BILL REQUEST - CODE REVISER'S OFFICE

BILL REQ. #: H-3800.1/16

ATTY/TYPIST: ML:amh

BRIEF DESCRIPTION: Establishing a water discharge permit for concentrated animal feeding operations that is issued under the sole authority of state law.
AN ACT Relating to establishing a water discharge permit for concentrated animal feeding operations that is issued under the sole authority of state law; amending RCW 90.48.260, 90.64.030, and 90.64.120; adding new sections to chapter 90.48 RCW; creating a new section; and providing an expiration date.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

NEW SECTION. Sec. 1. A new section is added to chapter 90.48 RCW to read as follows:

(1)(a) The department, in consultation with the department of agriculture, must establish a general permit issued under the sole authority of this chapter that is available to concentrated animal feeding operations that discharge exclusively to groundwater.

(b) A concentrated animal feeding operation that discharges to groundwater but that does not discharge to surface waters must obtain coverage under either:

(i) The permit established under this section; or

(ii) Any combined permit issued under both the authority of this chapter and the authority of the federal clean water act, 33 U.S.C. Sec. 1251 et seq.

(2) A concentrated animal feeding operation that stores manure, stores manure effluent, or that applies manure nutrients to land must...
be eligible to apply for coverage under the permit established pursuant to this section.

(3)(a) The department shall issue the permit required under this section in consultation with the department of agriculture. The department shall administer the permit jointly with the department of agriculture.

(b) The department and the department of agriculture must rely on the processes and procedures adopted pursuant to section 2 of this act in administering the permits established under this section.

NEW SECTION. Sec. 2. A new section is added to chapter 90.48 RCW to read as follows:

(1) The department and the department of agriculture shall operate the permit program identified in section 1 of this act via a memorandum of agreement regarding the administration of permits and enforcement of permit conditions issued under section 1 of this act.

(2) The permit administration procedures adopted pursuant to this section must:

(a) Establish protocols that identify manure lagoons and effluent storage systems that are a significant risk to groundwater resources; and

(b) Identify and facilitate the use of federal and state cost-share programs to support the improvements to manure lagoons and effluent storage systems identified in (a) of this subsection.

(3) The department of agriculture has primary responsibility for inspections of concentrated animal feeding operations covered by a permit issued pursuant to this section.

(4) For purposes of this section and section 1 of this act, "concentrated animal feeding operations" has the same meaning as the term is defined in 40 C.F.R. Sec. 122.23, as of the effective date of this section.

Sec. 3. RCW 90.48.260 and 2012 1st sp.s. c 1 s 313 are each amended to read as follows:

(1) The department of ecology is hereby designated as the state water pollution control agency for all purposes of the federal clean water act as it exists on February 4, 1987, and is hereby authorized to participate fully in the programs of the act as well as to take all action necessary to secure to the state the benefits and to meet the requirements of that act. With regard to the national estuary
program established by section 320 of that act, the department shall
exercise its responsibility jointly with the Puget Sound partnership,
created in RCW 90.71.210. The department of ecology may delegate its
authority under this chapter, including its national pollutant
discharge elimination permit system authority and duties regarding
animal feeding operations and concentrated animal feeding operations,
to the department of agriculture through a memorandum of
understanding. Until any such delegation receives federal approval,
the department of agriculture's adoption or issuance of animal
feeding operation and concentrated animal feeding operation rules,
permits, programs, and directives pertaining to water quality shall
be accomplished after reaching agreement with the director of the
department of ecology or shall be consistent with the requirements of
sections 1 and 2 of this act with respect to the administration of
the state water discharge permit made available to concentrated
animal feeding operations. Adoption or issuance and implementation
shall be accomplished so that compliance with such animal feeding
operation and concentrated animal feeding operation rules, permits,
programs, and directives will achieve compliance with all federal and
state water pollution control laws. The powers granted herein
include, among others, and notwithstanding any other provisions of
this chapter or otherwise, the following:

(a) Complete authority to establish and administer a
comprehensive state point source waste discharge or pollution
discharge elimination permit program which will enable the department
to qualify for full participation in any national waste discharge or
pollution discharge elimination permit system and will allow the
department to be the sole agency issuing permits required by such
national system operating in the state of Washington subject to the
provisions of RCW 90.48.262(2). Program elements authorized herein
may include, but are not limited to: (i) Effluent treatment and
limitation requirements together with timing requirements related
thereto; (ii) applicable receiving water quality standards
requirements; (iii) requirements of standards of performance for new
sources; (iv) pretreatment requirements; (v) termination and
modification of permits for cause; (vi) requirements for public
notices and opportunities for public hearings; (vii) appropriate
relationships with the secretary of the army in the administration of
his or her responsibilities which relate to anchorage and navigation,
with the administrator of the environmental protection agency in the
performance of his or her duties, and with other governmental officials under the federal clean water act; (viii) requirements for inspection, monitoring, entry, and reporting; (ix) enforcement of the program through penalties, emergency powers, and criminal sanctions; (x) a continuing planning process; and (xi) user charges.

(b) The power to establish and administer state programs in a manner which will ensure the procurement of moneys, whether in the form of grants, loans, or otherwise; to assist in the construction, operation, and maintenance of various water pollution control facilities and works; and the administering of various state water pollution control management, regulatory, and enforcement programs.

(c) The power to develop and implement appropriate programs pertaining to continuing planning processes, area-wide waste treatment management plans, and basin planning.

(2) The governor shall have authority to perform those actions required of him or her by the federal clean water act.

(3) By July 31, 2012, the department shall:

(a) Reissue without modification and for a term of one year any national pollutant discharge elimination system municipal storm water general permit applicable to western Washington municipalities first issued on January 17, 2007; and

(b) Issue an updated national pollutant discharge elimination system municipal storm water general permit applicable to western Washington municipalities for any permit first issued on January 17, 2007. An updated permit issued under this subsection shall become effective beginning August 1, 2013.

(i) Provisions of the updated permit issued under (b) of this subsection relating to new requirements for low-impact development and review and revision of local development codes, rules, standards, or other enforceable documents to incorporate low-impact development principles must be implemented simultaneously. These requirements may go into effect no earlier than December 31, 2016, or the time of the scheduled update under RCW 36.70A.130(5), as existing on July 10, 2012, whichever is later.

(ii) Provisions of the updated permit issued under (b) of this subsection related to increased catch basin inspection and illicit discharge detection frequencies and application of new storm water controls to projects smaller than one acre may go into effect no earlier than December 31, 2016, or the time of the scheduled update...
under RCW 36.70A.130(5), as existing on July 10, 2012, whichever is later.

(4) By July 31, 2012, the department shall:

(a) Reissue without modification and for a term of two years any national pollutant discharge elimination system municipal storm water general permit applicable to eastern Washington municipalities first issued on January 17, 2007; and

(b) Issue an updated national pollutant discharge elimination system municipal storm water general permit for any permit first issued on January 17, 2007, applicable to eastern Washington municipalities. An updated permit issued under this subsection becomes effective August 1, 2014.

Sec. 4. RCW 90.64.030 and 2011 c 103 s 3 are each amended to read as follows:

(1) Under the inspection program established in RCW 90.64.023, the department may investigate a dairy farm to determine whether the operation is discharging pollutants or has a record of discharging pollutants into surface or ground waters of the state. Upon concluding an investigation, the department shall make a written report of its findings, including the results of any water quality measurements, photographs, or other pertinent information, and provide a copy of the report to the dairy producer within twenty days of the investigation.

(2) The department shall investigate a written complaint filed with the department within three working days and shall make a written report of its findings including the results of any water quality measurements, photographs, or other pertinent information. Within twenty days of receiving a written complaint, a copy of the findings shall be provided to the dairy producer subject to the complaint, and to the complainant if the person gave his or her name and address to the department at the time the complaint was filed.

