



Horn, Patricia <tricia_horn@nps.gov>

Fwd: Legionella Environmental Assessment (Quapaw Bath & Spa)

1 message

Miller, Laura <laura_a_miller@nps.gov>
To: Patricia Horn <tricia_horn@nps.gov>

Thu, Apr 18, 2019 at 11:21 AM

----- Forwarded message -----

From: **Kesteloot, Kurt** <kurt_kesteloot@nps.gov>
Date: Mon, Aug 27, 2018 at 6:16 AM
Subject: Re: Legionella Environmental Assessment (Quapaw Bath & Spa)
To: Kostamo, David <david_kostamo@nps.gov>
Cc: Laura Miller <laura_a_miller@nps.gov>, Said, Maria <maria_said@nps.gov>

Good Morning!

Thanks Maria and David.

David,

I notice #25 says the lowest recorded temperature was 109 Deg. F. That is too high. The highest temperature should be 104 Deg. F. Sid knows that. Can you please reflect that in your report when you send to the park?

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
Supervisory Public Health Consultant, Midwest Region
National Park Service, [Office of Public Health \(OPH\)](#),
[601 Riverfront Drive](#)
[Omaha, NE 68102](#)
Office Phone: 1-402-661-1718
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Cell Phone: 1-202-641-0055
Email: Kurt_Kesteloot@nps.gov

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On Fri, Aug 24, 2018 at 3:20 PM, Kostamo, David <david_kostamo@nps.gov> wrote:
Hi Laura and Maria,

Here (attached) is the Legionella Environmental Assessment for the Quapaw Bath and Spa. If you have any questions please contact me.

Thank you,

David

David Kostamo PE, RS, CP-FS
Public Health Consultant
National Park Service
Midwest Region
Office: (402) 661-1782
Cell: (202) 591-6449
[601 Riverfront Dr.](#)
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Laura A. Miller
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LEGIONELLA ENVIRONMENTAL ASSESSMENT FORM

Persons completing the assessment:

Name: CDR David Kostamo Job Title: Public Health Consultant Organization: NPS
Telephone: 402 661 1782 E-mail: david_kostamo@nps.gov
Name: _____ Job Title: _____ Organization: _____
Telephone: _____ E-mail: _____

Assessment details:

Facility Name: Qua Paw Bath & Spa Date of Assessment: 8/23/18
Facility Address: 413 Central Ave Hot Springs AR 71901
street city state zip

Person(s) interviewed during assessment:

Name: Sid Kennedy Job Title: Maintenance Director
Name: _____ Job Title: _____
Name: _____ Job Title: _____

Facility Characteristics

1. Is this a healthcare facility or senior living facility with skilled nursing care (e.g., hospital, long term care/rehab/assisted living/skilled nursing facility, or clinic)?

☐ YES → If yes, skip to Q.3 & also complete Appendix A.

☒ NO

2. If NO, indicate type of facility (check all that apply):

☐ Senior living facility (e.g., retirement home without skilled nursing care)

☐ Other residential building (e.g., apartment, condominium)

☐ Hotel, motel, or resort

☐ Recreational facility (e.g., health club, water park)

☐ Office building

☐ Manufacturing facility

☐ Restaurant

☒ Other Health & Beauty Spa

3. Total number of buildings on campus: 1 Total number of buildings being assessed: 1

4. Total number of rooms that can be occupied overnight (e.g., patient rooms, hotel rooms): 0

NA Does occupancy vary throughout the year? ☐ YES ☐ NO

If YES, seasons with lowest occupancy (check all that apply):

☐ Winter ☐ Spring ☐ Summer ☐ Fall

NPS Are any occupant rooms taken out of service during specific parts of the year, e.g., low season?

