



**Enviro-Tech Diving, Inc. Comments DRAFT ADEC AKG521000**  
**Seafloor Monitoring Survey Requirements**  
March 2021

Each of our comments below references the specific text and page numbers, our suggested change to that text, and the rationale for our suggestion.

**Surveyor and Survey Information (Page E-4)**

- a) Surveyor's name, signature, and contact information.

**SUGGESTED CHANGE**

Company name and project manager signature for survey.

**Reasoning:**

- Multiple persons perform many surveys and QA/QC is the responsibility of the project manager.
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**Digital photographs (Page E-5)**

- i. Photographs shall include a digital date and time stamp. The photograph log shall include the name of the seafood processor, survey date, and photographic sample plot location identifier

**SUGGESTED CHANGE**

- A Master Data spreadsheet with Point #, Time, GPS location, Depth, Waste thickness and descriptors along with high-definition video can be used in place of a photo log.

**Reasoning:**

- Producing a separate photo log will greatly increase cost due to time it will take to obtain screenshots from video. The photo log in large survey areas could reach over 700 photos, many of which would look virtually identical. A more practical and cost-effective solution is for the surveyor to provide representative photographs of distinctly different areas and seafood waste types and provide a copy of the video file to DEC along with the master spreadsheet referred to above. DEC can then locate any specific measurement point in the video file by using the time stamp on the spreadsheet and video file.
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**Beggiatoa or other types of Bacterial Mats (Page E-8)**

All *Beggiatoa* or other bacterial mat areas shall be counted as continuous coverage.

**SUGGESTED CHANGE**

- Surveyor should fan the *Beggiatoa* and observe thickness of underlying seafood waste, if any.



### **Reasoning:**

- *Beggiatoa* is an indicator of nutrient enrichment. The permit defines the reportable seafood waste threshold as 0.5 inch or greater. *Beggiatoa* can be present where seafood waste thickness is below the thickness detection limit defined in the permit. It can also be present when there is no seafood waste at all.
  - *Beggiatoa*, like seafood waste, can be present from trace coverage in a very thin layer to continuous coverage several inches thick. The monitoring protocols should specify what amount of coverage and thickness would trigger the need to count *Beggiatoa* as continuous coverage.
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### **Sea Flora and Fauna (Page E-8)**

- Type and number of macro sea fauna (sea life) and type of aquatic vegetation observed on the seafloor during the photographic survey. Types and quantities of sea life observed adjacent to, on, or feeding on any seafood processing waste deposits during videotaping, along with representative photos with time and date stamp.

### **SUGGESTED CHANGE**

- Surveyors will estimate sea life observed (flatfish, sculpin, rockfish, rat fish, herring, etc.) as well as general aquatic vegetation observed. (Example - The predominant species observed were sculpin, with occasional sighting of flatfish.)

### **Reasoning:**

- Numerous fish will transit and travel through the area and many of these species will follow divers or ROV during surveys. Divers or operators cannot identify individual fish so the option of counting fish is not realistic.

### **Hydrology (Page E-8)**

Report ambient tidal current velocity and direction and water chemistry (both seasonal and in-situ on the day of the survey, including salinity, water temperature, density, turbidity, DO, and pH). These parameters should be taken as a grab sample or using a probe.

### **SUGGESTED CHANGE**

- Strike Seasonal and require only in-situ measurements on the day of survey.

### **Reasoning:**

- Survey teams are present for the day of the survey and do not have access to seasonal current and water chemistry information. Also, such seasonal data is rarely available.
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### **Substrate (Page E-8)**

Composition of substrate (soft sediments, cobble, gravels, solid rock and/or glacial silts, or ground/screened seafood waste, etc.). If previous benthic assessments, dive surveys, or remediation actions have documented the presence of buried seafood waste, this waste must be included in continuous coverage calculations if those buried areas are located directly adjacent to outfalls discharging seafood processing waste and wastewaters, or to other continuous coverage areas. The surveyor has the option to obtain new core samples to document whether seafood waste is or is not present at the previously identified locations.

### **SUGGESTED CHANGE**

- The presence of buried waste will be based on the most recent seafloor survey.

### **Reasoning:**

- Need definition of buried waste. Buried waste is typically mixed together with native sediment. In such cases, this should not be considered continuous coverage.

### **Plume Size (Pages E-8, E-9)**

An indication of an active or inactive discharge occurring during the time(s) of the survey.

