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Maine Department of Environmental Protection
Bureau of Water Quality — Division of Water Quality Management
17 State House Station
Augusta, Maine 04333-0017
Attn: Laura Crossley, Licensing Coordinator By
email: Kingfish.DEP@maine.gov

RE: SUPPLEMENT to public comment on the renewal application of Kingfish Maine, Inc. — MEPDES Permit #ME0037559 / Maine Waste Discharge License #W009238-6F-A-N, Jonesport, Washington County. Supplements comments filed [date of original filing].

Dear Reviewer:

These comments supplement those I filed on August 3, 2026. In my earlier submission I reserved the right to supplement as further material became available. This supplement is based on records obtained from the U.S. Army Corps of Engineers under the Freedom of Information Act (request 25-318), comprising 116 pages of the Corps permit file for NAE-2020-1651. Two documents in that file bear directly on comments already before the Department.

Part One amends Comment 5 of my earlier submission, concerning intake screening, in light of a drawing in the Corps file that specifies a value the renewal application does not.

Part Two adds a new Comment 11, concerning the capacity of the applicant's proposed monitoring to detect effects on American lobster settlement in Chandler, Englishman's and Machias Bays. This supplements Comment 8 of my earlier submission.

Nothing in this supplement withdraws or contradicts my earlier comments. Where a figure has been refined, the earlier figure and the basis for the revision are both stated.

Part One — Amendment to Comment 5 (Intake Screening)

My earlier Comment 5 relied on Sheet C-300 in Attachment 8 of the renewal application, which specifies a removable hexagonal screen of six panels in 1-inch (25 mm) wedge wire. Because no open area or velocity value appeared in the application, I calculated through-slot velocity from dimensions scaled off that sheet.

The Corps file contains an earlier drawing of the same structure that states the open area directly, and describes a different screen technology.

The specified open area

At pages 22 and 62 of the Corps file, an intake structure detail prepared by Ramboll Americas Engineering Solutions, Inc., printed 21 December 2021 and marked PRELIMINARY — NOT FOR CONSTRUCTION, carries the following callout:

“REMOVABLE WOVEN WIRE SCREEN PANELS WITH 1” [25 mm] OPENINGS. PROVIDE MINIMUM OF 120 SF [11.14 sm] OF OPEN AREA (TYP. x6)”

That is a specified minimum open area of 11.15 m² per intake assembly. It replaces the estimate in my earlier Appendix D and confirms it: the scaled estimate gave 0.10–0.12 m/s for a single intake at 28.7 MGD, and the specified area gives 0.113 m/s. The revised arithmetic appears at Appendix I below.

Two records specify two different technologies

The renewal application specifies wedge wire. The Corps file specifies woven wire. The aperture is 1 inch in both, and both drawings are marked preliminary and not for construction. The Corps drawing carries a printed date of 21 December 2021; the CAD file date on Sheet C-300 is 28 July 2020.

The distinction is not cosmetic. Woven wire is round wire woven into a grid, presenting an aperture of constant cross-section; particles slightly larger than the opening lodge in it and the mesh progressively blinds. Wedge wire is triangular profile wire wound with the flat face outward, so the slot widens inward and anything clearing the face passes through. Wedge wire accepts airburst backwash cleaning in place; woven panels are generally removed and cleaned, which is what the Corps drawing anticipates with its removable panels, lifting eyes and debris clean-out hatches. Fine woven mesh blinds readily and is not used for passive marine intake screening at scale; fine wedge wire is the technology identified in the federal record as best available for reducing entrainment.

The practical consequence is that if the applicant contends that fine screening would foul, that contention holds for fine woven mesh and does not hold for fine wedge wire — which the applicant’s own 2026 drawing already specifies.

Requested action. The Department should require the applicant to state which screen technology is proposed, to reconcile the two drawings, and to state the design open area and through-slot velocity in the application text. Neither drawing is marked for construction, and neither value appears in the application, so no enforceable term presently exists. The requested condition in my earlier Comment 5 — 0.5 mm through-slot wedge wire at a maximum approach velocity of 0.15 m/s — is unchanged, and Appendix I shows that it remains achievable within the specified structure at the reduced flow sought in Comment 4.

Part Two — New Comment 11

Comment 11. The proposed monitoring cannot detect effects on American lobster settlement

Finding. The Corps file contains the two monitoring plans prepared for this project: an Ichthyoplankton Study — Chandler Bay — Draft Plan, prepared under Condition 20 of permit NAE-2020-1651, and a Benthic Ecosystem Monitoring Proposal dated 7 December 2022, prepared under the condition addressing EConcrete collar mitigation. Neither plan includes American lobster among its target taxa. The larval survey is towed at a depth at which lobster larvae do not principally occur, and its intensive effort is timed for months outside the lobster larval season. Neither plan measures settlement, which is the demographic stage that determines future

recruitment to the fishery. Both plans conclude before a cohort affected in the facility's first year of operation could recruit to the fishery.

