James Loring

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Laurie Niewolny
Washington Department of Ecology
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Re: Public Comment on Proposed NPDES General Permit for Upland Finfish Hatching and Rearing Facilities

16 May 2026

Dear Ms. Niewolny -

I appreciate the opportunity to submit comments regarding the proposed National Pollutant Discharge Elimination System (NPDES) General Permit for Upland Finfish Hatching and Rearing Facilities and the accompanying Fact Sheet. I am generally supportive of responsible aquaculture and hatchery operations in Washington State; however, I believe the proposed permit presents an important opportunity to strengthen transparency and oversight concerning the use of antibiotics and other veterinary pharmaceuticals within finfish aquaculture facilities.

The proposed reporting requirements concerning antibiotics and veterinary pharmaceuticals represent an important and necessary component of modern aquaculture oversight. Transparent reporting of antibiotic applications helps ensure that regulators, downstream communities, and the public have an accurate understanding of how fish health is managed within permitted facilities and whether pharmaceutical use may present potential risks to receiving waters. Current scientific literature increasingly recognizes that even low concentrations of antibiotics discharged into aquatic environments may contribute to the development of antibiotic-resistant bacteria and antimicrobial resistance genes. By requiring documentation and disclosure of antibiotic usage through the permit's reporting framework under Section S5.C, "Submittals: Reports and Plans," the proposed permit strengthens accountability and supports a precautionary approach to protecting water quality and aquatic ecosystem health.

The concern regarding antibiotic use in aquaculture is distinct from, but conceptually similar to, broader concerns involving persistent contaminants such as PCBs associated with commercial fish feed and aquaculture facilities in sensitive watersheds such as the Spokane River. While PCBs are principally associated with persistence and bioaccumulation in sediments and fish tissue, antibiotics raise concerns through ecological and microbiological pathways, particularly the potential promotion of antimicrobial resistance within aquatic systems. In both cases, however, the central issue is whether modern aquaculture permitting frameworks are adequately equipped to address emerging contaminants and biologically active substances beyond traditional wastewater parameters

alone.

The proposed reporting framework also aligns with evolving best management practices recognized within the aquaculture industry itself. The Global Salmon Initiative has emphasized that antibiotics should be used judiciously, under veterinary oversight, and accompanied by robust transparency measures and preventative fish-health strategies. Such approaches emphasize vaccination, biosecurity, husbandry improvements, and disease prevention practices intended to reduce reliance upon pharmaceutical intervention wherever possible. Requiring formal reporting of antibiotic use pursuant to Section S5.C, "Submittals: Reports and Plans," therefore supports not only environmental protection and informed regulatory oversight, but also broader public confidence that aquaculture operations are being conducted in a scientifically informed and sustainable manner.

Thank you for the opportunity to provide comment on the proposed permit. I would urge the both Ecology and WDFW to maintain and strengthen clear reporting requirements concerning antibiotic and veterinary pharmaceutical use as part of the final permit framework.

Regards,

Jim (jrljrl)

James R. Loring

References:

Aquaculture Magazine. "Antibiotics, Antibiotic-Resistant Bacteria, and Resistance Genes in Aquaculture: Risks, Current Concern, and Future Thinking." June 15, 2022. Aquaculture Magazine article.

Global Salmon Initiative. "Ensuring Optimal Salmon Health and Welfare through Best Antibiotic Practices." Accessed May 16, 2026. Global Salmon Initiative guidance.

Washington State Department of Ecology. Proposed National Pollutant Discharge Elimination System (NPDES) General Permit for Upland Finfish Hatching and Rearing Facilities and accompanying Fact Sheet. Olympia, WA: Washington State Department of Ecology, proposed 2026.