(3) The department may consider past complaints against the same dairy farm from the same person and the results of its previous inspections, and has the discretion to decide whether to conduct an inspection if:

(a) The same or a similar complaint or complaints have been filed against the same dairy farm within the immediately preceding six-month period; and
The department made a determination that the activity that was the subject of the prior complaint was not a violation.

If the decision of the department is not to conduct an inspection, it shall document the decision and the reasons for the decision within twenty days. The department shall provide the decision to the complainant if the name and address were provided to the department, and to the dairy producer subject to the complaint, and the department shall place the decision in the department's administrative records.

The report of findings of any inspection conducted as the result of either an oral or a written complaint shall be placed in the department's administrative records. Only findings of violations shall be entered into the database identified in RCW 90.64.130.

A dairy farm that is determined to be in violation of the terms or conditions of a state water quality permit, or of an individual or general national pollution discharge elimination system permit, or a significant contributor of pollution based on actual water quality tests, photographs, or other pertinent information is subject to the provisions of this chapter and to the enforcement provisions of chapters 43.05 and 90.48 RCW, including civil penalties levied under RCW 90.48.144.

If the department determines that an unresolved water quality problem from a dairy farm requires immediate corrective action, the department shall notify the producer and the district in which the problem is located. When corrective actions are required to address such unresolved water quality problems, the department shall provide copies of all final dairy farm inspection reports and documentation of all formal regulatory and enforcement actions taken by the department against that particular dairy farm to the local conservation district and to the appropriate dairy farm within twenty days.

For a violation of water quality laws that is a first offense for a dairy producer, the penalty may be waived to allow the producer to come into compliance with water quality laws. The department shall record all legitimate violations and subsequent enforcement actions.

A discharge, including a storm water discharge, to surface waters of the state shall not be considered a violation of this chapter, chapter 90.48 RCW, or chapter 173-201A WAC, and shall therefore not be enforceable by the department of ecology or a third party, if at the time of the discharge, a violation is not occurring.
under RCW 90.64.010 (17). In addition, a dairy producer shall not be held liable for violations of this chapter, chapter 90.48 RCW, chapter 173-201A WAC, or the federal clean water act due to the discharge of dairy nutrients to waters of the state resulting from spreading these materials on lands other than where the nutrients were generated, when the nutrients are spread by persons other than the dairy producer or the dairy producer's agent.

(10) As provided under RCW 7.48.305, agricultural activities associated with the management of dairy nutrients are presumed to be reasonable and shall not be found to constitute a nuisance unless the activity has a substantial adverse effect on public health and safety.

(11) This section specifically acknowledges that if a holder of a general or individual national pollutant discharge elimination system permit complies with the permit and the dairy nutrient management plan conditions for appropriate land application practices, the permit provides compliance with the federal clean water act and acts as a shield against citizen or agency enforcement for any additions of pollutants to waters of the state or of the United States as authorized by the permit.

(12) A dairy producer who fails to have an approved dairy nutrient management plan by July 1, 2002, or a certified dairy nutrient management plan by December 31, 2003, and for which no appeals have been filed with the pollution control hearings board, is in violation of this chapter. Each month beyond these deadlines that a dairy producer is out of compliance with the requirement for either plan approval or plan certification shall be considered separate violations of this chapter (90.64 RCW) that may be subject to penalties. Such penalties may not exceed one hundred dollars per month for each violation up to a combined total of five thousand dollars. The department has discretion in imposing penalties for failure to meet deadlines for plan approval or plan certification if the failure to comply is due to lack of state funding for implementation of the program. Failure to register as required in RCW 90.64.017 shall subject a dairy producer to a maximum penalty of one hundred dollars. Penalties shall be levied by the department.

Sec. 5. RCW 90.64.120 and 2003 c 325 s 4 are each amended to read as follows:
(1) Nothing in this chapter shall affect the department of ecology's authority or responsibility to administer or enforce the national pollutant discharge elimination system permits for operators of concentrated dairy animal feeding operations, where required by federal regulations or to administer the provisions of chapter 90.48 RCW.

(2) The department of agriculture may take enforcement action as provided in this chapter against a dairy found to be in violation of the terms or conditions of a state water quality permit issued under chapter 90.48 RCW.

(3) Unless the department of ecology delegates its authority under chapter 90.48 RCW to the department of agriculture pursuant to RCW 90.48.260, and until any such delegation of authority receives federal approval, the transfer specified in RCW 90.64.901 shall not preclude the department of ecology from taking action related to animal feeding operations or concentrated animal feeding operations to protect water quality pursuant to its authority in chapter 90.48 RCW. Before taking such actions, the department of ecology shall notify the department of agriculture.

NEW SECTION. Sec. 6. A new section is added to chapter 90.48 RCW to read as follows:

(1) By November 1, 2018, the department and the department of agriculture shall submit a report to the appropriate policy and fiscal committees of the legislature on the progress of the implementation of the permit established pursuant to sections 1 and 2 of this act. This report must include recommendations for the establishment or improvement of programs that allow for shared costs of manure lagoon or effluent storage system improvements that are required of concentrated animal feeding organizations under sections 1 and 2 of this act.

(2) This section expires June 30, 2020.

NEW SECTION. Sec. 7. This act may be known and cited as the dairy farm and water resource sustainability act.

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June 1, 2016

Maia Bellon
Director
Washington State Department of Ecology
300 Desmond Drive
Lacey, WA 98503

Dear Director Bellon,

We write to urge you to continue moving toward adoption of a comprehensive NPDES clean water act permit that would cover all medium and large Confined Animal Feeding Operations (CAFOs) in Washington State. We believe that this approach is necessary to protect surface waters and aquifers which are used for drinking water, while also ensuring a strong agricultural economy by providing clear guidance and limiting those few bad actors who undermine clean water resources in our state.

As you know, legislation was proposed during the 2016 legislative session (HB 2840 and SB 6568) which would have directed the Department to adopt a state discharge permit as an alternative to the NPDES CAFO permit. Tribes, conservation groups, and community groups raised serious concerns regarding both the transparency and the enforceability of a state discharge permit. We agree with these concerns. The bills failed to pass in both chambers, and we oppose any steps by the Department to move forward with a state-only discharge permit without explicit direction from the Legislature to do so.

We urge the Department to continue on its path to adopt an NPDES CAFO General Permit that governs both medium and large dairies in this state. This approach will allow: 1) Transparency, so the public can see relevant permit related data; and 2) Accountability, so that local communities have another option to protect their drinking water if the state is unable to enforce permit conditions. A state discharge permit would not meet these objectives.

Thank you for your consideration of our concerns and for all your work on behalf of the citizens of Washington State.
Good Afternoon

Today WSDA issued two penalties to dairy producers in the Sumas watershed in Whatcom County. This watershed drains to the North and Canada Not Portage Bay or Lummi shellfish beds. Both producers have been contacted by our program but the mail will not likely arrive until Saturday. WSDA will issue a press release early next week.

**VandeWaal – NOP 16-9002 - $4000 weather related discharge from land application**

The application of dairy nutrients on March 22 and 23, 2016 was made despite weather forecasts calling for significant rainfall. The discharge that was identified by DNMP on March 23, 2016 continued to have impacts to waters of the state through March 31, 2016.

**History** April 4, 2009: Notice of Correction for field application discharge to waters of the state due to manure nutrient application made prior to a significant rain event.

**Olsen – NOP 16-9001 - $4000 weather related discharge from equipment maintenance issue**

The lack of following standard practices allowed the valve directing manure to the underground field line and into the field to remain open. Manure pooled in the field and the precipitation contributed to manure runoff entering the Clearbrook Road ditch system. The samples collected from the Clearbrook Road ditch on March 23, 24, and 28, 2016, exceeded the state water quality standard for fecal coliform bacteria at the point of discharge and downstream. By March 31, 2016, there was no further observed discharge.

**History** February 12, 2013: Warning Letter for a blown valve on
the upright manure storage tank.

If you have questions give me a call. I will be in Whatcom County Tomorrow and on my cell phone tomorrow.

