

FINAL

Phase IB Underwater Archaeological Resources Report for Onondaga Lake Superfund Site

| | | |
|----------------------|------|--|
| | 1430 | AK out of the water. |
| | 1445 | Mark targets A77, A78 and A79. |
| A77 A78 A79 | 1503 | AK into the water to dive verify. A77 is in about 7' of water. The area is filled with metallic trash including a tin can, zinc attachment for a boat and a small metal fragment. No features were found that were the likely source of the original mag anomaly. A78 was confirmed as several feet of iron wire; seemed similar to fence wire, very corroded. An aluminum can was found at A79, but this was not the source of the anomaly. |
| | 1615 | AK out of the water. |
| | 1630 | Back at the marina. |
| | 1710 | Arrive back at hotel. End of day. |
| June 28, 2011 | | |
| | 0600 | Breakfast ST, AK & PAL. C. Sabick rotated out last night, replaced by P. LaRocque. Plan for the day is to finish dive verifying mag targets in the SMHD and take sediment samples inside barge A20. Weather outlook is not good with afternoon T-storm predicted. |
| | 0730 | Safety briefing: AK, PAL, ST and CW & SD from CRE and KM & Pete Petrone from Parsons. |
| | 0750 | Depart marina for dive ops. |
| | 0800 | Arrive SMHD to deploy markers at magnetic anomalies. |
| A37 | 0848 | PAL into the water at A37. PAL found that he could detect an anomaly in multiple locations, but could not verify. At several high anomaly points, he used the six foot probe to attempt to find it. The probe could be sunk down its entire depth without hitting any resistance. Conditions were a flat silty bottom with only sporadic vegetation. Depth was 15'. |
| | 0920 | PAL out of the water. Taking him over to the next anomaly. |
| A80 | 0930 | PAL into the water at A80 which is adjacent to the inner harbor. The area was characterized by lots of garbage collected into a slight depression. Numerous bits of garbage made finding the actual source of the mag target impossible. This target is very likely the depression left from a mooring to an old navigational marker. Source is probably pieces related to an old marker. |
| | 0950 | PAL out of the water. |
| A81 | 0958 | PAL into the water at A81. A81 verified as a motorcycle heavily corroded and in pieces. The seat was recovered and photographed. |
| | 1010 | PAL out of the water. |
| A82 | 1024 | PAL into the water at A82. Verified as a 55 gallon drum. |
| A83 | 1040 | PAL back into the water. Swapped out tank. Verification of A83. Pal found a series of disarticulated wooden and metal debris there. A section of wooden debris was brought up and documented. It consisted of an 8' sheet of plywood with two ringbolts and 2 pipe fittings. It was fastened to other pieces with sheet rock screws. One side still had paint on it. It is likely a piece of an ice shanty. A second smaller, stout piece of wood was recovered. Timber is 3'1" long by 3" wide and thick. The wood is very solid, probably oak. It has three fasteners in it. This timber appears historic in nature, but appears to be |

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Phase 1B Underwater Archaeological Resources Report for Onondaga Lake Superfund Site

| | | |
|----------------------|------|--|
| | | an isolated find. |
| | 1100 | PAL out of the water. |
| A84 | 1115 | PAL into the water at A84. Verified as a pile of paint cans and bottles. |
| | 1130 | PAL out of the water. |
| | 1145 | Depart SMHD. Finished with verification in this area. |
| A20 | 1217 | AK into the water at A20 Barge. Took samples at each with a lexane tube. Both areas had a dense layer of zebra mussel shells (3-4" thick) overlying softer sediment. |
| A19 | 1247 | AK out of the water. Move boat over to A19 and mark for verification. |
| | 1304 | AK into the water. The A19 area is 5-6' deep with extraordinarily dense aquatic vegetation. Extensive metal detecting did not yield any metallic anomalies. |
| | 1333 | AK out of the water. |
| | 1400 | Arrive back at the marina. Done with dive ops for this project. ST & CW begin setting up the ROV. T-storms look imminent, so we won't likely get back out on the lake today. ST preps ROV for debris inspection tomorrow. AK & PAL work on and send out response to safety concerns about foot punctures through dry suit booties. |
| | 1500 | Depart marina. |
| | 1510 | Arrive hotel. End of day. |
| June 29, 2011 | | |
| | 0700 | Arrive at marina, PAL, ST & AK. SD & CW of CRE and KN & PP of Parsons are here. Weather is overcast with 10-15 mph winds and gusts to 20-25 mph. The weather is not operational, so there is a discussion as to project plans and priorities. The cultural resources work as per the SOW is completed. The work left now is the ROV inspection of debris targets. PP gets authorization from Ed Glaza to do ROV work next week. The plan is to demobilize LCMM and CRE crew, leaving <i>Lophius</i> at Onondaga Lake. The ROV crew will mobilize on Tuesday, July 5 th , weather dependent, for 1½ to 2 days of ROV debris verification work. With that plan in mind, LCMM and CRE crew demobilized, packing all dive and archaeology gear. |
| | 1045 | Depart marina, having completed demobilization, for the hotel. |
| | 1125 | Back at the Marina. |
| | 1130 | Lunch. |
| | 1210 | Depart Liverpool for Vermont. |
| | 1640 | Arrive LCMM. Offload inflatable and ROV. |
| | 1710 | Depart LCMM. |
| | 1715 | Arrive PAL's house. Pack up personal gear. End of Phase 1B Diving Project. |
| | | |

APPENDIX 2: DIVE LOGS

| Dive Log • Lake Champlain Maritime Museum • 4472 Basin Harbor Road • Vergennes • VT • 05491 | | | | | | | | | | | | | | | |
|---|----------------|---------------|----------|-------------------|----------|----------------------|------------|-------------------|----------|------------|---------|---------------|----------|------------|-------------------|
| Date: 10/25/10 | | DSO: Ait Cohn | | | | ADSO: Pierre LaRoque | | | | Log No.: 1 | | | | | |
| Dive Site: Onondaga Lake | | | | | | | | | | | | | | | |
| Reason for Dive: Phase IB Dive Survey | | | | | | | | | | | | | | | |
| Weather: cloudy showers | | | | Depth Range: 0-4' | | | | Water: 60°F | | Air: 65°F | | UW Vis.: 4-5' | | | |
| DIVE 1 | | | | | | | | DIVE 2 | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 1 | Adam Kant | 3000 | 3000 | 2:02 | 3:20 | 900 | 3' | / | | | | | | | / |
| Dive Notes: Dive on A38 - found new barge wreck A38-B | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 2 | Pierre LaRoque | 3000 | 3000 | 4:50 | 5:00 | 1800 | 4' | / | | | | | | | / |
| Dive Notes: Found A38, surveyed shoreline & video'd A38 & A38-B | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 3 | | | | | | | | / | | | | | | | / |
| Dive Notes: | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 4 | | | | | | | | / | | | | | | | / |
| Dive Notes: | | | | | | | | | | | | | | | |

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|---|----------------|----------|----------|----------|--------------|----------|------------|-------------------|----------------|----------|---------|----------|----------|------------|-------------------|--|
| Date: | 10/26/10 | | DSO: | Art Cohn | | | | ADSO: | Pierre LaRoque | | | | Log No.: | 2 | | |
| Dive Site: | Onondaga | | | | | | | | | | | | | | | |
| Reason for Dive: | | | | | | | | | | | | | | | | |
| Weather: | partly sunny | | | | Depth Range: | | | Water: | °F | | Air: | 70 °F | | UW Vis.: | | |
| DIVE 1 | | | | | | | | DIVE 2 | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | |
| 1 | Adam Kane | 36/6 | 2175 | 9:20 | 11:05 | 800 | 4' | / | | | | | | | / | |
| | | | | | | | | / | | | | | | | / | |
| Dive Notes: | | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | |
| 2 | Pierre LaRoque | 36/6 | 1740 | 10:56 | 11:45 | 700 | 5' | / | | | | | | | / | |
| | | | | | | | | / | | | | | | | / | |
| Dive Notes: | | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | |
| 3 | Adam Kane | 36/6 | 2800 | 12:11 | 12:57 | 1600 | 3 | / | | | | | | | / | |
| | | | | | | | | / | | | | | | | / | |
| Dive Notes: A33 43 04.35895 N 111 9809.06 -76 10.93195 E 92 7387.48 | | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | |
| 4 | Art Cohn | 36/6 | 7000 | 3:00 | 15:33 | 1700 | 25 | / | | | | | | | / | |
| | | | | | | | | / | | | | | | | / | |
| Dive Notes: | | | | | | | | | | | | | | | | |

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|---|----------------|----------|-----------|--------------|----------------|----------|------------|-------------------|----------|----------|---------|----------|----------|------------|-------------------|--|
| Date: | 10/27/10 | DSO: | Art Cohen | ADSO: | Pierre LaRoque | Log No.: | 3 | | | | | | | | | |
| Dive Site: | Onondaga | | | | | | | | | | | | | | | |
| Reason for Dive: | | | | | | | | | | | | | | | | |
| Weather: | Sunny, 68°F | | | Depth Range: | | Water: | °F | Air: | 68°F | UW Vis.: | | | | | | |
| DIVE 1 | | | | | | | | | DIVE 2 | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | |
| 1 | Pierre LaRoque | 36% | 2960 | 9:25 | 9:43 | 1900 | 26' | / | 36% | 1900 | 9:48 | 10:13 | 924 | 26' | / | |
| Dive Notes: A33 Dive 1 - video, Dive 2 - document | | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | |
| 2 | Adam Kabe | 36% | 2800 | 11:09 | 11:49 | 1700 | | / | | | | | | | / | |
| Dive Notes: | | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | |
| 3 | | | | | | | | / | | | | | | | / | |
| Dive Notes: | | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | |
| 4 | | | | | | | | / | | | | | | | / | |
| Dive Notes: | | | | | | | | | | | | | | | | |

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|---|----------------|---------------|----------|-------------------|----------|----------------------|------------|-------------------|----------|------------|---------|----------|----------|------------|-------------------|
| Date: 10/28/10 | | DSO: Art Cohn | | | | ADSO: Pierre LaRoque | | | | Log No.: 4 | | | | | |
| Dive Site: Onondaga Lake | | | | | | | | | | | | | | | |
| Reason for Dive: Phase 1B Dive Survey | | | | | | | | | | | | | | | |
| Weather: Clear 55° SW Wind 15-20 | | | | Depth Range: 0-26 | | Water: 55 °F | | Air: 55 °F | | UW Vis.: 4 | | | | | |
| DIVE 1 | | | | | | | | DIVE 2 | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 1 | Art Cohn | 36 | 2600 | 9:15 | 9:52 | 400 | | / | | | | | | | / |
| Dive Notes: A33 | | | | | | | | | | | | | | | |
| 2 | Pierre LaRoque | 26 | 3100 | 10:20 | 11:04 | | 26 | / | | | | | | | / |
| Dive Notes: A33 @ 23' = 8'9" L from fwd edge of stern to after edge of roddep post = 95'5" | | | | | | | | | | | | | | | |
| 3 | | | | | | | | / | | | | | | | / |
| Dive Notes: | | | | | | | | | | | | | | | |
| 4 | | | | | | | | / | | | | | | | / |
| Dive Notes: | | | | | | | | | | | | | | | |