- i. Approximate width and length of each outfall's effluent plume when discharge is occurring.
- ii. Evidence and photographs documenting floating residues surrounding or extending outside the visible plume.
- iii. Observations and photographs of waste residue particle size in any deposit within 30 ft of the outfall, and a minimum observation and one photograph of the particle size (if any) with an accompanying measuring device.

### **SUGGESTED CHANGE**

- i. Surveyor will estimate the size of the outfall effluent plume at the point of discharge only.
- ii. Strike completely
- iii. This should be moved under Deposit Type on page E-5.

### **Reasoning:**

- i. The plume size changes with each water depth and tidal change. Divers cannot determine the plume size since it changes rapidly as it travels with the tide and toward the surface.
- ii. Divers would need to break dive safety protocol to determine size as the plume travels through the water column. Divers are on the bottom and cannot observe floating residues. Surveyors using ROV are generally an extended distance from the discharge point and could not observe floating residues.
- iii. Although divers can photograph residues on the seafloor, it is not feasible for the diver to photograph floating particles in the water column.

### **Dissolved Oxygen and other Gases. (Appendix E, Page 7, 4, m)**

When gas is observed escaping from the seafloor in the vicinity of the outfall or from the seafood waste pile, the surveyor is required to collect water samples or measure directly for dissolved



oxygen, methane, and hydrogen sulfide. Samples shall be collected at six inches or less above the seafloor/seafood waste deposit where the greatest amounts of gas release are observed.

### **SUGGESTED CHANGE**

- Surveyor is required to collect water samples or measure for dissolved oxygen. (strike methane and hydrogen sulfide)

### **Reasoning:**

- Dissolved oxygen is sufficient for measuring the incidence of anoxic conditions, which appears to be the rationale for this requirement according to the draft permit fact sheet. Although methane and hydrogen sulfide may also be indicators of anoxic conditions, they are indirect indicators, whereas dissolved oxygen is a direct indicator. Meters for measuring methane and hydrogen sulfide directly under water are prohibitively expensive. We received a \$20,000 quote for these meters.
  - Although it is technically possible to collect a water sample for laboratory analysis of hydrogen sulfide and methane, we are not aware of an Alaskan laboratory that can run the required analytical methods. Conducting such analyses would require complicated coordination between multiple air freight companies, given the remoteness of many of the survey locations. Thus it would be logistically impossible to consistently get samples to lab in the required 7-day holding time.
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### **Project Area Zone of Deposit (ZOD) (Pages 35, C-10)**

Means the total area of the seafloor bottom in marine or estuarine waters within which DEC has authorized and limited the deposit of substances in exceedance of the water quality criteria in 18 AAC 70.020(b) and the antidegradation requirement in 18 AAC 70.010(c). The project area ZOD includes the entire operating area of an onshore seafood processing facility, including those adjacent to the facility, including the following: seafood transfer devices; vessel and barge loading and unloading areas; offshore processing areas for supporting vessels and barges; bulkheads, ramps, floating walkways, docks, pilings, dolphins, anchors, buoys and other marine appurtenances, outfall locations and the length of the outfall line(s) connecting the facility to the point(s) of discharge; as well as previous outfall discharge locations that have no record of historical seafloor survey; and the bedland areas underlying and connecting these features.

### **SUGGESTED CHANGE**

- Provide GIS files and specific rationale for all Project Area ZODs.

### **Reasoning:**

- Since the initial seafloor monitoring survey must encompass the Project Area ZOD, permittees should be able to verify that the rationale and specific location of the Project Area ZOD are appropriate. DEC's ArcGIS project is a helpful tool, but many permittees have their own GIS applications that could utilize the underlying files that DEC has created.
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## **Pre-Discharge Biological Survey (Permit Page 37 (Table 7) and Appendix H)**

Installation of a new outfall location, or facility re-starting production after not operating for more than 12 months.

### **SUGGESTED CHANGE**

- Change the re-start of production timeline to 5-10 years.

#### **Reasoning:**

- The rationale that DEC has provided on page 36 of the draft fact sheet for requiring a biological survey is to avoid placing an outfall in a “living substrate”. This makes sense for placement of a new outfall. For an existing outfall that has not changed in configuration during an idle period for an existing facility, the 12-month timeline is too short. There is no reason to expect that a living substrate would be newly established within that short of a time period. A quote from page 69 of the draft fact sheet supports that opinion:

“The study estimated that if the fish processing operations ceased operations, the effects caused by the waste discharge would disappear over time and the benthic community would recover within 5-10 years with few adverse effects remaining from the point sources of organic loading.”