

# HUMBOLDT STATE UNIVERSITY

## Risk Management and Safety Services

RE: Comments on Waste Discharge Requirements Order No. R1-2019-0037, for the Telonicher Marine Lab (TML) Waste (NPDES NO. CA0025151/WDID NO. 1B12187NHU).

Mrs. Goodwin,

On behalf of Humboldt State University (HSU) these comments are submitted in order to address questions or issues that arose during our review of this draft permit. The Telonicher Marine lab has completed one permit term of monitoring and reporting pursuant to R1-2013-0006 and was a stakeholder in the regional Monitoring Program approved by State Board during that term. As a result, these comments are submitted with the hopes of getting explanation on some on issues that during the previous term had proven to be either 1) confusing 2) burdensome given the nature of TML's discharge or 3) which inaccurately reflects the TML's operation.

The Marine Lab uses sea water pumped directly from the bay which is then filtered, chilled, and used to support marine life; some of this water then, through different means, will end up back in the bay and it is through this activity that the TML sea water is considered "waste water". This characterization complicates certain monitoring requirements that would be more appropriate for dischargers who 1) discharge continually and 2) whose operation is for the purpose of water treatment.

In addition, there are new requirements that are unclear which we hope to have clarified prior to initiation of the compliance period and a few inconsistencies that should be rectified.

### **Comment 1:**

On Page 14 of the draft order is a requirement for a disaster plan related to climate change and sea level rise. HSU would like to have this requirement waived for the following reasons: The Marine Lab is located well outside of currently projected flooding/tsunami inundation zones even when looking at inundation modeling for sea level rise for the next ten years. Further, because the Marine Lab does not function as a water treatment plant, if the lab were unable to operate normally there would be no risk to life, safety or environmental protection to take into account for disaster planning. A general University disaster plan, in which the Marine Lab is encompassed, is located in the University Emergency Operation Plan, which functions as an overall guide to the University's response to disaster situations. Through the campus THIRA (threat and hazard identification and risk analysis) which is based on historical data as well as future threat and risk modeling, Humboldt State is not at risk for sea level rise related disasters within the next ten years at current projections.

<https://www.caloes.ca.gov/cal-oes-divisions/earthquake-tsunami-volcano-programs/tsunami-about>

<https://nctr.pmel.noaa.gov/tsunami-forecast.html>

Link to Coastal Plan update (Note: this link will change as plan gets updated)

<https://humboldt.gov/1678/Local-Coastal-Plan-Update>

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### **Comment 2:**

Page 23 Section J states that pre and post sampling is required for TSS, Settleable Solids and Turbidity. However, footnote 7. on page E-7 states TSS, Settleable Solids and pH are the pre and post monitoring constituents, which also reiterated on page E-21 table E-7. HSU would like clarification on what the requirement should be as pH was dropped from receiving water monitoring in the previous permit. Note: sample data has demonstrated that the pH rarely fluctuated from 7.8 in HSU's effluent and would not be expected to create a change in the bay. The lab's seawater pH is also tested weekly for the health of the organisms kept in the seawater system. Additionally, if turbidity is meant to be the sampling requirement it may be a redundant monitoring parameter- as it is typically related to the same pollutant sources as TSS, both of which are more directly influenced by tidal conditions than HSU's discharges to the ASBS.

### **Comment 3:**

Humboldt State would like to make a point of clarification on the type of sea water discharge that occurs. Footnote 5 on page E-7 states that during the permit term one tank and one sump discharge will be monitored. Due to the nature of our plumbing setup, discharges of commingled effluent (waste seawater, filter backwash, & commingled wastewater etc.) cannot be separated into sump water and tank water. During a filter backwash event, system seawater flows from the tanks to the sump and is then pumped through the filters to the discharge point. A sump discharge would only be possible by bypassing the filters and therefore could not be commingled with filter backwash. Because the tanks drain into the sump and water is pumped back to the tanks from the sump, separation of tank water and sump water is impossible.

We would therefore like to have these separate sampling requirements dropped as they cannot be fulfilled as stated. Additionally, Table E-1 on page E-4 apparently seeks to refine the monitoring locations- which are one physical location each whether receiving or effluent, in 3 and 4 locations respectively, to provide board staff the ease of recognition for the different discharge types for monitoring purposes. However, for effluent there is really only one type of main sea water discharge, which is filter backflush. On occasion tanks may be dumped during a permit term, but this isn't even truly a waste discharge, but is raw sea water that would be sent back to the bay without circulating in the system. There are no other types of discharge other than the small amounts spilled from tanks into floor drains which go to the septic system. Overflows from intake events are also just raw sea water back to the bay and not waste sea water effluent and the sump discharge is as stated above. Therefore, it would be more accurate to have only one sea water discharge type: EFF-001 A "filter backflush". If the tank dump monitoring is kept as a requirement, it is possible that the tanks will not be dumped during a permit term and HSU would like to remain in compliance with monitoring requirements should this be the case. It would be ok to keep EFF-001 D as commingled filter backflush and storm water (in the event a filter backflush is done when it is raining) even though it is more useful to keep them separated for sampling purposes, as well as the fact that ultimately HSU will have no storm discharge(see comment 12).

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### **Comment 4:**

Table E-1 on page E-5 for RSW-001 A and B have errors in the way they are defined. RSW-001 A should state that it's designated for both "pre" storm and sea water and RSW-001 B should be for both "post" storm and sea water.