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|---|---|----------------------|----------|----------------|----------|----------|------------|--------------------|----------|------------|---------|----------|----------|------------|-------------------|
| Date: 6.21.11 | | DSO: Pierre LeRocque | | | | ADSO: | | | | Log No.: 1 | | | | | |
| Dive Site: location A36/A34 Onondaga → Syracuse | | | | | | | | | | | | | | | |
| Reason for Dive: Target Verification | | | | | | | | | | | | | | | |
| Weather: Sunny light variable | | | | Depth Range: 7 | | | | Water: °F | | Air: 83 °F | | UW Vis.: | | | |
| DIVE 1 | | | | | | | | DIVE 2 | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 1 | Adam Kane <i>could iron rope 10'</i> | EAD 36 | 3000 | 12:47 | 12:58 | 2500 | 7' | location A 36 1 | 36 | 2500 | 1:25 | 2:16 | 800 | 5' | A34 1 |
| Dive Notes: <i>pile of stones - 4 GPS points taken</i> | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 2 | Adam Kane Sarah Tichonuk | | | 13 | | | | 1 | | | | | | | 1 |
| | | 36 | 3200 | 16:06 | 16:49 | 2000 | 6' | 1 | | | | | | | 1 |
| Dive Notes: | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 3 | | | | | | | | 1 | | | | | | | 1 |
| | | | | | | | | 1 | | | | | | | 1 |
| Dive Notes: | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 4 | | | | | | | | 1 | | | | | | | 1 |
| | | | | | | | | 1 | | | | | | | 1 |
| Dive Notes: | | | | | | | | | | | | | | | |

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|---|-----------------|----------------------|----------|--------------------|----------|-----------------|------------|-------------------|----------|------------|---------|---------------|----------|------------|-------------------|
| Date: 6/23/11 | | DSO: Pierre LaBocque | | | | ADSO: Adam Kano | | | | Log No.: 2 | | | | | |
| Dive Site: Onondaga Lake | | | | | | | | | | | | | | | |
| Reason for Dive: Phase IB Diving | | | | | | | | | | | | | | | |
| Weather: Scattered T-Storms | | | | Depth Range: 1-16' | | | | Water: 60 °F | | Air: 80 °F | | UW Vis.: 1-3' | | | |
| DIVE 1 | | | | | | | | | DIVE 2 | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 1 | Pierre LaBocque | 36 | 3567 | 1215 | 1240 | 2400 | #13 | / | | | | | | | / |
| | | | | | | | | / | | | | | | | / |
| Dive Notes: PAL surveyed 2 lines - in deeper water 3-4' vis, in shallow water vis was ± 2'. No features to report | | | | | | | | | | | | | | | |
| 2 | Pierre LaBocque | 36 | 2443 | 1531 | | | | / | 2000 | 1555 | 1625 | 1500 | | | / |
| | | | | | | | | / | | | | | | | / |
| Dive Notes: Dive 1 - verify A56 - unresolved, Dive 2 - verify A57 & A58 A57 - wooden barrel, A58 - metal 55 gallon | | | | | | | | | | | | | | | |
| 3 | Pierre LaBocque | 36 | 1500 | 1630 | 1640 | 1400 | | / | | | | | | | / |
| | | | | | | | | / | | | | | | | / |
| Dive Notes: Dive verify A59 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | / | | | | | | | / |
| | | | | | | | | / | | | | | | | / |
| Dive Notes: | | | | | | | | | | | | | | | |

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|---|-------------------------|----------------|----------|-------------------|----------|----------------------|------------|-------------------|----------|------------|---------|---------------|----------|------------|-------------------|
| Date: 6/24/11 | | DSO: Adam Kane | | | | ADSO: Sarah Tichonuk | | | | Log No.: 3 | | | | | |
| Dive Site: Onondaga Lake | | | | | | | | | | | | | | | |
| Reason for Dive: Phase IB diving | | | | | | | | | | | | | | | |
| Weather: overcast 75°F | | | | Depth Range: 1-5' | | | | Water: 60°F | | Air: 75°F | | UW Vis.: 1-2' | | | |
| DIVE 1 | | | | | | | | | DIVE 2 | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 1 | Sarah Tichonuk | 36 | 3100 | 950 | 1055 | 1600 | 6' | / | | | | | | | / |
| | A60, A67, A62 | | | | | | | / | | | | | | | / |
| Dive Notes: A60: 3" diameter handles - unable to locate by digging 5" down. A61: some low bits on the detector, but nothing produced. A63: nothing - no hits on the detector. (1 tin can) | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 2 | Adam Kane | 36 | 2960 | 1122 | 1220 | 1000 | 10' | / | | | | | | | / |
| | A60, A61, A62, A63, A64 | | | | | | | / | | | | | | | / |
| Dive Notes: | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 3 | Chris Sabick | 36 | 2600 | 1430 | 1440 | 2300 | 4' | / | 2300 | 1449 | 1505 | 2000 | 5' | / | |
| | " | 36 | 2000 | 1510 | 1527 | 1700 | | / | 1700 | 1535 | 1555 | 1000 | 8' | / | |
| Dive Notes: Dive 1: All, Dive 2: A65, Dive 3: A66, Dive 4: A67 | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 4 | | | | | | | | / | | | | | | | / |
| | | | | | | | | / | | | | | | | / |
| Dive Notes: | | | | | | | | | | | | | | | |

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|---|----------------|----------------|----------|--------------------|----------|----------------------|------------|-------------------|----------|------------|---------|---------------|----------|------------|-------------------|
| Date: 6/25/11 | | DSO: Adam Kane | | | | ADSO: Sarah Tichonuk | | | | Log No.: 4 | | | | | |
| Dive Site: Onondaga Lake | | | | | | | | | | | | | | | |
| Reason for Dive: Phase IB Survey | | | | | | | | | | | | | | | |
| Weather: Overcast 70°F | | | | Depth Range: 2-10' | | | | Water: 60°F | | Air: 70°F | | UW Vis.: 1-2' | | | |
| DIVE 1 | | | | | | | | | DIVE 2 | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 1 | Sarah Tichonuk | 3b | 3200 | 9:00 | 11:05 | 500 | 4' | / | | | | | | | / |
| Dive Notes: Verify A69, & A70, Document pilings (A72) | | | | | | | | | | | | | | | |
| 2 | ADAM KANE | 3b | 2900 | 11:23 | 13:05 | 500 | | / | | | | | | | / |
| Dive Notes: Survey shallow water area between A70 & A4-1/A4-2 Document A73 | | | | | | | | | | | | | | | |
| 3 | Chris Sabick | 3b | 2400 | 12:29 | 14:5 | 2100 | 4' | / | 3b | 2100 | 13:54 | 15:06 | 500 | 5' | / |
| Dive Notes: 130° Survey shallow water area between A70 and to the south | | | | | | | | | | | | | | | |
| 4 | | | | | | | | / | | | | | | | / |
| Dive Notes: | | | | | | | | | | | | | | | |

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|---|----------------|--------------|-----------|---------|----------------|----------|------------|-------------------|----------|----------|---------|----------|----------|------------|-------------------|
| Date: | 6/26/11 | DSO: | Adam Kane | ADSO: | Sarah Tichonuk | Log No.: | 5 | | | | | | | | |
| Dive Site: | Onondaga Lake | | | | | | | | | | | | | | |
| Reason for Dive: | Phase IB diver | | | | | | | | | | | | | | |
| Weather: | Overcast 70°F | Depth Range: | 1-5' | Water: | 60°F | Air: | 70°F | UW Vis.: | 1-2' | | | | | | |
| DIVE 1 | | | | | | | | DIVE 2 | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 1 | Sarah Tichonuk | 30 | 2800 | 8:38 | 10:05 | 500 | 6' | / | | | | | | | / |
| | | | | | | | | / | | | | | | | / |
| Dive Notes: Shallow water survey, Area immediately north of inner harbor | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 2 | Adam Kane | 36 | 2570 | 10:23 | 10:57 | 2000 | 3' | / | | | | | | | / |
| | | 30 | 2695 | 11:13 | 12:11 | 600 | 4' | / | | | | | | | / |
| Dive Notes: 30 2000 12:17 1:00 1175 4' Shallow water survey, Area South of inner harbor | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 3 | Chris Sabick | 2350 | 1335 | 15:15 | 4:00 | 5' | / | / | | | | | | | / |
| | | | | | | | | / | | | | | | | / |
| Dive Notes: Shallow water survey, Area of A4-2 to A55 | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 4 | | | | | | | | / | | | | | | | / |
| | | | | | | | | / | | | | | | | / |
| Dive Notes: | | | | | | | | | | | | | | | |

DAN Emergency Phone Number: (919) 684-9111



Phase IB Underwater Archaeological Resources Report for Onondaga Lake Superfund Site

| Dive Log • Lake Champlain Maritime Museum • 4472 Basin Harbor Road • Vergennes • VT • 05491 | | | | | | | | | | | | | | | |
|---|----------------|----------------|----------|-------------------|----------|----------------------|------------|-------------------|-------------------------------|------------|---------|---------------|----------|------------|-------------------------|
| Date: 6/27/11 | | DSO: Adam Kane | | | | ADSO: Sarah Tichonuk | | | | Log No.: 6 | | | | | |
| Dive Site: Onondaga Lake | | | | | | | | | | | | | | | |
| Reason for Dive: Phase IB Survey | | | | | | | | | | | | | | | |
| Weather: clear 80°F | | | | Depth Range: 1-5' | | | | Water: 60°F | | Air: 80°F | | UW Vis.: 1-2' | | | |
| DIVE 1 | | | | | | | | | DIVE 2 | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 1 | Sarah Tichonuk | 36 | 3400 | 1124 | 1305 | 600 | | / | | | | | | | / |
| Dive Notes: ST surveying northern end of Syracuse graveyard area from Saline Pier moving south. ST's rock pile = 41' long by 24' wide ← A76 | | | | | | | | | | | | | | | |
| 2 | Adam Kane | 36 | 3200 | 13:35 | 14:30 | 1000 | 4' | / | surveying | | | | | | Syracuse graveyard area |
| | A77, 78, 79 | 36 | 3200 | 15:03 | 16:15 | 2000 | 5' | / | A77: inconclusive - this camp | | | | | | / |
| Dive Notes: A78: A79: | | | | | | | | | | | | | | | |
| 3 | | | | | | | | / | | | | | | | / |
| Dive Notes: | | | | | | | | | | | | | | | |
| 4 | | | | | | | | / | | | | | | | / |
| Dive Notes: | | | | | | | | | | | | | | | |