Record basis:

- Condition 20 of permit NAE-2020-1651 required the permittee to provide a plan “on assessing the ichthyofauna of Chandler Bay and the proposed recirculating aquaculture system in order to estimate the entrainment impacts to eggs and larvae.”
- Table 1 of the resulting Ichthyoplankton Study lists seventeen taxa with designated Essential Fish Habitat in Chandler Bay — sixteen finfish and Atlantic sea scallop. American lobster, *Homarus americanus*, does not appear.
- This appears to be a consequence of scoping rather than oversight. American lobster is managed by the Atlantic States Marine Fisheries Commission under an interstate fishery management plan rather than a federal fishery management plan, and accordingly has no federally designated Essential Fish Habitat. A study scoped to “ichthyofauna” and to EFH species will not capture it. The result is that the species supporting the great majority of commercial landings in the receiving waters is outside the monitoring program.
- The plan provides that both plankton nets are hauled horizontally at approximately 12 m, a depth expressly chosen “to match the depth of the intake pipe.” Larval lobster of stages I through III are concentrated in the upper part of the water column, and the stage IV postlarva is neustonic — it occupies the surface layer while searching for settlement habitat. Larval lobster surveys in the Gulf of Maine are conducted with neuston nets towed at the surface. A horizontal tow at 12 m will not sample that population.
- Because the plan samples a single depth, it cannot establish the vertical distribution of larval lobster and therefore cannot establish what fraction of the population the intake would encounter. The design assumes the exposure question it was intended to answer.
- The plan intensifies tidal-cycle sampling during “periods of high ichthyoplankton abundance (likely March and April),” which is appropriate for the winter and spring spawning finfish it targets. Lobster larval release in the Gulf of Maine occurs principally from July into September, with settlement from late summer into autumn, and eastern Maine waters run later and colder than the western Gulf.
- A plankton survey measures larval supply. Settlement is measured differently. The standard method is diver-based suction sampling of quadrats in cobble habitat timed to follow settlement, the protocol used by the American Lobster Settlement Index, which has been operating since 1989 and is coordinated from the University of Maine — the institution that prepared the Benthic Ecosystem Monitoring Proposal.
- The Benthic Ecosystem Monitoring Proposal was prepared for a different purpose: to assess the effectiveness of EConcrete collars as mitigation for pipeline installation. Its sampling extends to 75 m from the construction area. Its methods are modified Van Veen grabs for infauna, remotely operated vehicle video for epifauna, and two dive surveys in post-construction years 1 and 5 for scrapes of the collar structures.
- None of those methods samples young-of-year lobster. The proposal itself records that for habitat of very coarse grain size, from pebble to boulder, grab sampling is less instructive than ROV survey — and pebbles-to-boulder is precisely the settlement habitat. Remotely operated vehicle video cannot detect young-of-year lobster, which are approximately 10 to 20 mm, cryptic, and shelter beneath cobble.
- The benthic plan adopts a Before-After-Gradient design in preference to Before-After-Control-Impact, on the stated reasoning that it “eliminates the difficult task of identifying a suitable control site.” For a 75 m

construction footprint that is defensible. A gradient design detects effects that diminish with distance from a source. Entrainment removes organisms from a water mass that subsequently mixes and disperses; where the resulting effect is spatially diffuse there is no gradient to detect, and the design will return a null result whether or not an effect exists.

- The ichthyoplankton program provides for two years of pre-operational sampling followed by five consecutive years. The benthic program provides for at least one pre-construction survey per season and post-construction surveys in years 1, 3 and 5.
- American lobster reach legal size approximately five to eight years after settlement. A cohort whose settlement was reduced during the facility's first year of operation would therefore not recruit to the fishery until after both monitoring programs had concluded. At that point the monitoring record would be closed and attribution would no longer be possible.
- Commercial landings in the Jonesport and Beals area averaged approximately 13 million pounds per year between 2021 and 2025, the great majority lobster.
- Section 464(4)(F)(1)(d) of Title 38 directs the Department, in determining existing in-stream uses to be protected, to consider use of the water body for commercial activity that depends directly on preservation of an existing level of water quality. Section 464(4)(F)(1-A)(b) provides that where an existing use involves fishing or a commercial enterprise dependent on an existing level of water quality, the applicant must demonstrate that the activity would not result in significant degradation of that use.

In fairness to the applicant, the Ichthyoplankton Study is a competent survey within its scope. It provides closing nets at two mesh sizes, flowmeter-calibrated tow volumes, two pre-operational years, seasonal and tidal stratification, and an express aim of resolving the spatial extent of any intake effect. The 50 micrometre net would sample bivalve larvae. The deficiency identified here is one of scope, not of execution.