Virginia “Ginny” Prest
Dairy Nutrient Management Program
Washington Department of Agriculture
PO Box 42560  Olympia, Wa 98504-2560
Office 360.902.2894  Cell 360.529.7422
VPrest@agr.wa.gov
http://agr.wa.gov/FoodAnimal/Livestock-Nutrient/
Boy no kidding

Thanks

Got ya. I understand its all in the “air”

Ralph

Ralph
I am sharing with this email BUT I want to advise – we have not gotten the money yet so please do be cautious when sharing this information.

Ginny

Sounds good. Would you mind if I (or you) share that with Jim Trull. He is asking us to revise the BMP list for the GWMA. It might be good for him to know the general direction the Dept. of Ag wants to take. It help coordinate their activities with theirs.

Ralph
Ralph

Below is my official answer I have been handing out. Lots of thoughts about how and what I should be doing. Course we have ideas as well and that is what help me put together the budget and proposal.

I can give you an idea of DNMP's plans are if we successfully receive the two year funding for additional activities in counties that are impacted by poor water quality. The funding will be used to fund:
- additional inspector for two years in the Puget Sound Region
- agronomic expertise in Eastern WA Region
- And training for farmers in subjects like:
  - nutrient management training specific to right amount at right time in the right place (weather forecasts, recordkeeping)
  - irrigation water management and
  - other related subjects like feed management, on-farm composting, and others
- and based on most recent court case, how to operate and maintain a lagoon with poly liner

We will be contracting the training for individual segments with conservations districts, land grant, and other technical service providers but I plan to have several little pots contracted out versus one big pot.

I hope this helps. If you have questions, give me a call.

Virginia "Ginny" Prest, Program Manager
Dairy Nutrient Management Program
Washington State Department of Agriculture
Office (360) 902-2894
Cell (360) 529-7422
vprest@agr.wa.gov
http://agr.wa.gov/FoodAnimal/Livestock-Nutrient/

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From: Fisher, Ralph [mailto:fisher.ralph@epa.gov]
Sent: Wednesday, May 20, 2015 11:05 AM
To: Prest, Virginia (AGR); Peters, R Troy; Trull, Jim; (lc@sycd.us)
Subject: RE: GWAC - IAWG

So Ginny, if approved, how will funds be made available? Are they intended for cost sharing of individual practices or for educational meetings and training sessions? If they are available for individual practices do the practices have to be those listed in the NRCS FOTG, or can “component” practices be cost shared that do not fit within an existing NRCS practice?

Ralph

From: Prest, Virginia (AGR) [mailto:VPrest@agr.wa.gov]
Sent: Friday, May 08, 2015 11:19 AM
Cost Share for Irrigation Scheduling

Cost Share with Farmers for Irrigation Scheduling. This is a large money consumer. What level of cost share we should offer is going to be hotly debated. However as a starting point, most consultants charge from $12-$15/acre for doing irrigation scheduling (?). This runs from $1,000-$2,000 per field or site. The cost share would probably be something less than this. We should also come up with a protocol for what is required for pay-out. Ideally this would be some sort of evidence that the grower viewed and responded to the information throughout the season.

Training

One other thing that could be done that would provide a large benefit in return for low costs is for the GWAC to sponsor training events for irrigators. Growers could be trained in nutrient and water management. An estimated costs of these would be $3,000/event (?) mostly just to buy lunch for the attendees to encourage them to attend. They could be put on in conjunction with other grower meetings and the training could be done by the Benton County CD and/or WSU Agricultural Extension.

Make Soil Moisture Sensors Less Expensive

Soil moisture sensors could be provided to growers to use. This should be done on a cost-share basis instead of simply gifting the sensors so that the grower values the sensors and the information that they provide. Training is very important for the grower to know how to properly install the sensors, collect the data, and how to interpret the data to make good management decisions. Simple sensors can be purchased for about $250 for three depths and a reader, up to $2,000 for more sophisticated systems with telemetry and automatic reporting online.

ET-Based Irrigation Scheduling on Your Phone

There is a free irrigation scheduling app that runs on mobile phones http://weather.wsu.edu/ism. It automatically pulls weather data from the selected weather station and does ET-based irrigation scheduling. It synthesizes all of this information to tell the grower how much water to apply, or how long to run their irrigation system. It is freely available and in their pockets. ET-based irrigation scheduling has been shown to provide very similar benefits as soil moisture-based irrigation scheduling and is often more accurate. Additional education and outreach to show growers how to use this effectively needs to be done. Although this is a good idea and is headed in the right direction, additional work needs to be done to make it more intuitive and user friendly based on interviews with growers who are trying to use it.

Mobile Irrigation Lab

This consists of an employee that does irrigation system audits or evaluations throughout the valley. They will evaluate irrigation systems for efficiency and/or uniformity and give the grower
a report of their system operation and make suggestions for improvement. They will also provide training on nutrient management and irrigation scheduling options and techniques that are tailored to that operation or individual. This might be done on a cost-share basis for a small fee (to make it more valuable to the grower). It would be staffed by one trained individual who knows how to do the evaluations, and one temporary helper that would serve as an extra set of hands. They would need a pickup truck that contains the necessary hardware to do the evaluations. It would cost an estimated $35,000/year for the trained person, and $18,000/year for the helper. This assumes they work 8 months/year. The vehicle and fuel costs would be an estimated $6,500/year, and goods and services would be about $3,000/year. This comes to a total of an estimated $62,500/year.

From: Trull, Jim [mailto:trullj@svid.org]
Sent: Wednesday, May 06, 2015 11:34 AM
To: Peters, R Troy; (lc@sycd.us); Ginny Prest (VPrest@agr.wa.gov); Ralph Fisher (fisher.ralph@epamail.epa.gov)
Subject: GWAC - IAWG

Hi:

At various times I have had individual conversations with each of you on Irrigation Water Management and would like to develop some collective thoughts on a possible way to proceed. We are frustrated by wanting to solve problems while currently being tasked with developing a plan to solve problems. I am hopeful we can find a way to do both.

Last fall, Troy proposed a mobile lab which didn’t get funded because it was viewed as implementation rather than fact finding. At the last meeting and following Ralph suggested the need to be gathering data on Irrigation Water Management parallel with our efforts on Nutrient Management. Ginny mentioned to me a possible source of finding for Irrigation Water Management which we should explore.

I want to have a Workgroup Meeting to work on BMPs (See earlier email of that issue) and on Irrigation Water Management. It won’t be productive to start at ground zero at a meeting. I would like to have some basic proposals which we can refine at the meeting. I plan to schedule a meeting for some time in the next two to three weeks so could you send me your thoughts about BMPs and IWM by Monday May 18th?

I hate to burden you with extra work but you are the experts – if anyone will figure it out, it will have to be you folks!

Thanks! Jim
October 9, 2014

Honorable Governor Jay
Office of the Governor
PO Box 40002
Olympia, WA 98504-4002

Portage Bay Tribal Shellfish Beds Closure Response – Support Needed

Dear Governor Inslee:

The current closure, which affects approximately 200 tribal families and our nearly 5,000 Lummi members that rely on these shellfish beds for ceremonial, subsistence, and commercial harvest purposes, is reminiscent of the Portage Bay shellfish closure during the period from 1996 to 2006. The elevated fecal coliform levels are attributed to manure and land management practices in the Nooksack River watershed, which discharges to Portage Bay.

On September 10, 2014 your Department of Ecology Director (Maia Bellon) hosted a meeting at the request of our Natural Resources Department Director (Merle Jefferson) and his key staff where they were joined by her key water quality staff, EPA Region 10 Administrator Dennis McLerran and his key staff, Rob Duff and Julie Horowitz from your office, and representatives from the Washington Department of Health and the Washington Department of Agriculture.

The meeting participants agreed that the problem is the same as at the Portage Bay closure. Both the Lummi and the Nooksack peoples are facing the closure of traditional shellfish beds. Both river basins were able to address the problems, and both tribes are in need of your assistance in solving the current problems. The meeting was well-attended by Lummi and Nooksack representatives, and all parties agreed that we must work cooperatively to address this issue.