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Phase IB Underwater Archaeological Resources Report for Onondaga Lake Superfund Site

| Dive Log • Lake Champlain Maritime Museum • 4472 Basin Harbor Road • Vergennes • VT • 05491 | | | | | | | | | | | | | | | |
|---|------------------|---------------------|----------|------------------|----------|-----------------|------------|-------------------|----------|------------|---------|---------------|----------|------------|-------------------|
| Date: 6/28/11 | | DSO: Pierre LaRoque | | | | ADSO: Adam Kane | | | | Log No.: 7 | | | | | |
| Dive Site: Onondaga Lake Phase IB | | | | | | | | | | | | | | | |
| Reason for Dive: Phase IB dive survey | | | | | | | | | | | | | | | |
| Weather: Overcast 75° | | | | Depth Range: 5-8 | | | | Water: 60°F | | Air: 75°F | | UW Vis.: 1-2' | | | |
| DIVE 1 | | | | | | | | | DIVE 2 | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 1 | Pierre LaRoque ① | 36 | 2280 | 8:48 | 9:20 | 2000 | 15' | 1 ③ | 36 | 1400 | 9:58 | 10:10 | 1000 | 7' | 1 |
| | ② | 36 | 2000 | 9:30 | 9:50 | 1400 | 10' | 1 ④ | 36 | 1000 | 10:24 | 10:35 | 700 | | 1 |
| Dive Notes: Dive 1: A87, Dive 2: A80, Dive 3: A81, Dive 4: A82, Dive 5: A83 | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 2 | P. LaRoque ⑤ | 36 | 2929 | 10:40 | 11:00 | 2000 | 6' | 1 | | | | | | | 1 |
| | ⑥ | 36 | 2000 | 11:15 | 11:30 | 1400 | 6' | 1 | | | | | | | 1 |
| Dive Notes: Dive 5: A83, Dive 6: A84 | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 3 | Adam Kane ⑦ | 36 | 3330 | 12:17 | 12:47 | 2100 | | 1 | | | | | | | 1 |
| | ⑧ | | 2100 | 13:04 | 13:33 | 1500 | | 1 | | | | | | | 1 |
| Dive Notes: ① core samples at A-20 ② Dive Verify Air | | | | | | | | | | | | | | | |
| Team No. | Name | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In | Dive Gas | Tank PSI | Time In | Time Out | Tank PSI | Max. Depth | Rep. Group Out/In |
| 4 | | | | | | | | 1 | | | | | | | 1 |
| | | | | | | | | 1 | | | | | | | 1 |
| Dive Notes: | | | | | | | | | | | | | | | |

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APPENDIX 3: LIST OF ACRONYMS

A.B.: *Artium Baccalaureus* (Bachelor of Arts)
A.S.: Associates of Science
ASL: Above Sea Level
B.A.: *Baccalaureus Artium* (Bachelor of Arts)
BCD: Buoyancy Compensator Device
B.L.: Base Line
B.P: Before Present
Bros.: Brothers
B.S.: Bachelor of Science
°C: Celsius
CA: cooperative agreement
c.: circa
CAC: Citizens Advisory Committee
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
cm: centimeter
c/o: care of
CPR: cardiopulmonary resuscitation
CRE: CR Environmental, Inc.
CWA: Clean Water Act
DAN: Divers Alert Network
DC: District of Columbia
DGPS: Differential Global Positioning System
DSO: Diving Safety Officer
ed.: edition
EPA: Environmental Protection Agency
ESRI: Environmental Systems Research Institute
et al.: *et alii* (and others)
°F: Fahrenheit
ft: feet
FY: fiscal year
GIS: Geographic Information Systems
GPS: Global Positioning System
hp: horsepower
i.e.: *id est* (that is [to say])
in: inch
Inc.: incorporated
Inv.: inventory
kHz: kilohertz
km: kilometer
km²: square kilometers
kmph: kilometers per hour
kW: kilowatt
LCMM: Lake Champlain Maritime Museum
m: meter

M.A.: *Magister Artium* (Master of Arts)
mi: mile
mi²: square miles
mph: miles per hour
Ms.: manuscript
NAGPRA: Native American Graves Protection and Repatriation Act
NAUI: National Association of Underwater Instructors
n.d.: no date
No. or no.: number
NOAA: National Oceanic and Atmospheric Administration
NPS: National Park Service
NRHP: National Register of Historic Places
NY: New York
NYDEC: New York Department of Environmental Conservation
NYED: New York Department of Education
NYOGS: New York Office of General Services
NYOPRHP: New York Office of Parks, Recreation, and Historic Preservation
NYS: New York State
NYSM: New York State Museum
p.: page
PCBs: Polychlorinated biphenyls
Ph.D.: *Philosophiae Doctor* (Doctor of Philosophy)
pp.: pages
PM: *post meridiem* (after noon)
PO: Post Office
Re: regarding
Res.: resources
RFP: request for proposal
ROV: remote-operated vehicle
RV: research vessel
SCUBA: Self Contained Underwater Breathing Apparatus
SHPO: State Historic Preservation Office
SPC: Solvay Process Company
Tel: telephone number
US: United States of America
USACE: United States Army Corps of Engineers
USC: United States Congress
USEPA: United States Environmental Protection Agency
USGS: United States Geological Survey
USA: United States of America
UTM: Universal Transverse Mercator
VHF: very high frequency
Vol. or vol.: volume

APPENDIX 4: GLOSSARY

Aft Near or at the stern of a vessel.

Amidships The middle of a vessel.

Archaeological Site Locations where signs of human activity are found.

Archaeology A sub-discipline of anthropology involving the study of the human past through its material remains.

Artifact Any object used or manufactured by humans.

Athwartships From one side of a ship to the other.

Barge A large, unpowered, generally flat-bottomed boat towed by other craft and used as a freight-hauler or work platform.

Bateau (plural **bateaux**) A lightly built, flat-bottomed, double-ended boat.

Bathymetry The measurement of the depth of bodies of water.

Beam A dimension measured from side to side of a vessel.

Bedrock A mining term for the unweathered rock below the soil.

Bilge The lowest point of a vessel's interior hull.

Bilge Stringer A fore and aft timber located in the bottom of the hull that lends longitudinal strength to the hull and keeps the frames in line.

Bitts Strong wooden or metal uprights used for securing heavy ropes such as anchor cables.

Boat An open vessel, usually small and without decks, intended for use in sheltered water.

Bollard Short thick post of wood or iron (often mounted in pairs) used for securing mooring ropes, springs, or hawsers.

Bolt A fastener consisting of a threaded rod with a head at one end, designed to be inserted through a hole in assembled parts and secured by a mated nut that is tightened by a wrench.

Boom Spar used to stretch out the foot of a sail.

Bottom Planking In an edge-fastened vessel the planking that covers the flat bottom of the vessel, normally oriented transversely.

Bow The forward end of a vessel.

Bowsprit A spar projecting forward from the bow.

Breadth The measurement of a ship's width.

Breakwater A structure, usually made of stone or concrete, built to create a harbor or improve an existing one.

Breast Hook A large, horizontal knee fixed to the sides and stem to reinforce and hold them together.

Bulwark The side of a vessel above the its upper deck.

Bulkhead Vertical partition between two decks of a ship, running either lengthwise or across, forming and separating different compartments.

Cabin The living quarters of a vessel.

Canal A manmade waterway or artificially improved river used for navigation.

Canal Boat A boxy vessel designed to travel in a canal system. The vessel has no means of propulsion and must be towed or pushed by another vessel or animal.

Caprail A timber attached to the top of a vessels frames.

Cargo hatch A deck opening providing access to stow cargo below.

Causeway A raised roadway across water or marshland.

Ceiling The internal planks of a vessel.

Chine log A longitudinal timber at the angular junction of the side and bottom of a flat-bottomed vessel.

Chock Wooden wedge used to prevent other structural members from moving.

Clamp A thick ceiling strake used to provide longitudinal support.

Cleat A T-shaped rigging fitting to which a vessels lines are attached.

Coaming The raised lip with which openings in the deck such as hatchways are framed to prevent water on deck from running into the hold.

Cocked Hat Triangular wooden block used to brace the floors and futtocks where the bottom of the hull meets the sides.

Cultural Resource A nonrenewable historical resource such as archaeological sites, artifacts, and standing structures.

Deck A platform extending horizontally from one side of a ship to the other.

Decking The individual timbers that form the floor of the deck.

Deck beam A timber mounted across a vessel from side to side to support the vessel's deck and provide lateral strength.

Derrick Form of crane used to hoist cargo or their weights. It consists of a swinging boom supported by a topping lift and controlled sideways by guys.

Diagonal Bracing Angled bracing in the hull of a vessel used to resist fore-and-aft or athwarships distortion.

Draft The depth of a vessel's keel below the waterline when the vessel is loaded.

Drift bolt A cylindrical iron rod used to fasten ship timbers together; usually headed on one end and slightly larger in diameter than the hole into which it is driven.

Edge-fastened A shipbuilding technique used to attach the hull planks of a vessel together. The planks are set edge to edge and a hole drilled through them. Large iron bolts are driven through the planks to hold them together.

Fairlead A deck fixture used to lead a rope in a required direction.

Fender Timber designed to absorb the force from impacts with vessels or warfs.

Floor Timber A frame timber that crosses the keel and spans the bottom of a vessel.

Fore Located at the front of a vessel.

Fore-and-Aft From stem to stern, from front to back, oriented parallel to the keel.

Frame A transverse timber or group of timbers that creates the skeleton of a vessel and to which the hull planking and ceiling are fastened.

Futtock A frame timber that continues where the floor timber leaves off and continues up the side of a vessel.

Gudgeon: Device used to attach the rudder to the boat so that it can swing freely

Gunwale The timber above the sheer strake.

Hanging knee A vertical L-shaped timber attached to the underside of a beam and the side of a vessel; used to connect and reinforce the junction of a deck beam with the side of the vessel.

Harbor A safe anchorage, protected from most storms; may be natural or manmade; a place for docking and loading.

Hatch A deck opening in a vessel providing access to the space below.

Historic The period after the appearance of written records for a given region.

Hold The lower interior part of a ship in which cargo is stored.

Hull The structural body of a vessel, not including the superstructure, masts or rigging.

Hull Plank A thick board used to create the outer shell of a hull.

Inboard Toward the center of the vessel.

Keel The main longitudinal timber upon which the framework or skeleton of a hull is mounted; the backbone of a hull.

Keelson An internal longitudinal timber, fastened on top of the frames above the keel for additional strength.

Knee An L-shaped timber used to strengthen the junction of two surfaces on different planes.

Lighter A type of barge used to carry goods and equipment.

Longitudinal timber A long timber that runs parallel with the length of a vessel.

Magnetometer: is a scientific instrument used to measure the strength and/or direction of the magnetic field in the vicinity of the instrument. In archaeology this is used to identify metal objects.

Mast A large wooden pole that supports the sails of a vessel.

Mooring A permanent placement of an anchor, anchor chain, shackles and buoy necessary to anchor a vessel.

Mortise A cavity cut into a timber to receive a tenon.

Moulded Dimension The measurement of depth of a timber as seen in a cross-section view of a vessel.

Mud line The intersection of a shipwreck's hull with the bottom's surface.

Naphtha Launch: A small vessel that ran on the naphtha engine which did not use steam, but instead forms of gasoline and vapor.

Outboard Outside or away from the center of a vessel's hull.

Plank A thick board used as sheathing on a vessel.

Plank-on-Frame A shipbuilding technique, also commonly known as carvel built. Vessels of this type have planking running fore and aft with the planking laid edge to edge.

Port The left side of a vessel when facing forward.

Primary Source An artifact, document, or individual that provides information based on personal observations. A firsthand account.

Provenience The original location of an object, in reference to artifacts it is the exact location in which they were found.

Rabbet a concavity in the keel or chine log into which the planking is fit.

Rake The projection of a ship, at stem or stern, beyond the ends of the keel.

Rake timber Timber that acts as framing the raked end of a scow.