☐ YES ☐ NO

If YES, which rooms? _____

7. Average length of stay for occupants (check one):
☐ 1 night ☐ 2-3 nights ☐ 4-7 nights ☐ >7 nights
8. Does the facility have emergency water systems (e.g., fire sprinklers, safety showers, eye wash stations)?
☒ YES ☐ NO
If YES, are these systems regularly tested (i.e., sprinkler head flow tests)? ☒ YES ☐ NO
If YES, how often and when was the last test? Sprinkler system
9. Are there any cooling towers or evaporative condensers on the facility premises?
☐ YES → If yes, also complete Appendix B.
☒ NO
10. Are there any whirlpool spas, hot tubs, or hydrotherapy spas on the facility premises?
☒ YES → If yes, also complete Appendix C.
☐ NO
11. Are there any decorative fountains, misters, water features, etc. on the facility premises?
☒ YES → If yes, also complete Section D.
☐ NO
12. Does the facility have centralized humidification (e.g., on air-handling units) or any room humidifiers?
☐ YES ☒ NO
If YES, describe their location and operation: _____

13. Has there been any recent (last 6 months) or ongoing major construction on or around the facility premises?
☐ YES → If yes, also complete Appendix E.
☒ NO
14. Has this facility been associated with a previous legionellosis cluster or outbreak?
☐ YES ☒ NO
If YES, please describe number of cases, dates, source if found, and any interventions (immediate and long-term) to prevent recurrence: _____

15. Does the facility have a water safety plan or *Legionella* prevention program?
☐ YES ☒ NO
If YES, does the facility ever test for *Legionella* in water samples?
☐ YES → If yes, obtain copies of results ☐ NO
If YES, please describe the plan briefly here (does it include clinical disease surveillance and/or environmental *Legionella* surveillance?) and **obtain a written copy** of the program policy:

16. Describe each building that shares water or air systems, including the main facility

Building Name (List main facility building first)	Original Construction	Later Construction (renovation, expansion)	Stories or Levels	Occupancy rate (%) [*]	Daily Census (yr. avg.)	Use (List all types of uses)
	Year Completed	From/To or "N/A"	#	Rate (%) or "N/A"	#/day or "N/A"	e.g., occupant rooms, utilities, heating/AC plant For healthcare, specify: Outpatient = O Inpatient (acute) = I Chronic = C Intensive care = ICU Transplant = Tx
1. Qua Paw Bath & Spa	1921	2008	3	N/A	N/A	Tourist Health Spa
2.						
3.						
4.						
5.						
6.						
7.						

^{*}[occupancy rate = (# of rooms occupied overnight / total # of rooms) X 100]

Water Supply Source

17. What is the source of the water used by the facility? (Check all that apply)

☒ Municipal water if YES:

Name of supplier City of Hot Springs

How is the municipal water disinfected? (Check one) ☒ Chlorine ☐ Monochloramine ☐ Other _____

Has treatment of municipal water changed in the past year? ☐ YES ☒ NO

If YES, specify _____

☒ Non-municipal well if YES:

How is the well water disinfected? (Check one) ☒ Chlorine ☐ Other _____ ☐ Not disinfected

Is the water filtered onsite? ☒ YES ☐ NO

☒ Other Thermal Spring Water

18. Have there been any pressure drops, boil water advisories, or water disruptions (e.g., water main break) to the facility in the past 6 months? ☒ YES ☐ NO

If YES, describe what happened and which buildings or parts of buildings were affected: Pressure was low of a few hours on Monday August 20, 2018

19. Does the facility monitor incoming water parameters (e.g., residual disinfectant, temperature, pH)?

☐ YES → If yes, obtain copies of the logs ☒ NO

If YES, what is the range of disinfectant residual, temperature, and pH entering the facility? _____

Premise Plumbing System

Note: It is important to gain an understanding of where and how water flows, starting where it enters the facility and including its distribution to and through buildings to the points of use. Understand water processes, including but not limited to: heating, storage, filtration, UV irradiation, and addition of secondary disinfectants. Refer to a facility map and blueprints; obtain copies of these and/or draw a diagram and include with the completed assessment.

20. Are cisterns and/or water storage holding tanks used to store potable water before it's heated?

☐ YES ☒ NO

21. Is there a recirculation system (a system in which water flows continuously through the piping to ensure constant hot water to all endpoints) for the hot water?

