From: Wendy Wiltse
To: David Albright
Subject: Re: Fw: FYI - Forwarding Watson's e-mail from last year
Date: 09/10/2009 07:47 PM

David, I'm catching up on email and found this message. I agree with Watson's statements. To my knowledge, Watson has not been briefed on the UH Botany Dept. work on causes of the algal blooms and the N15 findings. He certainly is right that Chip Hunts work does not provide information on causes of algal blooms and coral decline. I have not read the staph work that Watson refers to. Those Waikiki surf site studies may be applicable to Maui, but I would not be surprised to find a difference in pathogen occurrence between Waikiki surf sites and the Kaanapali injection well seeps.

Wendy

Wendy Wiltse, Ph.D.
EPA-PICO
300 Ala Moana Blvd. Box 50003
Room 5-152
Honolulu, HI 96850
Phone: (808) 541-2752
FAX: (808) 541-2712

▼ David Albright---08/27/2009 07:27:56 AM---Hi Wendy, Nancy was kind enough to re-forward some email traffic from last November, including Watso

From: David Albright/R9/USEPA/US
To: Wendy Wiltse/R9/USEPA/US@EPA
Date: 08/27/2009 07:27 AM
Subject: Fw: FYI - Forwarding Watson's e-mail from last year

Hi Wendy,

Nancy was kind enough to re-forward some email traffic from last November, including Watson's note to community groups the day of our hearing and Chip Hunt's reply. As we proceed, I'm curious if Watson has changed his views at all, though I am doubtful. I just wanted to be sure you had seen Watson's email, even though it is now 9 months old. David

----- Forwarded by David Albright/R9/USEPA/US on 08/27/2009 10:23 AM -----

From: Nancy Rumrill/R9/USEPA/US
To: David Albright/R9/USEPA/US@EPA, Brett Moffatt/R9/USEPA/US@EPA
Date: 08/26/2009 01:20 PM
Subject: FYI - Forwarding Watson's e-mail from last year

Although, this does get at the issue of the potential antibiotic resistant bacteria in the injectate at Lahaina.

Nancy Rumrill
U.S. Environmental Protection Agency, Region 9
Ground Water Office, WTR-9
75 Hawthorne Street
San Francisco, CA 94105
415-972-3293
415-947-3545 (FAX)

----- Forwarded by Nancy Rumrill/R9/USEPA/US on 08/26/2009 01:13 PM -----

From: "Okubo, Watson T" <watson.okubo@doh.hawaii.gov>

To: "Surfrider Foundation" <maui@surfrider.org>, <mbabski@modi.icebase.net>

Cc: "Hew, Chauncey L" <chauncey.hew@doh.hawaii.gov>, "See, Tomas S" <tomas.see@doh.hawaii.gov>, "Wong, Alec Y" <alec.wong@doh.hawaii.gov>, <environmental.mgmt@co.maui.hi.us>, "Yamada, Stuart H" <stuart.yamada@doh.hawaii.gov>, "Marvin Heskett" <mhesketts@mac.com>, Nancy Rumrill/R9/USEPA/US@EPA, "Seto, Joanna L" <joanna.seto@doh.hawaii.gov>, "Asakura, Roland M." <Roland.Asakura@doh.hawaii.gov>

Date: 11/06/2008 01:17 PM

Subject: FW: EPA Hearing Thu. eve

FYI.

Watson Okubo
Monitoring & Analysis Section Chief
Clean Water Branch
Department of Health
919 Ala Moana Blvd#301
Honolulu, Hawaii 96814
Phone: 808 586-4309

From: Charles D Hunt [mailto:cdhunt@usgs.gov]
Sent: Thursday, November 06, 2008 10:54 AM
To: Okubo, Watson T
Cc: Gordon W Tribble; Stephen S Anthony
Subject: RE: EPA Hearing Thu. eve

Dear Watson -

Thanks for clarifying to interested parties that recent USGS studies do not establish a causal link between injected wastewater and algal blooms.

As further amplification, neither the work we have in progress (HDOH-USGS Nutrient and Wastewater Source-Tracking project) nor studies completed (Hunt, 2007) evaluate a wastewater-algal link because (1) USGS studies were not designed to do so, and (2) USGS studies were not staffed with the expertise necessary to make that type of evaluation. My Kihei report (Hunt, 2007) clearly states on page 3:

This report does not address causes of algal blooms or the role of nutrients in the blooms. However, the study reported here is part of a larger program that does address these issues, entitled "Nuisance Macroalgal Blooms in Coastal Maui: Assessment and Integration of Physical Factors and Biological
Processes." This project also was funded by NOAA and included coinvestigators from the University of Hawaii, the Hawaii Department of Health, the Hawaii Division of Aquatic Resources, and the U.S. Geological Survey (USGS). The overall project addressed the marine environment by characterizing chemical, biologic, and ecologic aspects of algal blooms in nearshore marine waters.