Rider Interior frame mounted inside a ship's hold and bolted to other structural elements to strengthen the ship's structure.

Rigging The hardware and equipment that support and control the spars and sails of a vessel.

Rigging block A wooden pulley used to operate a vessel's spars and sails.

Room and Space The distance between the moulding edges of two adjoining frames.

Rub Plate A metal band placed on the forward end of the stem and bottom of the keelson to protect the underlying wood.

Rubwale See Rub Strake

Rub Strake: A rail on the outside of the hull of a boat to protect the hull from rubbing against piles, docks and other objects

Rudderpost A vertical timber in the stern of the vessel to which the rudder is attached

Scarf An overlapping joint to connect two timbers or planks without increasing their dimensions.

Schooner A fore-and-aft-rigged sailing vessel with two or more masts.

Scow Flat bottomed watercraft, normally rectangular in cross-section with outward sloping ends.

Secondary source An individual's description and interpretation of a historical event recorded at a different time and place. A secondhand account.

Sheer strake The top strake, or plank, of a wooden vessel next below the gunwale.

Sided dimension The measurement of width of a timber as seen in a plan view of a vessel.

Sloop A single-masted, fore-and-aft-rigged sail boat.

Spar A pole used to help support the sail of a vessel.

Spike A large nail.

Spud: Posts found on some barges which are lowered from the barge and pushed into the waterway floor to anchor the vessel in place.

Stanchion An upright supporting post.

Standing Knee A vertical L-shaped timber attached to the top of a deck beam, or decking; used to connect and reinforce the junction of a deck beam with the side of the vessel.

Starboard The right side of a vessel when facing forward.

Steamboat A vessel propelled by a steam engine.

Steamer A vessel propelled by a steam engine.

Stern The after end of a vessel.

Strake A continuous line of planks, running bow to stern.

Stringer A longitudinal timber fixed to the inside surface of the frames of a vessel to provide it with greater strength fore-and-aft.

Tenon a projection on a timber which fits into a mortise.

Tiller A handle attached to the rudderpost to steer a vessel.

Timber In a general context, all wooden hull members; specially those that form the framework or skeleton of the hull.

Top Log Longitudinally oriented timber which runs on top of the futtocks.

Towfish The torpedo-shaped unit that houses the transmitter and receiver of a side scan sonar and is usually towed behind a vessel.

Transverse Describes a component of a ship that runs side to side, not fore and aft.

Underwater archaeology The archaeological study of underwater cultural resources.

Underwater cultural resource A nonrenewable historical resource that partially or entirely lies below water, such as submerged prehistoric archaeological sites, artifacts, bridges, piers, wharfs and shipwrecks.

Vessel A watercraft, larger than a rowboat, designed to navigate on open water.

Wale A thick strake of planking located along the side of a vessel for the purpose of stiffening the outer hull.

Waterline The intersection of the vessel's hull and the water's surface.

Wharf A structure, parallel to the shore, for docking vessels.

APPENDIX 5: NEW YORK STATE CANAL SYSTEM RESOURCE ELIGIBILITY STATEMENT

RESOURCE EVALUATION **DATE:** 11/29/93 **STAFF:** L. Garofalini

PROPERTY: New York State Canal System **MCD:** Multiple
ADDRESS: _____ **COUNTY:** Multiple
PROJECT REF: _____ **USN:** _____
NR REF: _____ **Survey REF:** _____

I. Property is individually listed on SR/NR.
 Name of listing: _____

Property is a contributing component of a SR/NR district.
 Name of district: _____

II. Property meets criteria * A,C,D for inclusion in the National/State Register of Historic Places.

Property contributes to a district which meets criteria * _____ for inclusion in the National/State Register of Historic Places.

 Post SRB: _____ SRB date: _____ NR application pending _____

* **Criteria for inclusion in the National Register:**

- A. Associated with events that have made a significant contribution to the broad patterns of our history;
- B. Associated with the lives of persons significant in our past;
- C. Embodies the distinctive characteristics of a type, period or method of construction; or represents the work of a master; or possess high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction;
- D. Have yielded, or may be likely to yield information important in prehistory or history.

STATEMENT OF SIGNIFICANCE:

The New York State canal system including the 1918 barge system and the extant remains of its predecessors (the Erie, Champlain, Oswego, Genesee, Chemung, Chenango, Black River and related private canals, i.e., Western Inland Navigation, Chenango Extension and Junction Canals) is the most extensive canal system in North America and is of national significance for the pivotal



and varied roles which it has played in not only the historical growth and development of New York State and states of the upper Midwest, but also of the nation, primarily in areas of transportation, commerce, and engineering.

Since the construction of the first canal in New York State by the Western Inland Navigation Lock Co. in 1792, the canal system has undergone a constant evolution to arrive at its present day configuration as the New York State Barge Canal System. This system represents one of the greatest engineering achievements of the early 20th century, rivaled only by the building of the Panama Canal (1914).

The entire New York State canal system is 525 miles in length and consists of the major extant branches of the state system - the Erie, the Champlain, the Oswego and the Cayuga and Seneca canals, which since the creation of the Barge Canal in 1918, have been combined to provide an uninterrupted homogeneous navigation system linking the Atlantic Ocean with the Great Lakes and Lake Champlain via the Hudson River. The Erie is the main line and stretches across the state from Waterford (opposite Troy on the west bank of the Hudson River) to Tonawanda and Buffalo on the Niagara River; the Champlain runs north near the easterly boundary of the state from Waterford to Whitehall, at the southern end of Lake Champlain; the Oswego, from a point near Syracuse, connects the Erie canal with Lake Ontario; and the Cayuga and Seneca Canal, which leaves the Erie west of Syracuse, runs southward, connecting with Cayuga and Seneca lakes. The Hudson River links the entire system to the Port of New York and the Atlantic Ocean.

The significance of the Barge Canal's predecessors cannot be overstated, as all contributed to the establishment of an inland navigation system that spanned New York State, thereby securing New York City's position as the nation's leading Atlantic port and center of trade and commerce, as well as fixing upstate New York's geographic development patterns. The Western Inland Navigation Lock Company's construction of locks around the rapids in the Mohawk River at Little Falls (1792) was the first attempt to create a reliable water route into the state's western frontier territories. The construction and elaboration of the canal system between 1817 and 1862 [Old Erie Canal (1817-35), Old Champlain Canal (1819-1918), Enlarged Erie Canal (1836-1905), as well as the lateral canals; i.e., Oswego, Black River, Genesee, Chemung, Chenango, Junction Canal, Chenango Extension Canal,



Cayuga and Seneca, Crooked Lake] allowed New York state to capture and maintain the largest share of east-west traffic in the country. By giving New York the first viable trans-Allegheny route to the interior, the Erie Canal and the Enlarged Erie allowed New York City in the second quarter of the 19th century to quickly and decisively eclipse the then-larger ports of Boston, Newport, Philadelphia and Baltimore to become the pre-eminent center for trade and commerce on the eastern seaboard; the canal's continued utility for the shipment of bulky, low-cost goods helped New York to maintain its edge over its rivals despite the development of rail, road and air connections to all these cities in the 19th and 20th centuries.

The New York State canal system and its predecessors satisfy National Register Criteria A, C and D with significance in the categories of: Architecture, Archaeology, Commerce, Community Planning and Development, Economics, Engineering, Settlement, Industry, Maritime History, Politics/Government, Social History, Recreation and Transportation. Additional categories of significance may be revealed in future research.

Under Criterion A the canal system is significant for the central role it has played in the 19th and 20th century growth and development of New York State and the states of the upper Midwest as well as for its impact on the development of civil engineering as a distinct profession and the development of engineering techniques in the United States.

Under Criterion C the canal system is significant as a distinguished navigation system incorporating a broad range of engineering features and the specific canal-related property types which evolved throughout the period of significance.

Under Criterion D the canal system is significant for its archaeological potential to yield important information on early engineering techniques, transportation corridors, maritime and social histories.

Assuming adequate integrity (according to National Park Service standards), any canal-related feature is considered potentially eligible as a contributing component to this significant historic resource. Contributing features of the canal system include, but are not limited to, any and all built engineering features such as channels, prisms, locks, dams, aqueducts, bridges, towpaths, retaining walls, berm banks, turning basins, feeders, weighlocks,



waste weirs, culverts as well as navigational aids (i.e., lighthouses, buoys), maintenance fleet, boat wrecks, and terminals and/or built structures/buildings associated with the canals, whether publicly or privately constructed or owned.

The Period of Significance established for the New York State canal system begins in 1792 with the construction of the Western Inland Navigation Lock Company and, given that the entire system is still in use today as a navigable waterway, has a floating end date consistent with the National Park Service 50 year threshold. Features less than 50 years old must be considered exceptionally significant.



APPENDIX 6: ONONDAGA NATION'S SPIRITUAL AND CULTURAL HISTORY OF ONONDAGA LAKE¹

The region of Onondaga Lake and the Onondaga Lake watershed has been our homeland since the dawn of time. We have been a steward of Onondaga Lake since time immemorial and will continue to do so forever, as that is what has been mandated from the Gayanashagowa, the Great Law of Peace. In the 1794 Treaty of Canandaigua the United States government recognized Onondaga Lake as part of our aboriginal territory. The Lake is the spiritual, cultural and historic center of the Haudenosaunee Confederacy. Over one thousand years ago, the Peacemaker brought the Mohawk, Oneida, Onondaga, Cayuga, and Seneca Nations together on the shores of Onondaga Lake. At the lakeshore, these Nations accepted the message of peace, laid down their arms, and formed the Haudenosaunee Confederacy. The Confederacy was the first representative democracy in the West.

To symbolize the Confederacy, the Peacemaker planted a white pine, the Tree of Peace, on the shore of Onondaga Lake. It is understood that the Peacemaker chose the white pine because the white pine's needles are clustered in groups of five, just as the five founding Nations of the Confederacy clustered together for strength. The boughs of the white pine represent the laws that protect all the people. An eagle was placed at the top of the tree to watch for danger from without and within. Four white roots of peace reach out in the four directions towards anyone or any Nation who wishes to come under this tree of peace.

As the birth place of the Confederacy and democracy, the Lake is sacred to the Haudenosaunee. The Onondaga Nation has resided on the Lake and throughout its watershed since time immemorial, building homes and communities, fishing, hunting, trapping, collecting plants and medicine, planting agricultural crops, performing ceremonies with the natural world dependent on the Lake, and burying our ancestors - the mothers, fathers and children of the Onondaga Nation. The Onondaga Nation views its relationship to this area as a place where we will forever come from and will return to.

It brings great sadness to the people of the Onondaga Nation that despite our long stewardship of the Lake and its watershed, it took only one hundred years of abuse to wreak havoc to the Lake, its tributaries and all the plants, animals and marine life that depend on the Lake and its watershed. Industry interfered with the Onondaga Nation's relationship to the land and disturbed the ancestors that were interred throughout the watershed - either by direct excavation or contamination, or indirect efforts such as construction on top of grave sites. We wish to bring about a healing between us and all others who live within our homelands around the Lake. We must in order to protect the future generations "whose faces are looking up from the earth."

We are one with this land and this Lake. It is our duty to work for a healing of this land, and all of its waters and living things, to protect them, and to pass on a healthy environment to future generations - yours and ours.