☐ YES ☒ NO

If YES, please describe where it runs and delivery/return temperatures if they are measured: _____

22. Are thermostatic mixing valves used?

☒ YES ☐ NO

If YES, describe where they are located (ideally, mixing valves are close to the point of use): _____

Individual tubs that use city water use thermostatic mixing valves.

23. How is the hot water system configured to deliver hot water to each building?

Building name	Type of system (e.g., instantaneous heater, hot water heater with a storage tank, solar heating)	Name of system (e.g., Boiler #1, Loop #1)	Areas served (e.g., floor, rooms)	Date of installation	Total capacity (gallons)	Usual temperature setting (°F)
1. Qua Paw Bath & Spa	Thermal System	Thermal system	1st Floor 4 spa Pools	1921	8700 gal 6250 gal 7250 gal 5200 gal	99-104°F
2.						
3.						
4.						
5.						
6.						
7.						

Comments/notes: _____

24. What is the maximum hot water temperature at the point of delivery permitted by state / local regulations? NPS

143° °F or _____ °C

25. Are hot water temperatures ever measured by the facility at the points of use?

☒ YES → If yes, obtain copies of the temperature logs

If YES, what is the **lowest** documented hot water temperature measured at any point within the facility?

109° °F or _____ °C documented on (Month/Date/Year) _____/_____/_____
constant analog temp. recorder

☐ NO

26. Are cold water temperatures ever measured by the facility at the points of use?

☐ YES → If yes, obtain copies of the temperature logs

If YES, what is the **highest** documented cold water temperature measured at any point within the facility?

_____ °F or _____ °C documented on (Month/Date/Year) _____/_____/_____

☒ NO

27. Are the potable water disinfectant levels (e.g., chlorine) ever measured by the facility at the points of use?

☒ YES → If yes, obtain copies of the logs

If YES, how often are they measured? 4 times per day

If YES, list the range of disinfectant residuals 1-3 mg/L Cl residual

☐ NO

28. Does the facility have a supplemental disinfection system for long term control of *Legionella* or other microorganisms?

☐ YES ☒ NO

If YES, obtain SOPs for routine use and maintenance as well as maintenance logs and records of disinfection levels, and complete the table:

Buildings with supplemental disinfection	Type of system (e.g., chlorine, chlorine dioxide, copper-silver)	Date installed	Describe any maintenance in the past year (include routine and emergency)

Comments/Notes: _____

29. Please describe any maintenance (either routine or emergency) carried out on the potable water system in the past year. Obtain records/SOPs if available. Water heater was repaired Spring 2018.

30. Measured Water System Parameters (see instructions on p. 1)

Copy from table for question 23 (p. 6)		Part of system (Central heater/ boiler=C Proximal occupant room=P Distal occupant room=D)	Sampling site (e.g., heater #1, hot water tap in room #436)	Free chlorine (ppm)	pH	Maximum measured temperature (°F)	Time to reach max temp (min)
Building name	Name of system (e.g., incoming water, Boiler #1, Loop #1)						
Quapaw Bath & spa	spa Pools Left		Left Pool	ORP 630 3.00 mg/L	9.6	—	—
"	" Right		Right Pool	ORP 630	9.0	—	—
"	" Upper		Upper Pool	ORP 605	9.4	—	—
"	" Center		Center Pool	ORP 635	8.8	—	—

APPENDIX A. HEALTHCARE FACILITIES

N/A

Note: Complete for all healthcare facilities, including but not limited to hospitals, long term care/rehab/assisted living/skilled nursing facilities, or clinics.

1. Type of healthcare facility (check all that apply):

☐ Acute care hospital

If YES, does the facility have a solid organ or bone marrow transplant program?

☐ YES ☐ NO

☐ Long term care facility (i.e., nursing home, long term acute care)

☐ Rehabilitation facility or other skilled nursing care

☐ Assisted living facility

☐ Outpatient surgical center

☐ Other outpatient clinic (describe): _____

☐ Other healthcare facility (describe): _____

2. Number of beds: _____

3. Are ice machines used to provide ice for patient consumption or processing medical equipment?

☐ YES ☐ NO

If YES, list manufacturer and model or catalog number: _____

4. Has this facility experienced previous Legionnaires' disease cases that were "possibly" or "definitely" facility-acquired?