Sincerely,

[Signature]
permitted. The provision could be modeled on the existing pesticide applicator license program administered by the Department of Agriculture and a similar manure applicator licensing program instituted in Maryland.

Please do not hesitate to contact me if you have any questions regarding our request or if you need the Lummi Nation to take additional steps to support this effort to protect all shellfish growers and shellfish harvesters throughout Puget Sound and prevent the degradation of our shared water resources.

Sincerely,

[Signature]

cc: Elden Hillaire, Lummi Fisheries and Natural Resources Commissioner
Merle Jefferson, Lummi Natural Resources Department Director
Mala Bellon, Director, Washington Department of Ecology
Don Hower, Washington Department of Agriculture Director
Maryanne Gilchrist, Assistant Secretary of Environmental Public
Dennis McLellan, Region 10 Administrator, EPA
Senator Doug Ericksen
Representative Vincent Buys
Senator Kevin Ranker
Representative Kristine Lytton
Representative Frank Chopp
Bill Dewey, Taylor Shellfish
Jay Gordon, Washington Dairy Federation
George Boggs, Whatcom Conservation District
Henry Bierlink, Agricultural Preservation Committee
May 12, 2014

Mark Clark

Dear Mr. Clark:

We wish to thank the Washington State Conservation Commission (WCC) for organizing the May 2, 2014, “Managing Dairy Nutrients for Stewardship” symposium, and for including Ecology groundwater scientists on the steering committee and as presenters.

The purpose of the symposium was to 1) learn about the latest research on the effects of winter manure application on groundwater and surface water quality, 2) identify areas of scientific agreement and disagreement on this research, and 3) develop next steps.

In our opinion, a full and meaningful discussion of ongoing areas of scientific disagreement on the water quality consequences of winter manure application did not occur at the symposium. We think it is important to clarify that we did not see technical evidence presented at the symposium that winter manure application can be conducted in a manner that is protective of Information presented during the symposium, in fact, indicated that there can be significant negative impacts to groundwater quality in the late winter, even on fields where winter manure application has not occurred. Several of the presenters presented strong evidence that nitrate mineralization and nitrate losses to groundwater do occur during wintertime, even under low temperature conditions. Other studies presented at the meeting either did not involve a
groundwater component, or included data that has not been peer reviewed by the larger scientific community.

We believe that a more detailed and focused discussion and analysis of the available data is needed before a common understanding of the complex dynamics and implications of applying dairy manure to the land surface in the wintertime. We look forward to a continued scientific dialogue with the WCC and other stakeholders on this important topic.

Sincerely,

[Signature]

Environmental Assessment Program/Groundwater Unit

Cc: (via email pdf)
Shabtai Bittman, Agriculture & Agri-Food Canada
Laura Blackmore, Cascadia Consulting
Tom Eaton, EPA-Washington Operations Office
Nichole Emberton, Whatcom Conservation District
Melissa Gildersleeve, Ecology Water Quality Program
Jay Gordon, Washington Dairy Federation
Bonda Habets, NRCS
Joe Harrison, Washington State University
Thomas Harter, University of California-Davis
Karla Heinitz, Washington State Conservation Commission
Will Kendra, Washington State Department of Ecology, Environmental Assessment Program
Nature Rolls in the Rain, NRCS
May 9, 2014

Mr. Astor Boozer
Natural Resources Conservation Service
14th and Independence Avenue SW
Room 5204-S
Washington, DC 20250

RE: Update of Field Office Technical Guide (FOTG) 590 for Nutrient Management

Dear Mr. Boozer:

I am writing to express my disappointment with the National Resources Conservation Service’s (NRCS’s) process to update the Washington State Nutrient Management Standard (590). As you are aware, the Washington State Department of Ecology (Ecology) is the water quality authority for Washington State. Ecology administers the state’s Water Pollution Control Act, and is delegated by the U.S. Environmental Protection Agency (EPA) as the state water pollution control agency responsible for implementing all federal water pollution control laws and regulations. We are also one of the agencies responsible for addressing nitrate groundwater pollution issues in our state and ensuring that bacteria water pollution is addressed. Our work with NRCS to update the 590 standard has been a priority.

As you know, the nationally issued FOTG 590 requires NRCS to obtain concurrence from the state water quality authority for certain aspects of the practice. At your agency’s request, we assigned a senior staff person who worked with Washington State NRCS staff for over two years to construct a 590 practice with which Ecology could concur. This practice was finalized and posted on the NRCS web site. However, the practice was withdrawn by NRCS, and Ecology was told that the national NRCS office had decided not to accept the winter manure application section of Washington’s new 590 practice.

Ecology has not been informed of the specific reasons why Washington’s new 590 practice was not accepted by national NRCS. We have also not been given any explanation of what was “misinterpreted” by state NRCS. Finally, we have heard nothing from NRCS about what alternative process is being proposed to move forward with producing a revised 590 practice for Washington. We continue to be concerned about winter manure application.

This leaves my agency in an awkward position. We were excited to be able to work closely with NRCS to produce a revised 590 practice designed to better protect water quality in Washington. We were also gratified that NRCS, at a national level, recognized the importance of including
state water quality agencies in the revision of the 590 practice, and required state concurrence for specific parts of the practice. We spent more than two years building relationships with NRCS staff, working to understand NRCS perspectives, and negotiating with NRCS to produce a 590 practice that met the needs of both of our agencies.

Ecology's participation is vital to the production of a revised 590 practice for Washington. We also believe that the requirement for state water quality agency concurrence gives us a very specific role in the process. However, I am not inclined to spend another two years of work only to have our collective product dismissed with little to no explanation. Before NRCS begins any alternative process for production of a revised 590 practice, I request the following:

- A detailed explanation for rejecting the 590 practice previously negotiated.
- An explanation of how NRCS interprets the requirement for state agency concurrence.
- A commitment that NRCS will work with us in good faith to produce a revised 590 practice for Washington (i.e. we would like to meet with NRCS staff to discuss what alternative process will be used and how NRCS intends to work with Ecology and others to produce a revised 590 practice with which Ecology can concur).
- An explanation of what will happen if concurrence is not achieved.

Thank you in advance for your attention to this issue. We look forward to your response. My goal is to forge a good working relationship on this issue. If you have further questions please feel free to contact Kelly Suswind, my special assistant, at (360)-407-6829 or kelly.suswind@ecy.wa.gov.

Sincerely,

[Signature]

Maia D. Bellon
Director

cc:  Roylene Rides at the Door, NRCS
     Bonda Habers, NRCS
     Tracy Hanger, NRCS
     Emile Holt, NRCS
     Tom Flan, EPA
     Dennis McLellan, EPA
     Wayne Honeycutt, USDA
SEPA Distribution List
SEP2016-00047
Date of Issuance: June 21, 2016

Please review this determination. If you have further comments, questions or would
like a copy of the SEPA checklist, phone the responsible official at (360) 778-5900.
Please submit your response by the comment date noted on the attached notice of
determination.

WA State Department of Archaeology and Historic Preservation via email
Gretchen Kaehler, gretchen.kaehler@dahp.wa.gov

SEPA Unit, WA State Department of Ecology, Olympia via email
sepaunit@ecy.wa.gov

WA State Department of Fish and Wildlife via email
Joel Ingram, joel.ingram@dfw.wa.gov

WA State Department of Natural Resources via email
Rochelle Goss, sepacenter@dnr.wa.gov

Lummi Nation Natural Resources
Merle Jefferson, Sr. via email - merlej@lummi-nsn.gov
Tamela Smart - tamelas@lummi-nsn.gov

Nooksack Indian Tribe
George Swanaset, JR via email - george.swanasetjr@nooksack-nsn.gov
Trevor Delgado via email - tdelgado@nooksack-nsn.gov

Terry J. Wechsler via email wechslerlaw@comcast.net

Applicant
Blok Evergreen Dairy
SEPA Determination of Nonsignificance (DNS)

File: SEP2016-00047

Project Description: A proposed 24 foot tall manure storage tank with a diameter of 151 feet.