¹ The Onondaga Nation requested that the oral tradition concerning the significance of Onondaga Lake to the Onondaga and Haudenosaunee Confederacy be included in this report. The Onondaga Nation's statement may not necessarily reflect the views of the Lake Champlain Maritime Museum, Parsons or Honeywell International Inc. Further, the inclusion of the Onondaga Nation's oral tradition shall not constitute an admission of any fact or law in any judicial or administrative proceeding. In addition, the statement and findings made in this report by Honeywell, Parsons and the Lake Champlain Maritime Museum may not reflect the opinions and views of the Onondaga Nation, and do not constitute an admission by the Onondaga Nation of fact or law in any legal or other proceeding.

APPENDIX 7: RESUMES OF KEY PROJECT PERSONNEL

Arthur Bruce Cohn

Executive Director

Lake Champlain Maritime Museum

4472 Basin Harbor Road,

Vergennes, Vermont 05491

(802) 475-2022

Education

Doctor of Science, Honorary. Middlebury College – 2003

Doctor of Laws, Honorary. University of Vermont - 1996

JD Boston College Law School - 1974

BA University of Cincinnati (Sociology) - 1971

Professional Experience

Executive Director, Lake Champlain Maritime Museum. Co-founder and chief planner for the Museum. 1984 - present

Delegate, Member of the U.S. State Department Delegation to the United Nations Educational, Science and Cultural Organization's (UNESCO) Convention for the Protection of Underwater Cultural Heritage. June 2000 - present

Committee Member, National Maritime Heritage Initiative Grants Advisory Committee. 1997 - present.

Proposal Evaluator, National Oceanographic and Atmospheric Administration (NOAA) Ocean Exploration Program. 2001

Adjunct Assistant Professor, Texas A&M University, Nautical Archaeology Program. 1995 - present

Adjunct Assistant Professor, University of Vermont, Instructor of Maritime History, Nautical Archaeology and Historic Preservation. 1991 - present

Diving Certifications

1974 - NAUI Instructor (3795)

TDI - Nitrox Instructor

1997- 2005 Diver's Alert Network, Member (Master Insurance)

2000 – Tri-mix certified, Crystal River, FL, active Deep Technical Diving, Mixed gases.

Current: CPR for the Professional Rescuer, First Aid, and Oxygen Administration.

Selected Publications

Books and Book Sections

Cohn, Arthur B.

1994 *Afterword: In Lake Champlain as Centuries Pass*, by A. P. Beach, pp. 107-115. Lake Champlain Maritime Museum, Ferrisburgh, VT.

1995a *Afterword: Building and Sailing the Replica*. In *The Gunboat Philadelphia and the Defense of Lake Champlain in 1776*, by P. Lundeborg, pp. 61-84. Lake Champlain Maritime Museum, Ferrisburgh, VT.

1995b *Epilogue: Treasures Beneath an Inland Sea*. In *Lake Champlain: Key to Liberty*, by R. N. Hill, pp. 283-299. Countryman Press, Woodstock, VT.

- 1997a *Forward, Afterword: The Roaring '20s: Death by Automobile and Archaeology of Lake Champlain Steamboats*. In *The Steamboats of Lake Champlain, 1809-1930*, by O. B. Ross, pp. ix-xi, 185-201, 202-207. Vermont Heritage Press, Quechee, VT.
- 1997b Lake Champlain. In *Encyclopedia of Underwater and Maritime Archaeology*, edited by J. P. Delgado, pp. 231-233. British Museum Press, London.
- 2003a Contributor: The Plenum Series in Underwater Archaeology *Submerged Cultural Resource Management: Preserving and Interpreting Our Maritime Heritage*. Kluwer Academic/Plenum Publishers.
- 2003b Contributor: The Vermont Encyclopedia. University Press of New England, New Hampshire.
- 2003c Author: Lake Champlain's Sailing Canal Boats: An Illustrated Journey from Burlington Bay to the Hudson River. Lake Champlain Maritime Museum, Basin Harbor, VT.

Crisman, Kevin J. and Arthur B. Cohn

- 1998 *When Horses Walked on Water: Horse-Powered Ferries in Nineteenth-Century America*. Smithsonian Institution Press, Washington, DC.
- 1999 Preface: Lake Champlain A Great Lake. In *Chronicles of Lake Champlain: Journeys in War and Peace* by Russell P. Bellico. Purple Mountain Press. Fleischmanns, New York.
- 2002 Contributor: The Plenum Series in Underwater Archaeology *International Handbook of Underwater Archaeology*. Kluwer Academic/Plenum Publishers

Research Reports

Cohn, Arthur B. (editor)

- 2000 *Lake Champlain Underwater Cultural Resources Survey; Volume II: 1997 Results & Volume III: 1998 Results*. Lake Champlain Maritime Museum, Ferrisburgh, VT. Submitted to Vermont Division for Historic Preservation, Montpelier, VT.
- 2001 Underwater Barge Documentation for the Alburg-Swanton Bridge Replacement Project. Alburg, Grand Isle County, Vermont. Submitted to the Vermont Agency of Transportation, Montpelier, VT.
- 2001 Lake Champlain Underwater Preserve Expansion Plan. Lake Champlain Basin Program.
- 2002 *Lake Champlain Underwater Cultural Resources Survey: Volume IV: 1999 Results and Volume V: 2000 Results*. Lake Champlain Maritime Museum, Ferrisburgh, VT. Submitted to Vermont Division for Historic Preservation, Montpelier, VT.
- 2003 *Lake Champlain Underwater Cultural Resources Survey: Volume VI: 2001 Results and Volume VII: 2002 Results*. Lake Champlain Maritime Museum, Ferrisburgh, VT. Submitted to Vermont Division for Historic Preservation, Montpelier, VT.

Cohn, Arthur B., Joseph R. Cozzi, Kevin J. Crisman, and Scott A. McLaughlin

- 1996a *Archaeological Reconstruction of the Lake Champlain Canal Schooner General Butler (VT-CH-590), Burlington, Chittenden County, Vermont*. Lake Champlain Maritime Museum, Ferrisburgh, VT. Submitted to Department of Public Works, Burlington, VT.
- 1996b *Archaeological Reconstruction of the Lake Champlain Canal Schooner O. J. Walker (VT-CH-594), Burlington, Chittenden County, Vermont*. Lake Champlain Maritime Museum, Ferrisburgh, VT. Submitted to Vermont Division for Historic Preservation, Montpelier, VT.

Cohn, Arthur B. and Adam I. Kane

- 2002 *Spitfire Management Plan: Phase One Draft Report*. Prepared for the Naval Historical Center, Washington Navy Yard, D.C.

Cohn, Arthur B., Adam I. Kane, Christopher R. Sabick, and Edwin Scollon

2003 Valcour Bay Research Project: 1999-2002 Results from the Archaeological Investigation of a Revolutionary War Battlefield in Lake Champlain, Clinton County, New York. Lake Champlain Maritime Museum, Ferrisburgh, Vermont. Submitted to the Naval Historical Center, Washington Navy Yard, D.C.

Adam Isaac Kane
Archaeological Director
Lake Champlain Maritime Museum
4472 Basin Harbor Road
Vergennes, Vermont 05491

Education

MA Anthropology, Texas A&M University, College Station, Texas, 2001.

Thesis: Archaeology of the Western River Steamboat, 1811 – 1860

BA Anthropology, minor Environmental Geography (honors), Millersville University of Pennsylvania, 1995.

Professional Experience

Archaeological Director, Lake Champlain Maritime Museum, October 2000–present.

Basin Harbor Site Manager, Lake Champlain Maritime Museum, May 2005 – October 2006.

Lake Champlain Underwater Historic Preserve Monitor, Vermont Division for Historic Preservation, May 2001 – present.

Nautical Archaeologist, Lake Champlain Maritime Museum. May 2000 – October 2000.

Nautical Archaeology Intern, Lake Champlain Maritime Museum. May 1999 - August 1999.

Archaeological Conservator, Texas A&M University Conservation Research Laboratory. August 1998 – May 2000.

Archaeological Consultant, R. Christopher Goodwin & Associates, Inc. August 1998 - May 2000.

Nautical Archaeologist, Remote Sensing Specialist, and Assistant Diving Safety Officer, R. Christopher Goodwin & Associates, Inc. October 1995 - August 1998.

Archaeologist, Cultural Heritage Resource Services, Inc. May 1995 - October 1995.

Archaeological Crew Chief, Millersville University, Archaeological Field School. June - July 1994.

Laboratory Assistant, Millersville University, Archeology Laboratory. February 1992 - May 1995.

Field Archaeologist, Delaware Department of Natural Resources and Environmental Control. June - August 1991 -1993.

Certifications/Memberships

New Haven Community Center Committee, member 2002 - 2005.

American Heart Association, Healthcare Provider. 4/2003

Divemaster, PADI. 1997

Nitrox Diver, NAUI. 2002

Diver's Alert Network, member since 1997.

Selected Publications

Books

Adam I. Kane

2004 *The Western River Steamboat.* Texas A&M University Press (Nautical Archaeology Series, number 8).

Adam I. Kane (contributing author and editor)

2003 *Lake Champlain's Sailing Canal Boats: An Illustrated Journey from Burlington Bay to the Hudson River.* Lake Champlain Maritime Museum.

Articles

Adam I. Kane (editor)

2005 Lake Champlain Maritime Museum and Lake Champlain's Sailing Canal Boats. *Sea History*, Summer 2005.

2003 The Lake Champlain Maritime Museum. *Maritime Life and Traditions*, winter 2003.

McLaughlin, Scott A. and Adam I. Kane

2003 Sloop Island Canal Boat: A Preliminary Report on the Phase III Study of an Early Twentieth Century Canal Boat Wreck. *Journal of Vermont Archaeology* 4.

Research Reports

Cohn, Arthur B. and Adam I. Kane

2002a *Spitfire Management Plan: Phase One Draft Report*. Lake Champlain Maritime Museum, Ferrisburgh, VT. Prepared for the Naval Historical Center, Washington Navy Yard, D.C.

2002b *Lake Champlain Underwater Historic Preserve Expansion Plan*. Lake Champlain Maritime Museum, Ferrisburgh, VT. Prepared for the Lake Champlain Basin Program.

Cohn, Arthur B., Adam I. Kane, Christopher R. Sabick, and Edwin Scollon

2003 Valcour Bay Research Project: 1999-2002 Results from the Archaeological Investigation of a Revolutionary War Battlefield in Lake Champlain, Clinton County, New York. Lake Champlain Maritime Museum, Ferrisburgh, VT. Submitted to the Naval Historical Center, Washington Navy Yard, D.C.; American Battlefield Protection Program; New York State Museum, NY.

Goodwin, Christopher, John Seidel, Adam I. Kane, David Robinson and Martha Williams

2000 Phase II and III Archeological Investigations of the Shipwreck Kentucky (site 16BO358) at Eagle Bend, Pool 5, Red River Waterway, Bossier Parish, Louisiana. R. Christopher Goodwin & Associates, Inc., Frederick, MD. Prepared for the U.S. Army Corps of Engineers, Vicksburg and New Orleans Districts

Kane, Adam I. (editor)

2000 Report on the Phase I Submerged Cultural Resource Survey for the Village of Alburg Zebra Mussel Control Project, Grande Isle County, Vermont. Lake Champlain Maritime Museum, Ferrisburgh, VT. Prepared for Phelps Engineering, Inc., Middlebury, VT.

