk around the project site with the Swift River Hydro Operations Company (SRHOCO) maintenance managers. Here is the status at present:

1. The brush that was obscuring the warning signs upstream of the bridge has been cut down and removed. Woronoco Hydro has written to the State requesting approval to place the last sign warning of a dam directly on the Bailey bridge upstream of the north dam. A canoe would have to pass over the boat buoys that are strung across the Westfield River to warn boaters that they are approaching a dam. There is a landing at the recreation area with parking and a canoe portage landing with signs on the opposite shore of the River.
2. The Woronoco River Safety Plan was modified this summer denoting the updated canoe portage facilities. However the plan needs to include fencing and signs as requested in FERC's May 28th letter.

3. While the May 28th letter says that it contained appropriate language for compliance with Part 8, Section 8.2(a) to advise the public of the availability of a recreation area at the project, the letter did not include the language requested for the signs. Hence, Woronoco has not yet had new signs made for the recreation area.

4. The cfs flow at the deep gate on the North Dam was partially blocked by debris on the day of the inspection. The next day the gate was flushed out and the 22 cfs discharge was restored. All gates are maintained by regular weekly flushing to ensure there is nothing blocking any of the three minimum discharge flow gates.

Woronoco Hydro appreciates the detailed report submitted on June 25, 2009 that lists the status of each license requirement ordered by FERC in the Woronoco Hydro License No. 2631-MA. We should point out that Woronoco recognizes that Article 404 of its license calls for implementation of a Comprehensive Fish Passage Plan for down-migrating Atlantic salmon smolt and adult American Eel, as well as construction of eel ladders, including effectiveness monitoring of juvenile American eel use three eel ladders. There have been record numbers of eels passing up the ladders this summer. Woronoco Hydro will report on the eel ladder performance (counts) and effectiveness tests recorded at the passage facilities when the juvenile eel migration season is finished. In separate filings, Woronoco will also outline its schedule for seasonal installation of different trash racks with smaller bar openings and for repeating the effectiveness testing of smolt downstream passage, upstream passage of juvenile eels and downstream passage of adult American eels in combined testing with the Indian River Power Supply, LLC hydro Project No. 12462, located one mile upstream of the Woronoco dam site.

Sincerely,

Peter B. Clark
Manager

cc: Robert H. Grieve
Biological Resource Branch
Division of Hydropower Administration and Compliance
Federal Energy Regulatory Commission
Washington, D. C. 20426