

To: Lara Weisiger
City of Alameda
May 7, 2019
RE: Nautilus Data Technologies

I have reviewed the package available on line and have concerns as noted below. In general I am supportive of development proposals provided they are designed to not impact wildlife habitat. I do not see enough detail in the documents in this package to understand if that is the case.

The immediate discharge location is concern because it is an important and active spawning area for Pacific herring, a critical forage fish that sustains seabirds, marine mammals and recreational and commercial fisheries both in the bay and in the ocean. Year on year population estimates for herring, as reported by the state, have plummeted to historical lows. The fishery was so depleted this year, the commercial quota so low, that the commercial fishery was abandoned. Herring are temperature sensitive spawners. I am not a herring biologist, but I would strongly suggest an unbiased scientific appraisal be conducted before approving any discharge. There are numerous scientific papers documenting this as a spawning area, CDFW monitors this year on year, going back into the 1980s --prior to that time they did not survey south of the Bay Bridge.

I conduct pelican research on the breakwater, it is one of the most significant winter (herring run), and summer/fall roosts in the state, any impact to fish populations would be strongly felt by wildlife.

This is a recent paper I worked on that highlights the importance of breakwater and area as a pelican roost. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0211932> Impacting their food supply is not a good thing; not just pelicans but tens of thousands of cormorants, recreational fish and the health of the bay could be negatively impacted by this project.

I am on the Sanctuary Advisory Council of the Monterey Bay National Marine Sanctuary. We have a strong focus on water quality, and we have had experts school us on single pass cooling systems, it is a deceptively complex field. The questions that come to mind are not resolved by the slides attached, they are devoid of any specifics.

1. As a minimum I would require a design that does not allow pumping unless a filter is in place- have two sets of filters, and one can be accessed for maintenance, but it must be physically impossible for the system to draw water unless it is through a filter, and this should be verifiable by citizens on line at any time.
2. What size of particles are blocked by the filter? Who makes the filter has it been tested and certified.
3. What pressures and velocities will the water see as it passes through the system?
4. What is the maximum temperature it will see? The discharge temperature? How is this tested and verified? Will this be web posted in real time so the community can see the leaseholder is meeting their commitments?
5. What is the maximum flow rate?
6. How will the discharge piping be maintained- kept clear of obstructions?

I am not an expert on the impact of moving water on microorganisms and nutrients through a system after filtration- pressures, temperatures and velocities- I would want to hear from an unbiased expert that not just fish larvae but any life in the water will not be harmed. If I were on city council and asked to vote on this I would require more information than I see on offer.

Bart Selby
San Carlos, CA

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May 7, 2019

Mayor Ezzy Ashcraft and Members of Alameda City Council
2263 Santa Clara Ave.
Alameda, CA 94501
TRANSMITTED VIA EMAIL

Dear Mayor and Councilmembers,

The Sierra Club urges you to *not* approve the current proposal for a water-cooled data center at Alameda Point. The data center will require constant cooling and the proponent, Nautilus Data Technologies, has developed a cooling system that uses water, in this case from the Bay, rather than traditional air conditioning requiring high electricity usage.

The Sierra Club supports efficient use of energy resources. In this instance, however, the company will be discharging water back into San Francisco Bay that is warmer than existing temperatures. Rising water temperature in the Bay can be a contributing factor in the appearance of toxic algae blooms. At the projected volume of 10,000 gallons per minute, the heat being transferred to the Bay will maintain a permanently warmer zone of water next to the rock wall jetty at Alameda Point. Movement of the tides will not permanently dissipate the relentless infusion of warmer water into the Bay.

Warnings from scientists about the growing potential for harmful algae blooms in San Francisco Bay have identified multiple factors that could influence its appearance, such as increased nutrients from urban runoff, greater clarity of the Bay, and rising temperatures. The U.S. Environmental Protection Agency (EPA) also describes how warmer water could contribute to the growth of harmful algae. The EPA website states: "Toxic blue-green algae prefer warmer water. Warmer temperatures prevent water from mixing, allowing algae to grow thicker and faster. Warmer water is easier for small organisms to move through and allows algae to float to the surface faster. Algal blooms absorb sunlight, making water even warmer and promoting more blooms."

The San Francisco Bay and its delicate marine ecosystem is already under enough pressure. Adding another impact from warm water discharge is too risky, especially when there is no compelling reason for a data storage facility on the Bay shoreline. Other discharge sites, such as those already being utilized by the Nautilus system, are more environmentally appropriate locations. The Sierra Club urges you to not approve the lease for Nautilus Data Technologies.

Sincerely,



Sophie Hahn

Chair, Sierra Club Bay Chapter Northern Alameda County Group

LARA WEISIGER

From: Richard Bangert
Sent: Friday, May 03, 2019 9:53 AM
To: LARA WEISIGER
Subject: Nautilus Data agenda item May 7th

Hi Lara,

Please consider my blog post <https://alamedapointenviro.com/2019/05/03/water-cooled-data-center-proposal-not-so-cool/> as a form of comment on the proposal. I would like a link to the post included in some form under that agenda item - maybe a new heading called "Public Commentary" or "Media Commentary."

Thanks,

Richard Bangert

Photo site: <https://www.flickr.com/photos/63740093@N03/>

Blog: <https://alamedapointenviro.com/>