Proponent: Blok Evergreen Dairy

Address and Parcel #: 7768 Bebee Road APN #: 400331324331

Lead Agency: Whatcom County Planning & Development Services

Zoning: AG Comp Plan: AG Shoreline Jurisdiction: N/A

The lead agency for this proposal has determined that with proper mitigation, no significant adverse environmental impacts are likely. Pursuant to RCW 43.21C.030(2)(c), an environmental impact statement (EIS) is not required. This decision was made following review of a completed SEPA environmental checklist and other information on file with the lead agency. This information is available to the public on request.

p.m. on July 5, 2016 and should be sent to: Charles Sullivan, csullivan@whatcomcounty.us

Responsible Official: Mark Personius, mpersoni@whatcomcounty.us

Title: Assistant Director

Telephone: 360-778-5900

Address: 5280 Northwest Drive
Bellingham, WA 98226

Date of Issuance: June 21, 2016

An aggrieved agency or person may appeal this determination to the Whatcom County Hearing Examiner. Application for appeal must be filed on a form provided by and submitted to the Whatcom County Current Planning Division located at 5280 Northwest Drive, Bellingham, WA 98226, during the ten days following the comment period, concluding July 19, 2016.

You should be prepared to make a specific factual objection. Contact Whatcom County Current Planning Division for information about the procedures for SEPA appeals.
SEPA Determination of Nonsignificance (DNS)
Legal Notice

To be published one time only on: June 21, 2016

CHARGE TO: Whatcom County Planning & Development Services
5280 Northwest Drive
Bellingham, Washington 98226
Acct #451232

WHATCOM COUNTY GIVES PUBLIC NOTICE THAT THE FOLLOWING SEPA
THRESHOLD DETERMINATION OF NON-SIGNIFICANCE (DNS) HAS BEEN
ISSUED TODAY SUBJECT TO THE 14 DAY COMMENT PERIOD
CONCLUIDING ON, July 5, 2016.

File: SEP2016-00047
Address and Parcel #: 7768 Bebee Road APN#: 400331324331
Lead Agency: Whatcom County Planning & Development Services
Zoning: AG Comp Plan: AG Shoreline Jurisdiction: N/A

Proponent: Block Evergreen Dairy
Address and Parcel #: 7768 Bebee Road APN#: 400331324331
Lead Agency: Whatcom County Planning & Development Services
Zoning: AG Comp Plan: AC Shoreline Jurisdiction: N/A

ANY PERSON OR AGENCY MAY APPEAL THE COUNTY’S COMPLIANCE WITH WAC
197-11 BY FILING AN APPEAL WITH THE WHATCOM COUNTY CURRENT PLANNING
DIVISION LOCATED AT 5280 NORTHWEST DRIVE, BELLINGHAM, WA 98226.
APPEALS MUST BE MADE WITHIN 10 DAYS AFTER THE END OF THE COMMENT
PERIOD.
Purpose of Checklist: SEPA Environmental Checklist

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for Applicants:

Only use "does not apply" when you can explain why it does not apply and not when the answer is "no.

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question in your own words and support your answers with only the information relevant to your situation.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Supplemental Sheet for Non-project Actions (Part C)

For non-project proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the . Please completely answer all questions that apply and note that the words “project”, “applicant” and “property or site” should be read as “proposal”, “proponent” and “affected geographic area”, respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements that do not contribute meaningfully to the analysis of the proposal.
A Background

1 Name of proposed project, if applicable: Blok Evergreen Dairy ✓
   Applicant phone number: 360-815-3169 (Ed Blok) ✓
   Applicant address: 7798 Beebe Road ✓
   City, State, Zip or Postal Code: Lynden, WA 98264 ✓

2 Name of applicant: Jerry Roosma ✓
   Contact phone number: 360-354-3374 815-4248 ✓
   Contact address: 141 Wood Creek Drive ✓
   City, State, Zip or Postal Code: Lynden, WA 98264 ✓

3 Date checklist prepared: 5-2-2016 ✓

4 Agency requesting checklist: NRD ✓

5 Proposed timing or schedule (including phasing, if applicable):
   June-Sept, 2016

6 Do you have any plans for future additions, expansion, or further activity related to this proposal? Yes [ ] No ✓
   If yes, explain.

List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal:

This project will be funded by NRCS

The project has been reviewed and approved in proposed phase by WCDP through CA 2016-0015
   Project area - C05 5/11/16

9 of other proposals directly affecting the property covered by your proposal? Yes [ ] No ✓
   If yes, explain.
10. proposal, if known approvals or permits that will be needed for your

NRCS

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

Manure tank for storing liquid manure
151' diameter x 24' height

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.
B Environmental Elements

1 Earth

a. General description of the site:
   - [ ] Flat
   - [ ] Rolling
   - [X] Hilly
   - [ ] Steep Slopes
   - [ ] Mountainous
   - [ ] Other

b. What is the steepest slope on the site (approximate percent slope)?
   - [X]

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them, and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

d. Are there surface indications or history of unstable soils in the immediate vicinity? Yes [ ] No [X]

   If so, describe.

 e. Describe the purpose, type, total area, approximate quantities and total affected area of any filling excavation or grading proposed.

   excavation and fill - 151' diameter 8" depth [X]

   Indicate source of fill.
   - [ ] Crushed rock

   Indicate where excavation material is going.
   - [X] On site
f. Could erosion occur as a result of clearing, construction, or use?  
   Yes ☐  No ☑  
   If so, generally describe.

   The measures are required through building permit. ☑ 5/1/16

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
   - ☑

2. Air
   none
   a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed?

b. Are there any off-site sources of emissions or odor that may affect your proposal?  Yes ☑  No ☐  
   If so, generally describe.  ☑

c. Proposed measures to reduce or control emissions or other impacts to air, if any:
   n/a  ☑
3. Water
   a. Surface

   (1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)?   Yes [✓]   No

   If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

   (2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters?   Yes [ ]   No [✓]

   If yes, please describe and attach available plans.

   (3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected.   none [✓]

   Yes [ ]   No [✓]

   Give general description, purpose, and approximate quantities if known.

   Does the proposal lie within a 100-year floodplain?
   Yes [ ]   No [✓]

   If so, note location on the site plan.
(5) Does the proposal involve any discharges of waste materials to surface waters?  
Yes ☐  No ☑  ☑

b. Ground Water:

(1) Will ground water be withdrawn from a well for drinking water or other purposes?  Yes ☐  No ☑

If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

(2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial; containing the following chemicals...; agricultural; etc.). Describe the general size of the system, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Cattle will be tested and special or nutrient management plan is required.  
Water runoff (stormwater):

(1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known).

none ☑
Where will this water flow?

Will this water flow into other waters? Yes ☐ No ✗

If so, describe.

(2) Could waste materials enter ground or surface waters? Yes ☐ No ✗

(3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? Yes ☐ No ✓

If so, describe.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

   None ☐ ✓

4 Plants

   a. Check types of vegetation found on the site:
      ☐ Deciduous tree: alder, maple, aspen, other
      ☐ Evergreen tree: fir, cedar, pine, other
      ☐ Shrubs
      ✓ Grass
      ✓ Pasture
      ✓ Crop or grain
      ☐ Orchards, vineyards or other permanent crops
      ☐ Wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
      ☐ Water plants: water lily, eelgrass, milfoil, other
      ☐ Other types of vegetation
b. What kind and amount of vegetation will be removed or altered?

- 15' diameter circle for foundation @ 5/11/16
- Spring Brook, Steelhead, and Bull Trout in Brookside River. @ 5/11/16

- none

\[ \checkmark \]

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

- none

\[ \checkmark \]

e. List all noxious weeds and invasive species known to be on or near the site.

