

From: Lincoln Loehr

To: Jeremy Reiman, Dept. of Ecology.

William Weaver, Dept. of Ecology

Date: August 25, 2025

Subj: Comments on Nutrient Reduction Plan and Nutrient General Permit

Ecology has not adequately evaluated the beneficial side to nutrients. Primary productivity supports the food web.

Ecology presents a simple food web that only includes primary productivity by phytoplankton. The Salish Sea Model only considers primary productivity. The foodweb as modeled may have been valid a billion years ago, before zooplankton. Its inadequacy today leads to a blindspot in the analysis of nutrients.

The nutrient reduction program is seeking to reduce primary productivity. Where in all this process do the effects up the food chain get realistically considered? The SEPA process pertains. Ecology prepared a SEPA checklist for the first Nutrient General Permit and based on the answers they provided, Ecology determined on June 10, 2021 that the Nutrient General Permit will not have a probable significant adverse impact on the environment and that an Environmental Impact Statement (EIS) is not required.

One question in the SEPA checklist is most important to the biota. Ecology's answer to that single question in the SEPA checklist that was prepared along with the draft of the 2022 Nutrient General Permit illustrates the inadequacy of Ecology's environmental consideration of the entire Nutrient General Permit and the Nutrient Reduction Plan.

On page 15, Paragraph D.2. The checklist asks,

“How would the proposal be likely to affect plants, animals, fish, or marine life?”

Ecology initially answered,

“This project will have a net positive to plants, animals, fish and marine life.”

There was no supporting information provided as to how this was determined. In the public comment period I asked how this question was evaluated in support of that answer. Nutrients can be beneficial. I gave some examples of how the marine biota responded to different nutrient availabilities off our coast. There was no response to that comment when the final permit came out.

I emailed the permit writer in May of 2022 and asked the question again and got a very brief non-reply. Sometime after my email exchange with the permit writer, Ecology made changes on the SEPA checklist laying out a string of possible bad things that nutrients can do while completely ignoring the potential beneficial effects from nutrients increasing the productivity up the foodweb. There was no new signing date on the checklist, and during the permit comment period this new answer to the question was not on the document that the public could review and comment on.

The email exchange and my observations about the later alteration to the SEPA checklist response are attached below.

Primary productivity is the base of the food web. Increases in primary productivity result in increases up the food web which are mostly good. Since the nutrient reduction program is focused on all of Puget Sound, then we need to evaluate the benefits of nutrient additions and the harm of nutrient additions throughout the Sound. I think such an analysis would show there is currently a net benefit to overall productivity from the existing nutrient additions and there would even be a net benefit from additional nutrient additions. If that is the case, then there would be a net harm from the Nutrient Reduction Plan reducing primary productivity.

Question re SEPA checklist5

Yahoo/Everett

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Lincoln Loehr <lclloehr@yahoo.com>

To: eleanor.ott@ecy.wa.gov

Sun, May 1 at 8:56 PM

Attached is a memo with a question as to how it was determined in the SEPA checklist for the nutrient general permit that there would be a net positive effect to plants animals, fish and marine life?

I had raised this question in the public comments for the permit but note that it was not responded to in the response to comments.

Lincoln Loehr

Memo

From: Lincoln Loehr
To: Eleanor Ott
Date: April 28, 2022
Subj: SEPA checklist for the Nutrient General Permit

On page 15, Paragraph D.2. The checklist asks,

“How would the proposal be likely to affect plants, animals, fish, or marine life?”

Ecology answered,

“This project will have a net positive to plants, animals, fish and marine life.”

How was this determined? I note that the question was not responded to in the response to comments for the permit.

Out of DO concerns, the permit seeks to reduce primary productivity. Primary productivity is the base of the food chain, so reductions would be expected up the food chain. Changes to primary productivity could affect plants, animals, fish and marine life in positive ways or negative ways, and sometimes both. There could be a net benefit or a net harm. When I commented on the SEPA checklist, I provided examples of changes in the biota off our coast associated with swings in nutrients. As the conditions vary, so do the winners and losers. It's complex.

The SEPA checklist question sounds so simple, but it actually requires a thoughtful analysis. Perhaps there is not a net positive to plants, animals, fish, and marine life. How was the analysis done? Perhaps an EIS should have been done.

Ott, Ellie (ECY) <ekey461@ecy.wa.gov>

To: Lincoln Loehr

Cc: Carroll-Perkins, Adrien (ECY)

Mon, May 2 at 9:19 AM

Hi Lincoln – thanks for reaching out. We fulfilled the non-project SEPA requirements for the general permit.

Best,
Eleanor

M. Eleanor Ott, P.E. (she/her)

Water Quality Program | Dept of Ecology

eleanor.ott@ecy.wa.gov | 360.280.5624 (c)

“This communication is public record and may be subject to disclosure as per the Washington State Public Records Act, RCW 42.56.”

The draft SEPA checklist was signed off on by the head of Ecology's Water Quality Program on June 19, 2021. The response to comments on the draft NGP concerning this section of the SEPA checklist said nothing in response to my comments and no change was made. However, sometime after the above exchange on the SEPA checklist and after May 2022, I went to the web site and looked up the response to the question and discovered that Ecology had changed their bland answer to the following:

How would the proposal be likely to affect plants, animals, fish, or marine life?

This project will have a net-positive to plants, animals, fish and marine life. The goal of the general permit is to reduce nutrient pollution from wastewater treatment plants in the Puget Sound. Excess nutrients cause too much algal growth, which ultimately depletes dissolved oxygen (DO) in the water. This algal growth occurs because nutrients are fertilizer for algae and aquatic plants. When these algae and plants die, their decomposition uses up oxygen. Many parts of Puget Sound and the Salish Sea have DO levels that fall below the concentrations needed for marine life to thrive. In addition to low levels of oxygen, effects of excess nutrients include:

- Increasing the acidity of the water.
 - Shifts in the food web.
 - Increases in harmful algal blooms and nuisance species like jellyfish.
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Reducing nutrient pollution will allow marine life to grow and thrive in the Puget Sound. These effects will be seen across all levels of the food web.

See pages 15 to 16 in

[file:///C:/Users/loehr/Downloads/Draft_SEPA_PSNGP%20\(1\).pdf](file:///C:/Users/loehr/Downloads/Draft_SEPA_PSNGP%20(1).pdf)

This change was without any notice and occurred about a year after the signature of the program manager. It presents a compilation of harmful things that can happen with productivity, DO and biota. However, it allows for no evaluation of the benefits to the food chain associated with increased primary productivity. There will be beneficial increases up the food chain, to zooplankton, forage fish, larger fish including salmon, birds, and marine mammals. Perhaps the benefits outweigh the risks. Ecology can't assert a net-positive from decreasing primary productivity without evaluating the food web benefits.

On March 27, 2025, Ecology had a three-hour meeting of the Nutrient Forum to present results of the latest Salish Sea Model runs to help determine what nutrient reductions were needed to meet our DO criteria. The team of modelers at DOE had been on this project for more than 10 years. I asked whether the model could identify the effect of the primary production from the added nutrients on the food chain, or was it limited only to the effects of the nutrients on phytoplankton and dissolved oxygen. The answer was that the Salish Sea Model was a primary productivity only model. This is like modeling conditions from a billion years ago when phytoplankton first existed and were the peak of the foodchain. Hence, the

model is incapable of providing information that should be of critical importance to decision makers.

I believe the declaration of non-significance by Ecology is not supported by the record. Reducing primary productivity will reduce productivity up the food web, and that loss will be harmful, not beneficial. I ask that an Environmental Impact Statement (EIS) be prepared.