☐ YES ☐ NO

If YES, describe (e.g., number of cases, dates): _____

APPENDIX B. COOLING TOWERS AND EVAPORATIVE CONDENSERS

N/A

Note: It is important to gain an understanding of where the cooling towers are located, how they work, and how they are maintained. Cooling towers are frequently maintained by an outside contractor, and you may need to contact them directly if facility management does not have an in-depth knowledge of these systems. Request copies of the maintenance logs.

1. List all cooling towers and evaporative condensers on the facility premises:

Name of device (e.g., CT1)	Date installed	Manufacturer	Location of device	Distance to nearest air intake*/location of the air intake/ passive or forced	Drift eliminators used? (Y/N)	Party responsible for maintenance

*intakes to air handling units (AHUs)

2. List details of how each cooling tower is chemically disinfected:

Name of device from Table 1 (e.g., CT1)	List type/name of bactericide(s) used	Range in which the bactericide(s) is regularly maintained (e.g., 5–10 ppm)	Schedule and method of adding bactericide (e.g., daily, weekly, as needed, automatic, by hand)	Are cooling towers turned off at any time? (e.g., seasonally) (Y/N) If yes, include schedule

3. List recent (last 6 months) special (non-routine) treatments, maintenance, or repairs to cooling devices: N/A

Name of device from Table 1 (e.g., CT1)	Action taken	Date	Comments

N/A Does the cooling tower water come from a branch of the potable water system inside the facility?

☐ YES ☐ NO

If YES, are backflow prevention devices in place to ensure cooling tower water is not introduced into the potable water system?

☐ YES ☐ NO

If NO, what is the source of water for the cooling towers and evaporative condensers? _____

5. Can any windows in any occupant rooms or common areas be opened? ☒ YES ☐ NO

If YES, describe which rooms or which buildings have windows that can be opened: _____

these windows (offices and building)
Can be open but are never opened

APPENDIX C. WHIRLPOOL SPAS, HOT TUBS, AND HYDROTHERAPY SPAS

Note: Do NOT complete Appendix C for Jacuzzis or whirlpool baths that are filled from the tap and drained after each use. In many jurisdictions, whirlpool spas are publicly permitted and inspected by the local health authority. An environmental health specialist with expertise in pool and spa inspection should participate in assessment of spas and will be aware of local regulations and enforcement powers, as well as have access to a pool sampling kit. Request copies of the last inspection report as well as routine maintenance logs.

- Who performs the spa maintenance (e.g., on-site facilities management, name of outside contractor)? Sid Kennedy
- Describe each whirlpool spa and how it is disinfected:

Spa Questions	Spa Descriptor/Location (e.g., main pool, private room #)			
	1 Left	2 right	3 upper	4 center
Indoor or outdoor?				
Max. bather load				
Filter type S = sand DE = diatomaceous earth, C = cartridge	DE	DE	DE	DE
Date filter was last changed	Manual backwash @ 30psi (≈ every 7-10 days)			
Date of last filter backwash				
Compensation tank present?	Expansion tank of a closed boiler system			
Type of disinfectant used (include chemical name, formulation, and amount used)				
Current measured disinfectant level (e.g., free chlorine, bromine) (ppm)	3.00ppm	not tested	not tested	not tested
Current measured pH	9.6	9.0	9.4	8.8
Method used for adding disinfectant (e.g., automatic feeder, by hand)	Automatic chemical Pump	Same	Same	Same
Method used for monitoring and maintaining disinfectant and pH levels (e.g., automatic controllers)	ORP monitor	ORP monitor	ORP monitor	ORP monitor
Date last drained and scrubbed	8/21/18	8/21/18	8/21/18	8/21/18
Was there a recent disinfectant "shock" treatment?	NO	NO	NO	NO
Operating as designed and in good repair? If no, describe issues.	Yes	Yes	Yes	Yes

APPENDIX D. OTHER WATER FEATURES

Note: Complete for decorative fountains, water walls, recreational misters, etc. This can also be modified for industrial use water. If SOPs and/or maintenance logs exist, request copies.