- none

\[ \checkmark \]

5. Animals

Birds:
- Hawk
- Eagle
- Other

Mammals:
- Deer
- Elk
- Other

Fish:
- Bass
- Trout
- Shellfish

\[ \checkmark \]

\[ \checkmark \]

Other:
- Neotom, Songbirds;
- Bear, Beaver;
- Salmon, Herring, Other:

\[ \checkmark \]

List any threatened or endangered species known to be on or near the site.

- Spring Chinook, Steelhead, Bull Trout in Brookside River

\[ \checkmark \]
c. Is the site part of a migration route?  Yes  □  No □
   If so, explain.
   [Handwritten text]

   @5/11/16

   d. Proposed measures to preserve or enhance wildlife, if any:
      ✅

   e. List any invasive species known to be on or near site.
      ✅

6. Energy and Natural Resources

   a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project’s energy needs? Describe whether it will be used for heating, manufacturing, etc.
      [Handwritten text]

   b. Would your project affect the potential of solar energy by adjacent properties? Yes □  No □

   c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:
      n/a

7. Environmental Health

   a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? Yes □  No □
      If so, describe.
      [Handwritten text]

   b. Are there any known or possible contamination at the site from present or past uses.
      none

      (1) Describe any known or possible contamination at the site from
(2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

none ✓

(3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the projects development or construction, or at any time during the operating life of the project.

none ✓

(4) Describe special emergency services that might be required.

(5) Proposed measure to reduce or control environmental health hazards, if any:

none ✓

(for example: traffic, equipment, operation, other)?

(2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

none ✓

(3) Proposed measures to reduce or control noise impacts, if any:

none ✓
8 Land and Shoreline Use
   a. What is the current use of the site and adjacent properties? 
      farming

      Will the proposal affect current land uses on nearby or adjacent properties? Yes ☐ No ✓
      If so, describe.

      eject ✓
      If so, describe.

   b. Has the property been used as working farmlands or working forest lands? Yes ☐ No ✓

      How much agriculture or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any?
      none

      If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to non-farm or non-forest use?
      none

      (1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as over size equipment access, the application of pesticides, tilling and harvesting? Yes ☐ No ✓

   c. Describe any structures on the site.
      existing farm buildings
d. Will any structures be demolished? Yes ☐ No ☑
   If so, what? ✔

e. What is the current zoning classification of the site? Ag ✔

f. What is the current comprehensive plan designation of the site? Ag

g. If applicable, what is the current school master program designation of the site? 

h. Has any part of the site been classified as a critical area by the city or county? Yes ☐ No ☑
   If so, specify. 
   none ✔

j. Approximately how many people would the completed project displace? none ✔

k. Proposed measures to avoid or reduce displacement impacts, if any: spa

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: none ✔

agricultural and forest lands of long-term commercial significance, if any? none

m. Proposed measures to ensure the proposal is compatible with nearby
9 Housing
a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.
   - Number of Units: 0
     - High
     - Middle
     - Low-income
     ✗

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.
   - Number of Units: 0
     - High
     - Middle
     ✗

b. Proposed measures to reduce or control housing impacts, if any:
   - n/a
     - Low-income
     ✗

10 Aesthetics
b. What views in the immediate vicinity would be altered or obstructed?
   - None
     ✗

b. Proposed measures to reduce or control aesthetic impacts, if any:
   - None
     ✗

11 Light and Glare
a. What type of light or glare will the proposal produce? What time of day
   - None

b. Could light or glare from the finished project be a safety hazard or interfere with views?
   - None
     ✗
c. What existing off-site sources of light or glare may affect your proposal?

[ ]

d. Proposed measures to reduce or control light and glare impacts, if any:

[ ]

12 Recreation

a. What designated and immediate vicinity?

[ ]

informal recreational opportunities are in the

b. Would the proposed project displace any existing recreational uses? If so, describe.

[ ]

none

[ ]

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

[ ]

none

[ ]

13 Historic and Cultural Preservation

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state or local preservation registers located on or near the site? Yes [ ] No [ ]

[ ]

If yes, specifically describe

b. Are there any landmarks, features, or other evidence of Indian, historic use or occupation, this may include human burials or old cemeteries?

[ ]

[ ]

Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Yes [ ] No [ ]

[ ]

Please list any professional studies conducted at the site to identify such
c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples: Include consultation with tribes and the Department of Archeology and Historic Preservation, archaeological surveys, historic maps, GIS data, etc.

n/e

2DS found no archaeological site within 500 feet.

5/16/16

Any permits that may be required:

n/a

14 Transportation

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street.

b. Is site or geographic area currently served by public transit?

Yes No

If not, what is the approximate distance to the nearest transit stop?

5+ miles

15 Parking

c. How many parking spaces would the completed project have? How many would the project eliminate?

None

No parking spaces will be eliminated.

Yes

No additional spaces will be created.

16 Transportation

d. Will the proposal require any new or improvements to existing roads, streets, bicycle or state transportation facilities, not including driveways? Yes No

If so, generally describe (indicate whether public or private).
e. Will the project use (or occur in the immediate vicinity of)
   Water, □
   Rail, or □
   Air transportation? ✔
   If so, generally describe.

f. How many vehicular trips per day would be generated by the completed
   project or proposal? If known, indicate when peak volumes would occur
   and what percentage of the volume would be trucks (such as commercial
   and non-passenger vehicles). What data or transportation models were
   used to make these estimates?
   
none

none

g. Proposed measures to reduce or control transportation impacts, if any:
   15 Public Services

   a. Would the project result in an increased need for public services (for
      example: fire protection, police protection, health care, schools, other)?
      Yes □  No ✔

   b. Proposed measures to reduce or control direct impacts on public services,
      if any.
      none

16 Utilities

   a. Check utilities currently available at the site:
      ✔ Electricity,
      ✔ Water,
      ✔ Telephone,
      ✔ Septic system,
      ✔ Natural gas,
      ✔ Refuse service,
      ✔ Sanitary sewer,
      ✔ Other
b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

none

Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature:  

Date Submitted:  

FOR OFFICE USE ONLY
Reviewed by W  County Planning & Development Services Staff

Signature   Date
C Supplemental Sheet for Non-project Actions

(It is not necessary to use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment. When answering these questions, be aware of the extent the proposal or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

Proposed measures to avoid or reduce such increases are:

Proposed measures to protect or conserve plants, animals, fish, or marine life are

3. How would the proposal be likely to deplete energy or natural resources?

Proposed measures to protect or conserve energy and natural resources are:
4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

Proposed measures to protect such resources or to avoid or reduce impacts are:

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

Proposed measures to reduce or respond to such demand(s) are:

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.
July 22, 2016

Via Electronic & U.S. Mail

Sam Wilson
Department of Ecology
P.O. Box 47600, Olympia, WA 98504-7600
Email: AQComments@ecy.wa.gov

Re: Comments on Ecology’s Proposed Clean Air Rule

Dear Mr. Wilson,

These comments are being submitted on behalf of our clients, Aji and Adonis Piper, Wren Wagenbach, Lara and Athena Fain, and Gabriel Mandell, the youth who took the Washington Department of Ecology (“Ecology”) to court for failing to protect their fundamental constitutional rights in response to climate change in Foster, et al. v. Ecology. These young people secured a court order directing Ecology to promulgate a rule limiting greenhouse gas emissions in Washington by the end of 2016. These comments are also submitted on behalf of the people and organizations who believe these children have a constitutional right to a livable future, a list of whom is included as Exhibit A to these comments. Finally, these comments are submitted on behalf of all future generations and the rights and natural resources we are working hard to pass down to them, and to whom you owe a profound obligation as their fiduciary trustee.

Thank you for the opportunity to comment on Ecology’s Proposed Clean Air Rule. We truly hope that you take this opportunity to promulgate a rule that is based on science, as time is running out. Our comments are supported by declarations by some of the world’s most foremost climate scientists and policy experts. As we rapidly approach climate tipping points, only the current Ecology policymakers are capable of protecting the rights of these young people. They, and the world’s children, are depending on you.