2001a *Underwater Barge Documentation for the Alburg-Swanton Bridge Replacement Project*. Alburg, Grand Isle County, Vermont. Lake Champlain Maritime Museum, Ferrisburgh, VT. Submitted to the Vermont Agency of Transportation, Montpelier, VT.

2001b *Conservation of a War of 1812 Anchor from Plattsburgh Bay, Clinton County, New York*. Lake Champlain Maritime Museum. Lake Champlain Maritime Museum, Ferrisburgh, VT.

2002 *Lake Champlain Underwater Historic Preserve: Management Plan for the State of New York*. Lake Champlain Maritime Museum, Ferrisburgh, VT. Prepared for the State of New York.

Kane, Adam I., A. Peter Barranco, Christopher R. Sabick and Sarah E. Lyman

2005 Lake Champlain Underwater Cultural Resources Survey, Volume VIII: 2003 Results and Volume IX: 2004 Results. Lake Champlain Maritime Museum, Ferrisburgh, VT. Prepared for the Lake Champlain Basin Program.

Kane, Adam I., and Christopher R. Sabick

2001 *Conservation Assessment of Metal Artifacts from the Key Corp Site*. Lake Champlain Maritime Museum, Ferrisburgh, VT. Prepared for the New York State Museum, Albany, New York.

2002 *Lake Champlain Underwater Cultural Resources Survey: 1999 and 2000 Results*. Lake Champlain Maritime Museum, Ferrisburgh, VT. Submitted to Vermont Division for Historic Preservation, Montpelier, VT.

Kane, Adam I., Christopher R. Sabick, and Sara R. Brigadier

2003 *Lake Champlain Underwater Cultural Resources Survey: Volume VI: 2001 Results and Volume VII: 2002 Results*. Lake Champlain Maritime Museum, Ferrisburgh, VT. Submitted to Vermont Division for Historic Preservation, Montpelier, VT.

Kane, Adam I., David Robinson and Martha Williams

1998 *Phase I Archeological Survey of Items 3B-2 and 4 in the Upper Yazoo River*. Goodwin & Associates, Inc., Frederick, MD Prepared for the U.S. Army Corps of Engineers.

Robinson, David S., John L. Seidel, and Adam I. Kane

1996 *Phase I Remote sensing Marine Archeological Survey of the Proposed Atchafalaya Ocean Dredged Materials Disposal Area, Terrebonne and St. Mary's Parishes, Louisiana* Goodwin & Associates, Inc., Frederick, MD Prepared for the U.S. Army corps of Engineers. November 1996.

Joanne M. Dennis (DellaSalla)
Archaeologist
Lake Champlain Maritime Museum
4472 Basin Harbor Road
Vergennes, Vermont 05491
(802) 475-2022

Education

MA Anthropology: Archaeology Focus, University of Denver, 2006
Thesis: Paleoindian Occupations of South Park, Colorado
BA Anthropology (Minor in Spanish), University of Vermont, 2001

Professional Experience

Maritime Research Institute Archaeologist, Lake Champlain Maritime Museum, May 2005 to present
Adjunct Professor, University of Vermont, Anthropology Department, January 2007 to present
Artifact Conservation Intern, Lake Champlain Maritime Museum, January 2005-May 2005
Staff Archaeologist, South Park Archaeology Project, South Park, CO, August 2002-November 2004
Archaeological Assistant, Skidmore College Archaeological Field School, June 2004-July 2004
Teaching Assistant, University of Denver, Department of Anthropology, September 2002-June 2004
Archaeological Collections Analyst, University of Denver, Museum of Anthropology, January 2003-
January 2004
Native American Graves Protection and Repatriation Act (NAGPRA) Consultation Assistant, University of
Denver, Museum of Anthropology, September 2003-May 2004
Assistant Archaeologist, Environmental Permitting Division, Vermont Agency of Transportation, May
2001-June 2002
Staff Archaeologist, Rescue Archaeology Project, Instituto Nacional del Patrimonio Cultural, La Libertad,
Ecuador, November 1999
Field Archaeologist, University of Vermont, Archaeological Field School, Anguilla, British West Indies, July
1999

Clubs/Memberships

2004-Present Gamma Chapter of Colorado Lambda Alpha Honors Society
2001-Present Society for American Archaeology
2001-Present Vermont Archaeological Society

Selected Publications

National Register of Historic Places Nominations

Joanne M. DellaSalla

2007 *The Gunboat Spitfire National Register Nomination*. Submitted to the State of New York National Register Review Board. Lake Champlain Maritime Museum, Vergennes, Vermont.

Technical Reports

DellaSalla, Joanne M.

2004 The Ludlow Massacre Site (5LA1829): Analysis of Metal and Miscellaneous Artifacts from Feature 73; Stratum E II. Submitted to the University of Denver, Colorado Coalfield War Project.

1999 *Informe de la excavación del cateo 6 en el barrio 10 de agosto, La Libertad, Ecuador.* Report on the excavation of site 6 in the 10th of August neighborhood in La Libertad, Ecuador. Site report submitted to the Instituto Nacional del Patrimonio Cultural del Ecuador. Quito, Ecuador.

DellaSalla, Joanne M., T. Lincoln, E. Friedman, R. Brunswig, S. Bender and J. Klawon.

2003 South Park Archaeology Project: Final Report of Archaeological Investigations Conducted in 2001 and 2002, South Park, Colorado. Submitted to the Colorado State Historic Fund, Contract No. 0202014.

Kane, Adam I. and Joanne M. DellaSalla

2007 Phase I Underwater Archaeological Survey for the Champlain Water District's Proposed Water Intake Staging Area in Shelburne Bay, Chittenden County, Lake Champlain. Prepared by the Lake Champlain Maritime Museum, Vergennes, Vermont. Submitted to the Champlain Water District and the Vermont Division for Historic Preservation.

Kane, Adam I., Joanne M. DellaSalla and Christopher Sabick

2007 *Phase I Archaeological Survey of Burlington Harbor in Lake Champlain, Burlington, Chittenden County, Vermont.* Prepared by the Lake Champlain Maritime Museum, Vergennes, Vermont. Submitted to the Army Corps of Engineers, Albany Office.

Kane, Adam I., Joanne M. DellaSalla and Brian R. Spinney

2007 Phase I Underwater Archaeological Survey for the Proposed Dredging of Lake George's Foster Brook Delta in Dresden, Washington County, New York. Prepared by the Lake Champlain Maritime Museum, Vergennes, Vermont. Submitted to the New York State Historic Preservation Office and the Lake George Association.

Kane, Adam I., Joanne M. DellaSalla, Scott A. McLaughlin and Christopher R. Sabick

2007 Sloop Island Canal Boat Study: Phase III Archaeological Investigation in Connection with the Environmental Remediation of the Pine Street Canal Superfund Site. Lake Champlain Maritime Museum, Ferrisburgh, VT. Prepared for USEPA Region 1 and the Vermont Division for Historic Preservation.

Kane, Adam, Peter Barranco, Joanne M. DellaSalla, Sarah Lyman and Christopher Sabick

2007 Lake Champlain Underwater Cultural Resources Survey, Volume VIII: 2003 Results and Volume IX: 2004 Results. Lake Champlain Maritime Museum, Ferrisburgh, VT. Prepared for the Lake Champlain Basin Program.

APPENDIX 8: HUMAN REMAINS DISCOVERY PROTOCOL

New York State Historic Preservation Office/New York State Office of Parks, Recreation and Historic Preservation Human Remains Discovery Protocol

At all times human remains must be treated with the utmost dignity and respect. Should human remains be encountered work in the general area of the discovery will stop immediately and the location will be immediately secured and protected from damage and disturbance.

Human remains or associated artifacts will be left in place and not disturbed. No skeletal remains or materials associated with the remains will be collected or removed until appropriate consultation has taken place and a plan of action has been developed.

The county coroner and local law enforcement as well as the SHPO and the involved agency will be notified immediately. The coroner and local law enforcement will make the official ruling on the nature of the remains, being either forensic or archeological. If the remains are archeological in nature, a bioarchaeologist will confirm the identification as human.

If human remains are determined to be Native American, the remains will be left in place and protected from further disturbance until a plan for their protection or removal can be generated. The involved agency will consult SHPO and appropriate Native American groups to determine a plan of action that is consistent with the Native American Graves Protection and Repatriation Act (NAGPRA) guidance.

If human remains are determined to be Euro-American, the remains will be left in place and protected from further disturbance until a plan for their avoidance or removal can be generated. Consultation with the SHPO and other appropriate parties will be required to determine a plan of action.¹⁵³

ENDNOTES

- ¹ National Park Service, *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines* (Washington, DC: Government Printing Office, 1983).
- ² New York Archaeological Council, *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State* (Albany: New York Archaeological Council, 1994).
- ³ New York State Historic Preservation Office, *Phase I Archaeological Report Format Requirements* (Waterford, NY: New York State Office of Parks, Recreation and Historic Preservation, 2005)
- ⁴ *Onondaga Lake Bottom Subsite of the Onondaga Lake Superfund Site, Syracuse, New York, Record of Decision* (Albany, NY: NYSDEC and USEPA, 2005).
- ⁵ Christopher Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project, Onondaga Lake, Wastebed B and Wastebed 13, Towns of Camillus, Geddes and Salina and City of Syracuse, Onondaga County, New York* (Binghamton, NY: Public Archaeology Facility, 2004).
- ⁶ *Ibid.*, i.
- ⁷ Adam Kane and Joanne DellaSalla, *Underwater Archaeological Resources Phase 1B Work Plan for the Onondaga Lake Bottom, Subsite of the Onondaga Lake Superfund Site, Onondaga County, New York* (Vergennes, VT: Lake Champlain Maritime Museum, 2010).
- ⁸ Onondaga Lake Partnership Website, accessed October 2010, <http://www.onlakepartners.org>.
- ⁹ Sarah A. Finklestien and Anthony M. Davis "Paleoenvironmental records of water level and climate changes from the middle to late Holocene at Lake Erie coastal wetland, Ontario, Canada" in *Quaternary Research* 65 (2006) 33-43.
- ¹⁰ Henry T. Mullins "Holocene Lake Level and Climate Change Inferred from Marl Stratigraphy of the Cayuga Lake Basin, New York," *Journal of Sedimentary Research* 68 (4) July (1998): 569-578; T. R. Dwyer, H. T. Mullins, and S. C. Good "Paleoclimatic Implications of Holocene Lake Level Fluctuations, Owasco Lake, New York," *Geology* 24(6) June (1996): 519-522.
- ¹¹ Mullins, "Holocene Lake Level".
- ¹² "Maine Geologic Survey," accessed October 2010, <http://www.maine.gov/doc/nrimc/mgs/explore/surficial/facts/dec00.htm>.
- ¹³ Z. J. Yu, H. McAndrews and U. Eicher "Middle Holocene Dry Climate Caused by Change in Atmospheric Circulation Patterns: Evidence from Lake Levels and Isotopes," *Geology* 25 (3) (1997), 251-254.
- ¹⁴ Elizabeth Sonnenburg, "Holocene Lake Level Change and Submerged Archaeological Site Potential in Rice Lake, Ontario" (Unpublished PhD Proposal, McMaster University, n.d).
- ¹⁵ S. A. Drzyzga, "Relict Shoreline Features at Cockburn Island, Ontario," *Journal of Paleolimnology* 37 (2007), 411-417; and Yu, McAndrews and Eicher, "Middle Holocene Dry Climate".
- ¹⁶ Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project*, 12-13.