Water Feature Questions	Water Feature Descriptor/Location (e.g., lobby fountain, cabana misters)		
Indoor or outdoor?	Wall Fountain		
Source of water	Indoor		
Operates continuously (C) or intermittently (I)	City Water		
Operates continuously (C) or intermittently (I)	Continuously		
Presence of a heat source? (e.g., incandescent lighting)	NO		
Type of disinfectant used (include chemical name, formulation, and amount used)	chlorine		
Current measured disinfectant level (e.g., free chlorine, bromine) (ppm)	N/A Broke at time of assessment		
Current measured pH	N/A Broke at time of assessment		
Is there a maintenance protocol?	NO		
Date last cleaned	8/24/18		
Operating as designed and in good repair? If no, describe issues.	Yes		

APPENDIX E. RECENT OR ONGOING MAJOR CONSTRUCTION *None*

1. Describe in general the extent of the construction: _____

2. Was temporary water service provided to the new construction area (i.e., separate meter)?
☐ YES ☐ NO
If YES, describe: _____

3. Has jack-hammering or pile-driving been used during the construction process?
☐ YES ☐ NO
If YES, list dates and locations: _____

4. Have there been disruptions or changes to the existing potable water system during the construction?
☐ YES ☐ NO
If YES, describe: _____

5. Has the potable water changed in terms of taste or color during the construction process?
☐ YES ☐ NO
If YES, describe the changes including when they started and ended: _____

6. Is there a standard operating procedure (SOP) for shutting down, isolating, and refilling/flushing for water service areas that have been subjected to repair and/or construction interruptions?
☐ YES ☐ NO
If YES, briefly describe the steps used in the SOP (attach a copy if possible): _____

7. Was the potable water system flushed before occupying the new building space?
☐ YES ☐ NO
If YES, what period of time passed between flushing and when the building was occupied? _____

8. Complete table on next page.

8. Complete the table below: *N/A*

New Building/Wing Name or Remodeled Area	Date construction began	Estimated date of completion	Date water service began or restarted*	Relationship to existing potable water system Independent=I Extension of existing system=E	Stories and Square Feet Involved (# and Ft²)	Uses (e.g., rooms, dining, recreation, utilities) For healthcare: Inpatient = I Outpatient = O Both = B Intensive Care = ICU Transplant = Tx	Date occupants began occupying new or remodeled building	Floors currently occupied

*If remodeling of existing structure, include water shut-down date and re-start date.



Horn, Patricia <tricia_horn@nps.gov>

Re: Legionnaire Case CDC (Arkansas)

1 message

Miller, Laura <laura_a_miller@nps.gov>

Thu, Aug 23, 2018 at 2:55 PM

To: Maria Said <maria_said@nps.gov>

Cc: "Kesteloot, Kurt" <kurt_kesteloot@nps.gov>, David Kostamo <david_kostamo@nps.gov>, Mark Scott <mark_scott@nps.gov>, Patricia Horn <tricia_horn@nps.gov>, Subria Spencer <subria_spencer@partner.nps.gov>

Thank you all for your rapid response and assistance in this!

Laura

On Thu, Aug 23, 2018 at 1:08 PM, Maria Said <maria_said@nps.gov> wrote:

I heard back from the state health department re the case report form -- they cannot share specific health information, but their form only asks about whirl pools, hot tubs, spas, humidifiers, breathing machines, oxygen, or showers. If we hear of another case, they would then drill down further to try and better understand common exposure sources.