It's possible that other scientists may assert a wastewater-algal link, however you're correct in distinguishing that such an assertion should not be attributed to recent and ongoing studies of the USGS Pacific Islands Water Science Center.

Sincerely,

Chip Hunt
Hydrologist

US Geological Survey (USGS)
Pacific Islands Water Science Center
677 Ala Moana Blvd Suite 415
Honolulu, Hawaii 96813-5415
Phone 808-587-2414
Email cdhunt@usgs.gov

Hunt, CD Jr., 2007, Ground-Water Nutrient Flux to Coastal Waters and Numerical Simulation of Wastewater Injection at Kihei, Maui, Hawaii: U.S. Geological Survey Scientific Investigations Report 2006–5283, 69 p. http://pubs.usgs.gov/sir/2006/5283/

"Okubo, Watson T"
<watson.okubo@doh.hawaii.gov>

11/06/2008 09:52 AM

To "Surfrider Foundation" <maui@surfrider.org>, <mbabski@modi.icebase.net>

cc "Charles D Hunt" <cdhunt@usgs.gov>, "Wong, Alec Y" <alec.wong@doh.hawaii.gov>, "Marvin Heskett" <mhesketts@mac.com>, "Dr. Alan Tice" <alantice@idlinks.com>, <seifried@hawaii.edu>, "See, Tomas S" <tomas.see@doh.hawaii.gov>, "Yamada, Stuart H" <stuart.yamada@doh.hawaii.gov>, "Seto, Joanna L" <joanna.seto@doh.hawaii.gov>, "Asakura, Roland M." <Roland.Asakura@doh.hawaii.gov>

Subject RE: EPA Hearing Thu. eve

Aloha,

The Clean Water Branch (CWB) funded a recent USGS multi-tracer study at Kihei and Lahaina in our continued efforts (Kualoa, Kealekehe, and now Kihei-Lahaina) to develop methodology to detect human fecal contamination in our coastal waters from cesspools, injection wells, and other unknown sources. Chip Hunt of USGS recently gave a preliminary presentation to Clean Water, Waste Water, and Safe Drinking Water Branches. Chip reminded me that the results are preliminary and that there is no conclusion that the injections wells at Lahaina are causing the algal bloom and killing the coral. Chip made it perfectly clear that when people make these statements, I should correct them. More work needs to be done because we are not addressing the submarine ground water discharge(SGD) issue. A lot of people are just looking at what is visible and ignoring the larger and more potentially damaging SGD. It is like paying attention to a pimple on ones nose and ignoring a possible malignant issue elsewhere in the body.

30 years ago, Dr. Frank Peterson's (UH-WRRC) work showed and explained the

hydrologic connection in the Hawaiian islands. So it is not news to us (people in the business) that there is a hydrological connection. However, to some, it is new knowledge.

The point is well taken that injection wells waste water. We promote use of effluent water reuse at Kealekehe, Lahaina and other areas. The poor farmers in Kula pay residential rates for water. Why waste water.

CWB has participated with the John A. Burns School of Medicine (JABSOM) Summer Staph Institute and more importantly has collaborated with Dr. Alan Tice and Dr. Steven Siefried in looking at staph in recreational waters. We sampled the Diamond Head end of Ala Moana Beach Park and the beach fronting the Moana Surfrider Hotel in Waikiki and the staph in very low levels. We sampled the surf sites fronting Moana and Sheraton Hotel and the staph levels were also very low. Dr. Siefried then conducted a 24 hour sampling on three separate days, counted the number of people on the beach and in the water and again found the numbers very low. What he did find was that MRSA is somewhat different in Hawaii. More work needs to be done (so more funds is needed).

From participation in the JABSOM Summer Staph Institute, and our work, we have learned that staph is not a waterborne disease. Staph is transmitted from person to person or contaminated surface to person issue. Nationally, one third of the population has staph on their skin and about 1% has the MRSA in their noses with no ill effects. In Hawaii, due to our tropical environment, the percentage of staph carriers is believed to be more than one third. Staph is everywhere and is most prevalent in hospitals and elderly care facilities. To protect yourself from Staph and MRSA: exercise personal hygiene, eat healthy foods, exercise, do not use antibiotics irresponsibly, take care of any skin breaks, clean out, medicate, cover, and first sign of infection see your personal physician. Your first line of defense is your immune system, second line of defense is your common sense, and third line is government regulations.