I. INTRODUCTION

Ecology has clear constitutional and statutory responsibilities to cap and regulate carbon dioxide emissions based upon best available science. The best way to do that is through the direct regulation of known emission sources to force polluters to implement the pollution-prevention technology that is needed to eliminate the need for the pollution in
the first place. Technology-forcing serves as a bedrock principle of the federal Clean Air Act and has been described as follows:

The idea, briefly put, is that the government can order into being technological achievements not now enjoyed by a particular industry. A policy of technology-forcing assumes that existing market forces fail to produce an appropriate level of pollution control, either because of explicit collusion among the manufacturers\(^1\) or because of the inability of spillover victims to communicate and enforce their needs within the market. A policy of technology-forcing presupposes also that intervention by law will bring a response, either from the manufacturers themselves or equipment suppliers, and that these new forces can be loosed to create a technology that is “superior” to the ones it replaces. The metaphors of this movement are of reluctance overcome, of fires being lit, of perceived limits quickly surpassed, of wills and ways.\(^2\)

Ecology’s proposed Clean Air Rule, as it is currently structured, serves to undercut technological solutions to climate change. A cap and trade system, if it is to be used at all, should be the cherry on top of a powerful regulatory scheme mandating the reduction, and ultimate elimination, of carbon dioxide emissions. Cap and trade can potentially be one tool to make a scientifically-targeted regulatory program more palatable for those corporations who put profits before the health and wellbeing of their children and future generations. However, it should not be used as the centerpiece of a regulatory plan that exempts, excuses and makes allowances for not reducing emissions that can technically, economically and feasibly be reduced to protect life, liberty, and all of the fundamental rights of citizens, especially Washington youth and future generations.

These comments set forth both a specific critique of the proposed Clean Air Rule and identifies alternative regulatory mechanisms that Ecology has the existing authority to promulgate and implement. As you know, in June 2014, youth submitted a Petition for Rulemaking with the Department of Ecology asking the agency to use its existing authority to cap and regulate GHG emissions based upon best available science. Two years later, we are saddened and frustrated that Ecology continues to ignore the scientific consensus on what needs to be done to stem the tide of climate change. Ecology, as the legislatively designated trustee of the natural resources of Washington, must adopt a rule to achieve science-based emission reductions necessary to do Washington’s part to stabilize the climate and protect our oceans.

II. THE PROPOSED RULE DOES NOT COMPLY WITH THE COURT ORDER IN FOSTER, ET AL. v. ECOLOGY

On June 24, 2014, eight young Washingtonians filed a petition for rulemaking with Ecology, asking that the agency use its existing legal authority to (1) promulgate a

\(^1\) Indeed, the Clean Air Act was largely passed in response to the “smog conspiracy,” whereby automobile manufacturers conspired to retard the development of pollution prevention control technology.

\(^2\) Rodgers, 1 Environmental Law at § 3.25(A).
 rule mandating reductions of greenhouse gases ("GHGs") based upon the most current climate science; and (2) and make its statutorily-required recommendation to the legislature on adjusting GHG emission limits (RCW 70.235.040) based on current science through rulemaking. On August 14, 2014, Ecology denied Youth Petitioners’ Petition for Rulemaking. Without addressing the scientific basis for the proposed rule, or its legal responsibility to manage essential natural resources such as air and water, the agency summarily denied the petition for three reasons: (1) nothing in RCW 70.235 requires Ecology to adopt different emissions reductions, develop a plan to ensure those reductions, or implement the monitoring requirements in the proposed rule; (2) Washington “is working to achieve the reductions” set forth in RCW 70.235 and “the measures it is taking are an alternative approach to your proposed rule;” and (3) none of the additional cited sources in the petition require Ecology to adopt the proposed rule. After over a year of litigation, on November 19, 2015 the Court issued a landmark decision outlining Ecology’s legal responsibilities to take immediate action to address climate change. At that time, the Court did not order Ecology to undertake rulemaking as Governor Inslee had directed Ecology to do so in July 2015, shortly after meeting with the youth petitioners to discuss the case.

After Ecology withdrew the proposed Clean Air Rule in February 2016, the youth went back to Court, this time securing a court order directing Ecology to do two things: “(1) Ecology shall proceed with the rulemaking procedure to adopt a rule to limit greenhouse gas emissions in Washington state as directed by Governor Inslee in July 2015, and shall issue the rule by the end of calendar year 2016; (2) Ecology shall provide a recommendation to the 2017 legislature on greenhouse gas limits for the state of Washington as provided in RCW 70.235.040.” When exercising its authority to promulgate a rule regulating carbon dioxide emissions as mandated by Court order, Ecology has a responsibility to fulfill its legal obligations as interpreted by Judge Hill in the Foster case.

a. Ecology’s Existing Efforts Are Inadequate

Importantly, in the Foster case, the Court found that Ecology’s “alternative approach” to dealing with climate change was legally insufficient. Specifically:

the emission standards currently adopted by Ecology do not fulfill the mandate to ‘[p]reserve, protect and enhance the air quality for current and future generations.’ The regulations currently in place specify technological controls of a small number of air pollution sources while not even addressing transportation which as of 2010 was responsible for 44% of annual total GHG emissions in Washington State. One need

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3 Petition for Rulemaking (June 17, 2014) (Exhibit B).
4 Ecology’s Denial (August 14, 2014) (Exhibit C).
5 Id. at 1.
7 Foster, et al. v. Ecology, No. 14-2-25295-1 SEA (King County Superior Court) (Order on Petitioners’ Motion for Relief Under CR 60(b)) (May 16, 2016) (Exhibit E).
only go back to Ecology’s pronouncement in the December 2014 report to appreciate the inadequacy of its current efforts to preserve, protect and enhance the air quality for current and future generations.\(^8\)

In rendering her decision, the Court made it clear that Ecology needed to undertake additional actions to protect the fundamental rights of the youth petitioners:

In fact, as Petitioners assert and this court finds, their very survival depends upon the will of their elders to act now, decisively and unequivocally, to stem the tide of global warming by accelerating the reduction of emission of GHG’s before doing so becomes first too costly and then too late. The scientific evidence is clear that the current rates of reduction mandated by Washington law cannot achieve the GHG reductions necessary to protect our environment and to ensure the survival of an environment in which Petitioners can grow to adulthood safely. In fact, in its 2014 report to the legislature, the Department stated, “Washington’s existing statutory limits should be adjusted to better reflect the current science. The limits need to be more aggressive in order for Washington to do its part to address climate risks . . . .”\(^9\)

The Court’s findings regarding the inadequacy of Ecology’s current approach to climate change is pertinent as it highlights where Ecology must focus its efforts when regulating carbon dioxide emissions.

b. Ecology Has A Mandatory, Statutory Duty To Protect Air Quality for Current & Future Generations Under the WA Clean Air Act

The Court found that Ecology “does have the mandatory duty under the Clean Air Act to ‘ad[opt] rules establishing air quality standards’ for GHG emissions, including carbon dioxide that ‘shall constitute minimum emissions standards throughout the state.’ RCW 70.94.331(2)(a)(b). \textit{This obligation must be implemented in a manner that ‘p[reserve], protect[s] and enhance[s] the air quality for the current and future generations.’ RCW 70.94.011.}”\(^10\) The draft Clean Air Rule violates the plain language of the Clean Air Act as it will not “preserve, protect, and enhance the air quality for current and future generations.”\(^11\) Furthermore, the draft Clean Air Rule violates the Legislature’s express purpose for adopting the Clean Air Act. The Legislature has found that:

Air is an essential resource that must be protected from harmful levels of pollution. Improving air quality is a matter of statewide concern and is in

\(^{8}\) \textit{Foster, et al. v. Ecology, No. 14-2-25295-1 SEA (King County Superior Court) (Order Affirming the Department of Ecology’s Denial of Petition for Rulemaking) (Nov. 19, 2015)} at 6 (emphasis added) (Exhibit D).
\(^{9}\) \textit{Id.} at 5.
\(^{10}\) \textit{Id.} at 6 (emphasis added).
\(^{11}\) RCW 70.94.011.
the public interest. It is the intent of this chapter to secure and maintain levels of air quality that protect human health and safety, including the most sensitive members of the population, to comply with the requirements of the federal clean air act, to prevent injury to plant, animal life, and property, to foster the comfort and convenience of Washington's inhabitants, to promote the economic and social development of the state, and to facilitate the enjoyment of the natural attractions of the state.