- ¹⁷ Joshua V.H. Clark, *Onondaga Reminiscences of Earlier and Later Times....* (Syracuse: Stoddard and Babcock, 1849).
- ¹⁸ Nobel E. Whitford, *History of the Canal System of the State of New York: Supplement to the Annual Report of the State Engineer and Surveyor of the State of New York* (Albany, New York: Brandow Printing Company, 1905).
- ¹⁹ Steven W. Effler, *Limnological and Engineering Analysis of a Polluted Urban Lake: Prelude to Environmental Management of Onondaga Lake, New York* (New York: Springer-Verlag, 1996), 6.
- ²⁰ Whitford, *History of the Canal System of the State of New York*.
- ²¹ Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project*.
- ²² Ibid, 12.
- ²³ Thompson, Donald H., *The Golden Age of Onondaga Lake Resorts*. (Fleischmanns, New York: Purple Mountain Press, 2002).
- ²⁴ Peter P. Pratt and Marjorie K. Pratt, *Phase IA Cultural Resource Survey, Onondaga Lake LCP Bridge Street Site and Related Wastebeds, Village of Solvay, Town of Geddes and Town of Camillus, Onondaga County, New York* (Cazenovia, New York: Pratt and Pratt Archaeological Consultants, 2003).
- ²⁵ Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project*.
- ²⁶ William A. Ritchie, *The Archaeology of New York State* (Harrison, New York: Harbor Hill Books, 1980)
- ²⁷ Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project*.
- ²⁸ Ritchie, *The Archaeology of New York State* .
- ²⁹ Ibid.
- ³⁰ Nina Versaggi, An Overview of Prehistoric Settlement Patterns and Landforms in the Northern Appalachians: In *Current Topics in Northeastern Geoarchaeology: Glaciated Landscapes* (John Hart and David Cremeens, eds). New York State Museum and Science Service Bulletin. 2000.
- ³¹ Ibid., 8
- ³² Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project*.
- ³³ Ritchie, *The Archaeology of New York State* , 39.
- ³⁴ Ritchie, *The Archaeology of New York State*.
- ³⁵ Ritchie, *The Archaeology of New York State*, 97-98.
- ³⁶ Ibid., 99.
- ³⁷ Ibid., 101.
- ³⁸ Ibid., 106.

- ³⁹ Ibid., 112.
- ⁴⁰ Ibid., 159.
- ⁴¹ Ibid.
- ⁴² Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project*, 23.
- ⁴³ Nina Versaggi, "Prehistoric Hunter-Gatherer Settlement Models: Interpreting the Upper Susquehanna Valley," *Golden Chronograph for Robert E. Funk*, Occasional Publications in Northeastern Anthropology 15 (1996), 129-140.
- ⁴⁴ Ritchie, *The Archaeology of New York State*, 212.
- ⁴⁵ Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project*.
- ⁴⁶ Ritchie, *The Archaeology of New York State*.
- ⁴⁷ Ritchie, *The Archaeology of New York State*, 278.
- ⁴⁸ Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project*.
- ⁴⁹ Frederick M. Wiseman, *The Voice of the Dawn: An Autohistory of the Abenaki Nation* (Hanover, New Hampshire: University Press of New England, 2001).
- ⁵⁰ Edwin Tappan Adney and Howard I. Chappelle, *Bark Canoes and Skin Boats of North America* (India: Skyhorse Publishing Inc., Reprint 2007).
- ⁵¹ Adney and Chappelle, *Bark Canoes and Skin Boats of North America*, 213.
- ⁵² Ibid.
- ⁵³ Ibid.
- ⁵⁴ Ibid., 213
- ⁵⁵ James A. Tuck, *Onondaga Iroquois Prehistory: A Study in Settlement Archaeology* (Syracuse: Syracuse University Press, 1971).
- ⁵⁶ Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project*.
- ⁵⁷ Tuck, *Onondaga Iroquois Prehistory*.
- ⁵⁸ Ibid.
- ⁵⁹ Ibid.
- ⁶⁰ Arthur C. Parker, *The Archaeological History of New York, Part 2*. New York State Museum Bulletin No. 238, Albany, New York. 1922; Thomas 2002.
- ⁶¹ Dean R. Snow, *Peoples of the Americas Series: The Iroquois* (Malden, MA: Blackwell Publishers Ltd., 1996), 36.
- ⁶² Ibid., 36.

⁶³ Hohman 2004

⁶⁴ Michael Aiuvalasit and Joseph Schuldenrein *Preliminary Geomorphological Observations for the Onondaga Lake Project*. (Geoarchaeology Research Associates, Yonkers, New York. 2010:1)

⁶⁵ James W. Bradley, *Evolution of the Onondaga Iroquois, Accommodating Change 1500-1655* (Syracuse: Syracuse University Press, 1987).

⁶⁶ Thompson, *The Golden Age of Onondaga Lake Resorts*.

⁶⁷ Philip Lord Jr., *Navigation Before the Erie Canal* (Albany: New York State Museum).

⁶⁸ Whitford, *History of the Canal System of the State of New York*.

⁶⁹ T. B. Jervis, *Laws of the State of New York in Relation to the Erie and Champlain Canals, Together with the Annual Reports of the Canal Commissioners, and Other Documents* (Albany: F. and E. Horsford Printer, Albany, 1825), 39-40.

⁷⁰ Effler, *Limnological and Engineering Analysis of a Polluted Urban Lake*.

⁷¹ Whitford, *History of the Canal System of the State of New York*.

⁷² Ibid.

⁷³ Ibid.

⁷⁴ Staff of the Canal Museum, *A Canalboat Primer on the Canals of New York State* (Syracuse: Canal Museum, 1981).

⁷⁵ W. E. Edwards, *Traveler's Guide: Through the Middle and Northern States and the Provinces of Canada, Fifth Edition* (Carvill, NY: G. M. Davison, 1833).

⁷⁶ Ibid., 240.

⁷⁷ Ibid.

⁷⁸ Ibid., 240.

⁷⁹ Ibid.

⁸⁰ Thompson, *The Golden Age of Onondaga Lake Resorts*, 127-130.

⁸¹ Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project*.

⁸² Ibid., 130-131.

⁸³ Effler, *Limnological and Engineering Analysis of a Polluted Urban Lake*.

⁸⁴ *Syracuse Journal*, July 31, 1871.

⁸⁵ *Post Standard*, September 18, 1929.

⁸⁶ Thompson, *The Golden Age of Onondaga Lake Resorts*.

⁸⁷ Ibid.

⁸⁸ Ibid.

⁸⁹ Ibid.

⁹⁰ *Syracuse Herald*, April 4, 1905.

⁹¹ Thompson, *The Golden Age of Onondaga Lake Resorts*.

⁹² Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project*, 93-94

⁹³ "A Young Man Drowned in Onondaga Lake on Sunday," *Watertown Re-Union*, August 28, 1879.

⁹⁴ "Telegraphic Brevities," *New York Times*, July 22, 1892.

⁹⁵ "The Local Yachtsmen," *Syracuse Standard*, December 15, 1889.

⁹⁶ "A Steamboat's Boiler Bursts. The Captain Killed and Engineer Badly Scalded," *New York Times*, May 25, 1885.

⁹⁷ Staff of the Canal Museum, *A Canalboat Primer on the Canals of New York State*; and Norman J. Brouwer, *A Synopsis of Maritime Activity in New York State and New York State Vessel Typology* (New York: South Street Seaport Museum, 1990).

⁹⁸ Lord, *Navigation Before the Erie Canal* .

⁹⁹ Staff of the Canal Museum, *A Canalboat Primer on the Canals of New York State*.

¹⁰⁰ Staff of the Canal Museum, *A Canalboat Primer on the Canals of New York State*, 14.

¹⁰¹ Staff of the Canal Museum, *A Canalboat Primer on the Canals of New York State*, 14.

¹⁰² Brouwer, *A Synopsis of Maritime Activity in New York State*, 1.

¹⁰³ For an extensive discussion of barges and barge wrecks see the documentation produced from the New York District of the U.S. Army Corps of Engineer's Collection and Removal of Drift Project. See Stephen R. James, *Cultural Resources Survey, New York Harbor Collection and Removal of Drift Project, Arthur Kill, Richmond County, New York Reach; Arthur Kill, Union and Middlesex Counties, New Jersey Reach; and Kill Van Kull, Richmond County, New York Reach* (Memphis: Panamerican Consultants, 1999); Michael S. Raber, *Reconnaissance Cultural Resource Investigations Arthur Kill New York Reach Richmond County, New York, New York Harbor Collection and Removal of Drift Project* (South Glastonbury, CT: Raber Associates, 1996); Michael S. Raber, *Reconnaissance Cultural Resource Investigations Arthur Kill New Jersey Reach, Union and Middlesex Counties, New Jersey, New York Harbor Collection and Removal of Drift Project, U.S. Army Corps of Engineers, New York District* (South Glastonbury, CT: Raber Associates, 1996); and Michael S. Raber, *Reconnaissance Cultural Resource Investigations Kill Van Kull, New York Reach Richmond County, New York New York Harbor Collection and Removal of Drift Project, U.S. Army Corps of Engineers, New York District* (South Glastonbury, CT: Raber Associates), 1996.

¹⁰⁴ James, *Cultural Resources Survey, New York Harbor Collection and Removal of Drift Project, Arthur Kill, Richmond County, New York Reach; Arthur Kill, Union and Middlesex Counties, New Jersey Reach; and Kill Van Kull, Richmond County, New York Reach*, 150; and Raber, *Reconnaissance Cultural Resource Investigations Arthur Kill New York Reach Richmond County, New York, New York Harbor Collection and Removal of Drift*, 60.

¹⁰⁵ Brouwer, *A Synopsis of Maritime Activity in New York State*, 5.

¹⁰⁶ Brouwer, *A Synopsis of Maritime Activity in New York State*, 40-141.