In summary, the USGS work at Kihei and Lahaina is preliminary and it does not conclude that the effluent causes the algal bloom and is killing the coral. More work needs to be done (so more funds is needed). USGS will come out with a report next year after a peer review. Staph is not a waterborne disease (check with CDC too). Effluent water should be reused. In Hawaii, there is a hydrologic connection. Hope this helps. Thanks.

From: mbabski@modi.icebase.net [mailto:mbabski@modi.icebase.net]

On Behalf Of Surfrider Foundation
Sent: Thursday, November 06, 2008 5:56 AM
To: Okubo, Watson T
Subject: EPA Hearing Thu. eve

DIRE- Don't Inject - Re-Direct

Injection Well Public Hearing
Thursday, Nov. 6, 2008
Lahaina Civic, 6:15-9 p.m.

Please speak out against injection wells at the public hearing to be held Thursday, Nov. 6 at the Lahaina Civic Center from 6:15 to 9:00 p.m.

The wastewater we are injecting is flowing out to sea. The nutrients in this water are spurring the growth of algae. The algae are choking and killing our coral reefs. Our coral reef ecosystems are dying. We are killing the habitat for Hawai'i's fish and other marine life. This injection - along with other pollution from the land -- is strangling our economy. We rely on tourists who are drawn to Maui in part by our clear waters and our unique coral reefs and the fish they attract. We rely on our reefs to provide food, to protect us from storm-driven waves and to provide spiritual, cultural and spiritual rejuvenation and sustenance.

There are practical alternatives. We can re-direct and reuse the water. To lose the water instead of re-use the water makes no sense in a period of extreme drought and water shortage.

Injection Wells Put Our Reefs at Risk
Algae Growth in the Vicinity of Maui Reefs: Although the county incorporated biological nutrient removal systems that reduced nitrogen discharges by 60%, sewage wastewater continues to contribute to the harmful algal and bacteria blooms that smother our coral reefs, adversely affecting marine life.

Coral cover loss: "over 90% since 1995 [for Ma'alaea]," and a nearly 25% average decline in coral cover over 9 Maui reefs studied between 1994/1999-2006.

Injection Wells Waste Our Water
Rainfall shortage in Maui April-June 2008: "31 percent below . . . average."
Estimated Costs of New Reservoir on Maui to Deal with Drought: $15 million

Agricultural irrigation resource deficit in 2008: "90 percent below normal"

Acres Scorched in Brush Fire Incidents on Maui:
3500 + acres in 2006 Ma'alaea - Olowalu fire
1000 acres in 2007 in West Maui
650 acres near Maui Meadows in Kihei in 2008

Reusable water discarded by injection wells: county-wide over 11.5 million gallons of waste water a day is pumped into injection wells; 4.4 million gallons/day at Lahaina alone - $1.6 billion gallons/year

Injection Wells Increase Waterborne Infections
Since 1995 there has been a sharp increase of hospitalization due to staph infection. In 2007 the number of hospitalizations in Maui was 188 people per 100,000. The national average is 89 people per 100,000.

Injection Wells Harm Our Economy
Estimated Value of Coral Reefs for Hawaii's Economy: $364 million/year
Estimated Annual Cost of Algal Damage in Maui: more than $20 million/year

According to Maui County Wastewater Manager Steve Parabicoli, an estimate of total economic losses - due to damaged reefs, loss of fish and sea weed smell that drives down rental prices of beach properties - is as much as $20 million a year.

Add the loss of habitat for marine life, the loss of esthetic value and the cost soars beyond calculation.

This message was produced by DIRE (Don't Inject - Re-Direct) - a coalition of Maui residents and organizations concerned about environmentally harmful wastewater disposal at a time of severe drought and water shortage.

Interested persons are invited to make comments and recommendations on the draft permit renewal and the County of Maui's permit renewal application. All comments must be received or postmarked by Nov. 6 and must be in writing (e-mail is acceptable) to be considered. Comments already submitted to EPA on this proposed action are available on EPA's Region 9 web site at:
http://www.epa.gov/region09/water/groundwater/uic-permits.html#cur

Please send comments to U.S. Environmental Protection Agency, Ground Water Office (WTR-9), 75 Hawthorne Street, San Francisco, CA 94105, Attn: Nancy Rumrill; phone (415) 972-3293; fax (415) 947-3549; or e-mail rumrill.nancy@epa.gov.

maui@surfrider.org • Surfrider Foundation

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