On Thu, Aug 23, 2018 at 1:45 PM Maria Said <maria_said@nps.gov> wrote:

Here is the link to the ASHRAE Guidance on Legionella I mentioned on the phone -- <https://www.ashrae.org/technical-resources/bookstore/ansi-ashrae-standard-188-2018-legionellosis-risk-management-for-building-water-systems>

The CDC includes the ASHRAE Guidance on their website, as well as some other materials - <https://www.cdc.gov/legionella/resources/guidelines.html>

Maria

On Thu, Aug 23, 2018 at 12:57 PM Maria Said <maria_said@nps.gov> wrote:

Here is a proposed agenda -- but we can adjust however you think best.
Maria

1. Introductions (Everyone)
2. Brief background on legionella (Maria)
2. Update from the park on any history with legionella, any concerns with the spa
3. Update on environmental assessment (David Kostamo) and any additional thoughts on the water system (Kurt)
3. Next steps in response (All)

On Thu, Aug 23, 2018 at 12:35 PM Kesteloot, Kurt <kurt_kesteloot@nps.gov> wrote:

Hi Maria,

No worries, talk to you soon.

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
Supervisory Public Health Consultant, Midwest Region
National Park Service, Office of Public Health (OPH),
[601 Riverfront Drive](#)
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Email: Kurt_Kesteloot@nps.gov



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On Thu, Aug 23, 2018 at 11:33 AM, David Kostamo <david_kostamo@nps.gov> wrote:
Sounds good. Thank you Maria.
David

Sent from my iPhone

On Aug 23, 2018, at 11:30 AM, Maria Said <maria_said@nps.gov> wrote:

Sorry! I realized I made the meeting invite for 12pm central time rather than 1pm central -- I am actually free to meet at that earlier time, so if it's okay with everyone, let's keep the time listed in the calendar invite -- 12pm central, 1pm ET.
Talk to you all soon.
Maria

On Thu, Aug 23, 2018 at 9:50 AM Kostamo, David <david_kostamo@nps.gov> wrote:
Hi Maria,

Sounds good..talk to you then.

Thank you,
David

David Kostamo PE, RS, CP-FS
Public Health Consultant
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On Thu, Aug 23, 2018 at 8:31 AM, Maria Said <maria_said@nps.gov> wrote:
Hi David, I look forward to talking later this afternoon and hearing more about the park, the water system, and your environmental assessment. I just spoke with a state epidemiologist

who has had a lot of experience with Legionella, and based on our conversation, there is a good argument for possibly not pursuing legionella testing at this point. I will explain the rationale more when we talk this afternoon - and we can discuss together the next best steps forward.

Maria

Sent from my iPhone

On Aug 23, 2018, at 9:13 AM, Kostamo, David <david_kostamo@nps.gov> wrote:

Good morning Kurt,

I concur on inquiring if the person had contact with other park fountains/waterfalls would be helpful (hopefully the initial report covers all the places the person visited as a few are listed). I am not aware of contact information for the individual but we may be able to obtain from the State of Arkansas Health Department.

Thank you,

David

David Kostamo PE, RS, CP-FS
Public Health Consultant
National Park Service
Midwest Region
Office: (402) 661-1782
Cell: (202) 591-6449
[601 Riverfront Dr.](mailto:david_kostamo@nps.gov)
[Omaha, NE 68102](mailto:david_kostamo@nps.gov)
david_kostamo@nps.gov



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On Thu, Aug 23, 2018 at 6:56 AM, Kesteloot, Kurt <kurt_kesteloot@nps.gov> wrote:

Good Morning David,

I have attached the PHA pages from earlier this year that refer to water testing recommendations for the Quapaw and the rec water report. The facility agreed to test within 60 days. Today will mark 90 days from that inspection. With this recent finding and past lack of testing by this facility, I think we need to have a call with Quapaw and the park to determine steps forward. I would like to see the testing completed that was recommended and any testing needed after your assessment today.

When seeking a lab here is what CDC recommends.

Consultant Considerations | Legionella | CDC

- **Laboratory expertise:** For example, is the laboratory they use accredited for environmental testing? Does it participate in a proficiency testing program for *Legionella*? Does their laboratory perform culture for

Legionella (which is particularly important following remediation to ensure adequacy of the remediation process)? What level of identification (species/serogroup) can their laboratory perform? Is their laboratory willing to save samples and isolates and share them with public health laboratories if requested during an outbreak investigation?