- ¹⁰⁷ See Adam Kane ed., *Underwater Barge Documentation for the Alburg-Swanton Bridge Replacement Project, BRF 036-1(1), Alburg, Grand Isle County, Vermont* (Vergennes, VT: Lake Champlain Maritime Museum, 2001), 17-22.
- ¹⁰⁸ Kane and DellaSalla, *Underwater Archaeological Resources Phase 1B Work Plan for the Onondaga Lake Bottom*.
- ¹⁰⁹ CR Environmental, Inc., *Onondaga Lake Phase 1 Pre-Design Investigation Geophysical Survey Report* (Falmouth, MA: CR Environmental, Inc, 2005).
- ¹¹⁰ Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project*.
- ¹¹¹ See U.S. Lake Survey Office, *Chart No. 5, New York State Canals, Brewerton to Cross Lake and Syracuse to Oswego* (Detroit: U.S. Lake Survey Office, 1915); U.S. Lake Survey Office, *New York State Canals, Erie Canal, Brewerton to Cross Lake and Syracuse and Oswego Canal, Three River Point to Oswego* (Detroit: U.S. Lake Survey Office, 1926); U.S. Lake Survey Office, *New York State Canals, Erie Canal, Brewerton to Cross Lake and Syracuse and Oswego Canal, Three River Point to Oswego* (Detroit: U.S. Lake Survey Office, 1932); and U.S. Lake Survey Office, *New York State Canals, Chart No. 185, 1937* (Detroit: U.S. Lake Survey Office, 1937); U.S. Lake Survey Office, *New York State Canals, Chart No. 185, 1942* (Detroit: U.S. Lake Survey Office, 1942); and U.S. Lake Survey Office, *New York State Canals, Chart No. 185, 1947* (Detroit: U.S. Lake Survey Office, 1947).
- ¹¹² See Lake Champlain Maritime Museum, "Dive Safety Plan, Onondaga Lake Superfund Site, Onondaga Lake, New York, October 12, 2010" (Lake Champlain Maritime Museum, 2010); and (Lake Champlain Maritime Museum, *Safe Diving Practices Manual* (Vergennes, VT: Lake Champlain Maritime Museum), 2010
- ¹¹³ Department of the Army, *Safety and Health Requirements Manual, EM 385-1-1, 15 September 2008* (Washington D.C.: U.S. Army Corps of Engineers, 2008).
- ¹¹⁴ Richard Kerfoot Anderson, Jr., *Guidelines for Recording Historic Ships* (Washington, DC: Historic American Buildings/Historic American Engineering Record, National Park Service, U.S. Department of the Interior, 1988), Martin Dean et al., eds., *Archaeology Underwater: The Nas Guide to Principles and Practice* (Portsmouth and London: Nautical Archaeology Society and Archetype Publications, 1992), Jeremy Green, *Maritime Archaeology: A Technical Handbook* (San Diego, California: Academic Press, 1990), Matthew P. Hogan, *C.A.N.A.L.S. Underwater Archaeology Diver's Manual* (Syracuse: Canal Museum, 1981), Paul Lipke, Peter Spectre, and Benjamin A. G. Fuller, eds., *Boats: A Manual for Their Documentation* (Nashville, Tennessee: American Association for State and Local History, 1993), J. Richard Steffy, *Wooden Shipbuilding and the Interpretation of Shipwrecks* (College Station, Texas: Texas A&M University Press, 1994).
- ¹¹⁵ Sources for illustrations see L. R. Addington, *Lithic Illustration: Drawing Flaked Stone Artifacts for Publication* (Chicago: The University of Chicago Press, 1986), L. Adkins and R. A. Adkins, *Archaeological Illustration, Academic Manuals in Archaeology Series* (New York: Cambridge University Press, 1994), S. J. Allen, *The Illustration of Wooden Artifacts: An Introduction and Guide to the Depiction of Wooden Objects*, ed. B. Hurman and M. Steiner, vol. 11, *Technical Paper* (Oxford, England: Association of Archaeological Illustrators and Surveyors, 1994), B. D. Dillon, ed., *Student's Guide to Archaeological Illustrating*, vol. 1, *Archaeological Research Tools*

- (Los Angeles: Institute of Archaeology, University of California, 1992). Sources for photography see P. G. Dorrell, *Photography in Archaeology and Conservation*, ed. D. Brothwell, et al., *Cambridge Manuals in Archaeology Series* (New York: Cambridge University Press, 1989), C. L. Howell and W. Blanc, *Practical Guide to Archaeological Photography*, ed. R. Demsetz, et al., 2nd ed., vol. 6, *Archaeological Research Tools* (Los Angeles: Institute of Archaeology, University of California, 1995).
- ¹¹⁶ U.S. Department of the Interior, *How to Apply the National Register Criteria for Evaluation* (Washington, D.C.: National Park Service, 1997), 44-45.
- ¹¹⁷ U.S. Department of the Interior, *How to Apply the National Register Criteria for Evaluation*, 2.
- ¹¹⁸ U.S. Department of the Interior, *How to Apply the National Register Criteria for Evaluation*.
- ¹¹⁹ Barbara Little, Erika Martin Seibert, Jan Townsend, John H. Sprinkle, Jr., and John Knoerl, *Guidelines for Evaluating and Registering Archeological Properties* (Washington, D.C.: National Park Service, 2000).
- ¹²⁰ James P. Delgado and Kevin J. Foster, *Guidelines for Evaluating and Documenting Historic Aids to Navigation* (Washington, D.C.: National Park Service, n.d.).
- ¹²¹ James P. Delgado, *Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places* (Washington, D.C.: National Park Service, n.d.).
- ¹²² Jan Townsend, John H. Sprinkle, Jr., and John Knoerl, *Guidelines for Evaluating and Registering Historical Archeological Sites and Districts* (Washington, D.C.: National Park Service, 1993).
- ¹²³ Kane and DellaSalla, *Underwater Archaeological Resources Phase 1B Work Plan for the Onondaga Lake Bottom*.
- ¹²⁴ See U.S. Lake Survey Office, *Chart No. 5, New York State Canals, Brewerton to Cross Lake and Syracuse to Oswego* (Detroit: U.S. Lake Survey Office, 1915); U.S. Lake Survey Office, *New York State Canals, Erie Canal, Brewerton to Cross Lake and Syracuse and Oswego Canal, Three River Point to Oswego* (Detroit: U.S. Lake Survey Office, 1926); U.S. Lake Survey Office, *New York State Canals, Erie Canal, Brewerton to Cross Lake and Syracuse and Oswego Canal, Three River Point to Oswego* (Detroit: U.S. Lake Survey Office, 1932); and U.S. Lake Survey Office, *New York State Canals, Chart No. 185, 1937* (Detroit: U.S. Lake Survey Office, 1937).
- ¹²⁵ U.S. Lake Survey Office, *New York State Canals, Chart No. 185, 1942* (Detroit: U.S. Lake Survey Office, 1942).
- ¹²⁶ William M. McKinney, *The Consolidated Laws of New York, Annotated as Amended to the Close of the Regular Session of the Legislature of 1916, Book 7, Canal Law* (Northport, NY: Edward Thompson Company, 1916), 87.
- ¹²⁷ The historic context for Salina Pier is excerpted from Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project*.
- ¹²⁸ *Post Standard*, April 16, 1880.
- ¹²⁹ *Courier*, July 18, 1881.
- ¹³⁰ *Post Standard*, January 2, 1890.
- ¹³¹ Thompson, *The Golden Age of Onondaga Lake Resorts*.

- ¹³² *Post Standard*, April 14, 1957.
- ¹³³ G.M. Hopkins, *Map of the City of Syracuse, Onondaga County, New York* (Philadelphia: G.M. Hopkins Company, 1908).
- ¹³⁴ See U.S. Lake Survey Office, *Chart No. 5, New York State Canals, Brewerton to Cross Lake and Syracuse to Oswego* (Detroit: U.S. Lake Survey Office, 1915); U.S. Lake Survey Office, *New York State Canals, Erie Canal, Brewerton to Cross Lake and Syracuse and Oswego Canal, Three River Point to Oswego* (Detroit: U.S. Lake Survey Office, 1926); U.S. Lake Survey Office, *New York State Canals, Chart No. 185, 1937* (Detroit: U.S. Lake Survey Office, 1937); and U.S. Lake Survey Office, *New York State Canals, Chart No. 185, 1942* (Detroit: U.S. Lake Survey Office, 1942).
- ¹³⁵ L. Garofalini, "Resource Evaluation for New York State Canal System" (New York State Office of Parks, Recreation and Historic Preservation, 1993).
- ¹³⁶ Excerpted from Stephen R. James, *Cultural Resources Survey, New York Harbor Collection and Removal of Drift Project, Arthur Kill, Richmond County, New York Reach; Arthur Kill, Union and Middlesex Counties, New Jersey Reach; and Kill Van Kull, Richmond County, New York Reach* (U.S. Army Corps of Engineers, New York District, 1999): 221, 223.
- ¹³⁷ The historic context for Iron City is excerpted from Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project*.
- ¹³⁸ Sanborn Fire Insurance Company, *Insurance Maps of Syracuse, New York* (New York: Sanborn-Perris, 1892).
- ¹³⁹ Thompson, *The Golden Age of Onondaga Lake Resorts*.
- ¹⁴⁰ *Post Standard*, March 16, 1957.
- ¹⁴¹ Hopkins, *Map of the City of Syracuse, Onondaga County, New York*, 1908.
- ¹⁴² G.M. Hopkins, *Map of the City of Syracuse, Onondaga County, New York* (Philadelphia: G.M. Hopkins Company, 1924).
- ¹⁴³ The historic context for the Syracuse Yacht Club is excerpted from Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project*.
- ¹⁴⁴ Thompson, *The Golden Age of Onondaga Lake Resorts*.
- ¹⁴⁵ The historic context for Lake View Resort is excerpted in part from Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project*.
- ¹⁴⁶ Personal communication between Chris Gandino and Christopher D. Hohman; noted in Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project*.
- ¹⁴⁷ See United States Geological Survey, *7.5 Minute Quadrangle* (Syracuse, New York 1898); U.S. Lake Survey Office, *Chart No. 5, New York State Canals, Brewerton to Cross Lake and Syracuse to Oswego* (Detroit: U.S. Lake Survey Office, 1915); U.S. Lake Survey Office, *New York State Canals, Erie Canal, Brewerton to Cross Lake and Syracuse and Oswego Canal, Three River Point to Oswego* (Detroit: U.S. Lake Survey Office, 1926); U.S. Lake Survey Office, *New York State Canals, Erie Canal, Brewerton to Cross Lake and Syracuse and Oswego Canal, Three River Point to Oswego* (Detroit: U.S. Lake Survey Office, 1932); and U.S. Lake Survey Office, *New York State*

Canals, Chart No. 185, 1937 (Detroit: U.S. Lake Survey Office, 1937); U.S. Lake Survey Office, *New York State Canals, Chart No. 185, 1942* (Detroit: U.S. Lake Survey Office, 1942); U.S. Lake Survey Office, *New York State Canals, Chart No. 185, 1947* (Detroit: U.S. Lake Survey Office, 1947); and Bing Maps, Microsoft® Virtual Earth (screen shot 2011).

¹⁴⁸ Excerpted from James, *Cultural Resources Survey, New York Harbor Collection and Removal of Drift Project, Arthur Kill, Richmond County, New York Reach; Arthur Kill, Union and Middlesex Counties, New Jersey Reach; and Kill Van Kull, Richmond County, New York Reach*, 167.

¹⁴⁹ The historic context for Pleasant Beach Resort is excerpted from Hohman, *Cultural Resource Management Report Phase 1A Cultural Resource Assessment, Onondaga Lake Project*.

¹⁵⁰ *Syracuse Herald*, April 5, 1957.

¹⁵¹ Thompson, *The Golden Age of Onondaga Lake Resorts*.

¹⁵² See Christopher D. Hohman and Cynthia Carrington Carter, *Cultural Resource Management Report, Phase 1B Reconnaissance Survey, Onondaga Lake Project, Upland and Shoreline Area Wastebed B/Harbor Brook IRM, City of Syracuse, Onondaga County, New York* (Binghamton, NY: Public Archaeology Facility, 2010).

¹⁵³ New York State Historic Preservation Office, *Phase I Archaeological Report Format Requirements* (New York SHPO, 2005)