### **Comment 5:**

HSU participated in the Regional Monitoring program, the goal of which, in part, was to arrive at numerical criteria for natural water quality. However, it seems that many of the effluent limits in the draft order are reflective of background limits established in the 50's and 60's and need to be updated. Moreover, much of the reference site data appears not to have been considered when determining the effluent limits for the marine lab, which does not alter the water in any appreciable way, but uses the water from the bay in the condition that it exists. Therefore, if current water quality standards are not being accounted for, HSU's Marine lab would be in a position to be held to an unattainable standard, as we cannot treat the water we receive, so if the ASBS contains levels of metals and TSS, which has been shown, this will be represented in the TML effluent, despite any negligible contribution by the lab. For this reason, HSU would like the option to take influent samples at the discretion of the lab and present such samples as necessary for such an instance where the lab is unable to comply with effluent limitations simply because the ambient conditions are already above WQO.

### **Comment 6:**

Page E-7 footnote 8 in table E-2 states that accelerated monitoring shall occur within 7 and 14 days for each effluent exceedance. However, due to the intermittent nature of the marine labs effluent, this would require creating discharge that would otherwise not be created. HSU would like to clarify that this is the board's intention. If not, HSU suggested that samples be re-taken at the next operationally required discharge event. HSU would like to take this opportunity to again point out, that because the water used in the lab is taken directly from the ASBS which has shown to have background levels of many pollutants already above the effluent limitations, it is likely that HSU will demonstrate exceedances. This is why it was believed that the data obtained through the RMP, establishing natural water quality would have helped in that the agreed background should be subtracted from the effluent level to get at the true contribution from the lab.

### **Comment 7:**

On Page E-11 table E-4 footnote 11 states that the storm water must be sampled for table 1 constituents. Please specify what constituents are required, as it is HSU's understanding that based on the data from the previous permit cycle, many of the table 1 constituents were not detected and could be dropped from this requirement.

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### **Comment 8:**

On page F-19 6. III. F the permit states that the board has concerns about maintenance activities creating high strength waste. The marine lab has no such activities, but seeks clarity on the definition of high strength waste and what types of activities for which it is produced.

### **Comment 9:**

The marine lab pulls water up directly from the ASBS to be stored in the tanks to be used at some later time. The marine lab pumps enough seawater directly from the ASBS to fill the storage tanks, then stops the intake pump once the tanks are full. This water is then recirculated (filtered and chilled) for up to two months before the next intake event. When the filters are backflushed, the ASBS is sampled both before and after the event to show what the water quality is at the time of discharge. The idea then, is that if the pre discharge water is higher in TSS or Settleable solids than the post discharge water, then the effluent will be in compliance with that effluent limitation. However, because the water is stored for a period of time, there exists the possibility that if the water taken in at the time was high in TSS, as an example, which would ultimately make the discharge high in pre-existing TSS, but the ambient receiving water prior to discharge was low in TSS (there are many reasons why this data point is naturally variable) and then after the discharge tidal changes or other conditions which have been shown to alter the ambient TSS made the post samples high as well, it would indicate that the marine lab was out of compliance with effluent limitations, when it is a direct result of fluctuations already occurring in the bay. HSU would like the regional board to consider a more accurate way to reflect compliance with these constituents by considering what is already present in the water.

### **Comment 10:**

HSU's storm water drain plumbing accepts water from two of the City of Trinidad's street drains on the North East and South East edges of the property. HSU does not have any oversight as to what might go into these drains, which creates a situation where our storm water (or seawater) discharge events may not be in compliance due to factors beyond our control. We would like to consider the possibility of sampling sea water discharges at a location upstream of EFF-001. This sampling site would be immediately after the seawater leaves our filters and would not contain any constituents from unknown sources. HSU would like to request modification to locations in take E-1 to have EFF-001 A to be at the end of pipe on marine lab property.

### **Comment 11:**

Page 23 explains the six-month median effluent limitations as a moving median of daily values, with days of zero discharge as equal to zero for purposes of this average. The marine lab is an intermittent discharger and only one sample of effluent is taken for each period (quarterly, semi-annual and annual) and usually only one day of discharge per month. If a single grab sample exceeds the instantaneous maximum, in a parameter where there is also an average monthly and weekly, does the same apply where days of no discharge count as zero toward the average weekly and/or monthly? For example: if during quarterly backflush the grab sample for settleable solids was 3.5 ml/L (IM limit is 3.0). The weekly average limit is 1.5 ml/L and monthly is 1.0 ml/L. If days of no discharge are not considered zero's then the lab would be out of compliance with 3 limits for only one grab sample. But, if no discharge days are equal zero, then only one limit would be violated, which seems more appropriate for intermittent dischargers.

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**Comment 12:**

The marine lab was awarded Prop 1 grant funds with the City of Trinidad to eliminate the storm water discharge to the ASBS. HSU would like to verify that once there is no discharge of storm water to the ASBS, the monitoring requirements become automatically voided due to the lack of discharge. If there is a process whereby HSU must apply to have them dropped, please specify.

**Comment 13:**

Humboldt State feels that the state board resolution has requirements that are outdated given the data collected during the previous permit cycle. There are monitoring requirements that could be dropped based on no reasonable potential, but are upheld strictly by being present in the resolution. HSU would like to understand more about whether the resolution will be updated to reflect protection of current water quality standards or what that process entails and can we initiate that to be done?