Thanks again for sharing the Legionella notice.

Here is another link that OSHA has for information: <https://www.osha.gov/dts/osta/otm/legionnaires/sampling.html> it is similar to the CDC information at: <https://www.cdc.gov/legionella/health-depts/environmental-inv-resources.html>.

Lastly, the park has several water fountains/waterfalls. Does anyone have contact information for the person that tested positive for Legionella? I think we should ask them if they drank and/or had contact with water at other locations in the park.

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
Supervisory Public Health Consultant, Midwest Region
National Park Service, Office of Public Health (OPH),
601 Riverfront Drive
Omaha, NE 68102
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On Wed, Aug 22, 2018 at 4:09 PM, Kostamo, David
<david_kostamo@nps.gov> wrote:
Hi Dr. Said,

HOSP (Hot Springs) park received a report (please see attached) from the CDC stating a diagnosed case of Legionnaires disease. In the report it states that one of the facilities visited by this person was the Quapaw Baths and Spa which is a concessionaire in a NPS facility. Today I met with Superintendent Laura Miller and staff. I recommended that the facility conduct some testing in response to the report. Could you provide some feedback on conducting the testing and any information about what tests would be recommended and/or who to contact for additional information and guidance. If you have any questions please contact me.

Thank you,

David

David Kostamo PE, RS, CP-FS
Public Health Consultant
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Website (internal): <https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response>

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Horn, Patricia <tricia_horn@nps.gov>

Fwd: Legionnaire Case in Arkansas Update

1 message

Miller, Laura <laura_a_miller@nps.gov>

Fri, Aug 24, 2018 at 3:53 PM

To: Patricia Horn <tricia_horn@nps.gov>, Mark Scott <mark_scott@nps.gov>

FYI.

----- Forwarded message -----

From: **Kesteloot, Kurt** <kurt_kesteloot@nps.gov>

Date: Thu, Aug 23, 2018 at 2:19 PM

Subject: Legionnaire Case in Arkansas Update

To: Duane Bubac <Duane_Bubac@nps.gov>, Sara Newman <sara_newman@nps.gov>, Tracy Simmons <tracy_simmons@nps.gov>

Cc: david kostamo <david_kostamo@nps.gov>, "Said, Maria" <maria_said@nps.gov>, "Miller, Laura" <laura_a_miller@nps.gov>

Good Afternoon,

We had a great discussion at noon today with Dr. Said, HOSP Management, and etc. Thank you to LCDR Kostamo for on the ground work and CDR Maria Said for further research.

We cannot confirm that Legionella was transmitted at HOSP Quawpaw. We cannot confirm if or where it happened at HOSP. There are many potential locations where a legionella environment could occur in the Park and nearby. With research from Dr. Said, it is advised that we do not do environmental testing until we have a cluster of cases. If we find out about another case, we will be able to ask more questions to determine if they are linked and where it may have happened.

Meanwhile, the NPS OPH will continue to work with HOSP on minimizing risk for Legionella and other recreational water concerns. I recommended testing for the Quapaw in May of this year and they were given 60 days to comply. We are now at 90 days and the Park is assisting them to help conduct recommended pool/spa water quality testing.

OPH will also be talking to the Park more about disinfecting the thermal water at HOSP. Currently the water temperature ranges from 143 degrees Fahrenheit to 146 degrees Fahrenheit (F). The food code requires food to be held at 135F. Thus, the park has been operating under the requirement that all thermal water that is potable must leave the spigots at 135F. There are several other areas where visitors can be exposed to aerosolized water that is non potable. We are talking about providing disinfection for those waters to help reduce risk of Legionella. It is also important to note this is the only confirmed case of Legionnaire that we have heard about for HOSP since 2010.

I will update as we find out more information and welcome any questions, comments, or concerns.

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
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"The NPS One Health Network: promoting and protecting the health of all species and the parks that we share."

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