Requested action. The Department should require, as a condition of renewal, that the monitoring program be extended to address American lobster, as follows:

1. Add *Homarus americanus* to the target taxa and to the species table, notwithstanding the absence of federally designated Essential Fish Habitat for the species.
2. Add neuston tows in the surface layer, paired with the existing 12 m tows at each station, so that the vertical distribution of larval lobster and the fraction of the population exposed to the intake can be established rather than assumed.
3. Shift intensive sampling effort to the July through October larval release and settlement window, in addition to the existing spring effort.
4. Add settlement monitoring on the American Lobster Settlement Index protocol — diver suction sampling of quadrats in cobble habitat, timed to follow settlement — at stations distributed across Chandler, Englishman's and Machias Bays, including reference stations outside the transport field indicated by hydrodynamic modelling.
5. Add a control component to the gradient design, so that a spatially diffuse effect is distinguishable from a regional trend.
6. Extend the monitoring term, or condition its termination on a demonstrated null result rather than on the expiry of a fixed period, so that monitoring does not conclude before an affected cohort could be observed.
7. Define action thresholds that trigger Departmental review, and specify the consequence of exceeding them.

The additional cost of settlement monitoring is modest, the protocol is established, and the expertise is already engaged on this project. The alternative is a monitoring program that would return a null result irrespective of what occurred, in a fishery landing approximately 13 million pounds a year.

Supplemental Appendices

Appendix I — Revised intake screening arithmetic

Using the minimum open area of 120 SF (11.15 m²) specified on the Corps file drawing, in place of the estimate at Appendix D of my earlier submission:

Configuration	Open area	Velocity at 28.7 MGD	Velocity at 6.5 MGD
As specified, 25 mm, single intake	11.15 m ²	0.113 m/s	—
As specified, 25 mm, both intakes	11.15 m ² each	0.056 m/s	—
0.5 mm in same frame, single intake	≈ 2.8 m ²	0.449 m/s	0.102 m/s
0.5 mm in same frame, both intakes	≈ 2.8 m ² each	0.225 m/s	0.051 m/s
Impingement benchmark	—	0.15 m/s	0.15 m/s

At 0.5 mm within the frame as specified, the maximum flow consistent with the 0.15 m/s benchmark is approximately 9 to 10 MGD through a single intake, or approximately 19 to 20 MGD across two. The proposed 28.7 MGD exceeds that on either configuration. The 6.5 MGD process flow falls below it on either configuration.

The gross screen area implied by a specified open area of 11.15 m² at 25 mm woven wire is approximately 12.8 m², assuming an open area ratio near 87 percent. Converting the same gross area to 0.5 mm wedge wire at an open area ratio near 22 percent gives approximately 2.8 m². Open area ratios are typical manufacturer values for the respective products and are not stated on either drawing. The conclusion in Comment 5 is unchanged; only the basis of the calculation has moved from a scaled dimension to a specified minimum.

Appendix J — Lobster life history and monitoring design

The following summarizes why the proposed methods do not intersect the life stages at which an entrainment effect would occur or be detectable.

Life stage	Location in water column	Sampled by proposed methods?
Ovigerous female	benthic, cobble and ledge	No
Stage I–III larvae	upper water column	Not at 12 m tow depth
Stage IV postlarva	neuston, surface layer	No
Settlement, young-of-year	beneath cobble, approx. 5–10 m	No
Juvenile, shelter-restricted	cobble	No
Recruitment to fishery	5–8 years post-settlement	After monitoring ends

The proposed methods sample the 12 m depth stratum for finfish eggs and larvae, and the benthic community within 75 m of the construction area for infauna and epifauna. Neither intersects any row of the table above.

Timing is stated in general terms because larval release and settlement in eastern Maine vary between years with water temperature, and are later than in the western Gulf of Maine. The monitoring design should be tied to observed conditions rather than to fixed calendar dates.

Sources for this supplement

- U.S. Army Corps of Engineers, response to Freedom of Information Act request 25-318, 116 pages, comprising the permit file for NAE-2020-1651.
- Ichthyoplankton Study — Chandler Bay — Draft Plan, Kingfish Maine, Permit Number NAE-2020-1651, addressing Condition 20 (FOIA release, pages 33–38).
- Benthic Ecosystem Monitoring Proposal, prepared for Kingfish Maine by Elisabeth A. Maxwell, School of Marine Sciences, University of Maine, reviewed by Damian C. Brady, submitted 7 December 2022 (FOIA release, pages 1–7).
- Ramboll Americas Engineering Solutions, Inc., intake structure detail, printed 21 December 2021, marked PRELIMINARY — NOT FOR CONSTRUCTION (FOIA release, pages 22 and 62).
- Woodard & Curran, Sheet C-300, Intake and Discharge Pipe Details, CAD file dated 28 July 2020, marked NOT FOR CONSTRUCTION (renewal application, Attachment 8).
- National Marine Fisheries Service, Greater Atlantic Regional Fisheries Office, Essential Fish Habitat consultation letter (FOIA release, pages 24–32).
- Department of the Army Permit NAE-2020-1651, general and special conditions (FOIA release, pages 54–58).
- American Lobster Settlement Index, University of Maine, annual settlement survey protocol and time series.
- Maine Department of Marine Resources, commercial landings by port, Jonesport and Beals, 2021–2025.
- 38 M.R.S. § 464(4)(F)(1)(d) and § 464(4)(F)(1-A)(b).

I remain willing to provide the underlying working for any calculation in this supplement, and I reserve the right to supplement further as the Netherlands Open Government Act material and the final Noord-Beveland permit text become available.

Respectfully submitted,

Holly Faubel