It is further the intent of this chapter to protect the public welfare, to preserve visibility, to protect scenic, aesthetic, historic, and cultural values, and to prevent air pollution problems that interfere with the enjoyment of life, property, or natural attractions.12

These are not merely words on paper. When Ecology implements its delegated authority to “adopt rules establishing air quality objectives and air quality standards” and “adopt emission standards which shall constitute minimum emission standards throughout the state,”13 it must do so in a manner that fulfills the legislative intent as expressed in RCW 70.94.011. The draft Clean Air Rule fails to do so.

c. Ecology Has A Constitutional Duty to Protect Public Trust Resources

The Court held that “Washington courts have found that this provision [WA Const. Art. XVII, Sec. 1] requires the State through its various administrative agencies, to protect trust resources under their administrative jurisdiction.”14 “Therefore, the State has a constitutional obligation to protect the public’s interest in natural resources held in trust for the common benefit of the people of the State.”15 The Court recognized the scientific reality that “[t]he navigable waters and the atmosphere are intertwined and to argue a separation of the two, or to argue that GHG emissions do not affect navigable waters is nonsensical. Therefore, the Public Trust Doctrine mandates that the State act through its designated agency to protect what it holds in trust. The Department of Ecology is the agency authorized both to recommend changes in statutory emission standards and to establish limits that are responsible.”16

Ecology continues to ignore the fact that it has a constitutional duty to protect Public Trust Resources in the state. The draft Clean Air Rule will not protect public trust resources within Ecology’s jurisdiction such as air, tidelands, shorelands, and water.

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12 RCW 70.94.011.
13 RCW 70.94.331(1), (2).
14 Id. at 7.
15 Id. at 8.
16 Id.
d. The Youth Have Fundamental & Inalienable Rights to Live in a Healthful & Pleasant Environment

Most significantly, the Court acknowledged that “Ecology’s enabling statute states, ‘[I]t is a fundamental and alienable right of the people of the State of Washington to live in a healthful and pleasant environment.’” RCW 43.21A.010. Although courts have stated that a statutory duty cannot be created merely from the words of the enabling statute, this language [in RCW 43.21A.010] does evidence the legislature’s view as to rights retained under Article I, Section 30” of the Washington Constitution. In light of those fundamental legal rights,

If ever there were a time to recognize through action this right to preservation of a healthful and pleasant atmosphere, the time is now as: ‘Climate change is not a far off risk. It is happening now globally and the impacts are worse then previously predicted, and are forecast to worsen . . . If we delay action by even a few years, the rate of reduction needed to stabilize the global climate would be beyond anything achieved historically and would be more costly.’

Ecology is legally obligated to promulgate a rule that complies with the Court’s prior interpretations of the law in the Foster case, as that is the controlling precedent. Unfortunately, for the reasons set forth below, Ecology’s proposed Clean Air Rule does not come close to satisfying the law as specified in Judge Hill’s order, including Ecology’s statutory, constitutional and public trust obligations. Ecology is legally and morally obligated to create a statewide Climate Action Plan that protects the fundamental constitutional rights of young people in this state.

III. ECOLOGY HAS THE LEGAL AUTHORITY & DUTY TO PROMULGATE SCIENCE-BASED EMISSION LIMITS

As described above, Judge Hill clearly laid out the constitutional and statutory framework for Ecology to promulgate a rule that fulfills its legal obligations while protecting the rights of young people and future generations. In addition, Ecology has other sources of authority that can and should be invoked in developing a true Climate Action Plan based upon science. Climate change is an “all hands on deck” issue that requires Ecology to implement the full panoply of their legal authority.

a. Ecology Must Do Its Part To Reach Global Climate Stabilization Levels

RCW 70.235.020 sets the following floor for GHG emission reductions:

(i) By 2020, reduce overall emissions of greenhouse gases in the state to 1990 levels.

17 Id. at 9.
By 2035, reduce overall emissions of greenhouse gases in the state to twenty-five percent below 1990 levels;

By 2050, the state will do its part to reach global climate stabilization levels by reducing overall emissions to fifty percent below 1990 levels, or seventy percent below the state’s expected emissions that year.

Ecology has correctly noted that this statute reflects “the Legislature’s intent to reduce GHG emissions,” but improperly views the statutory emission limits as a constraint on its authority to establish science-based GHG emissions limits. The AG has interpreted this statute as suggesting that “the legislature intended the reductions goals to be taken seriously . . . .”

RCW 70.235 does not in any way limit Ecology’s authority to promulgate a science-based rule; indeed, the statute only sets a floor for GHG emission limits and does not preclude Ecology from recommending more stringent limits pursuant to its existing statutory authority and constitutional obligations. It would be illogical to interpret RCW 70.235 as the most stringent emission limits that Ecology can adopt. For example, would Ecology be in violation of the statute if it were to achieve emissions reductions of 26% below 1990 levels by 2035, instead of 25%? This would be an absurd result. What is clear from the plain language of RCW 70.235.020 is the legislature’s intent that Washington base its efforts on the best available climate science and “do its part to reach global climate stabilization levels,” which the current scientific evidence demonstrates is global atmospheric concentrations of 350 ppm by the end of the century, a standard never disputed by Ecology.

When the statute is read in its entirety, it is clear that Ecology is not constrained by the emission targets based in RCW 70.235.020. Indeed, the State’s GHG reduction statute imposes the following mandatory duty on Ecology:

Within eighteen months of the next and each successive global or national assessment of climate change science, the department shall consult with the climate impacts group at the University of Washington regarding the science on human-caused climate change and provide a report to the legislature summarizing that science and make recommendations regarding whether the greenhouse gas emissions reductions required under RCW 70.235.020 need

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19 Ecology, SEPA Environmental Checklist – Clean Air Rule, Appendix A, Staff Report – SEPA Non-Project Review Form, Proposed Clean Air Rule (May 2016) at 5.
21 While we do not necessarily agree with the interpretation of RCW 70.235 by the Attorney General’s Office, it has taken the position that RCW 70.235 is not enforceable, nor binding on the State. Thus, whether our legal interpretation is correct or Ecology follows the advice of the Attorney General, the statute does not pose any barrier to Ecology’s ability to fully implement its statutory, constitutional, and public trust mandate. Id. at 1 (finding that the emission “reductions are not a ministerial duty of any specific state official.”).
22 See Tingley v. Haisch, 159 Wn.2d 652, 664, 152 P.3d 1020 (2007) (quoting State v. J.P., 149 Wn.2d 444, 450, 69 P.3d 318 (2003) (“A reading [of a statute] that produces absurd results must be avoided because ‘it will not be presumed that the legislature intended absurd results.’”) (internal quotations omitted)).
This language makes it clear that the legislature intended the limits be based upon the most current climate science. After Governor Inslee directed Ecology to make this recommendation to the legislature by July 15, 2014, the Youth Petitioners asked Ecology to make its recommendations to the Legislature through the rulemaking process because “Ecology’s legislative recommendations implicate youth petitioners’ and future generations’ rights to essential public trust resources . . . .” It has been over eight years since RCW 70.235 was enacted, and Ecology has still not made a recommendation to the legislature to update the reductions in RCW 70.235.020, despite several advances in the climate science. This failure is fatal to the development of the Clean Air Rule as it is impossible for Ecology to target its reductions in a fashion that protects the rights of young people and future generations, if it continues to refuse to tell the public what those targets should be.

Ecology’s independent decision to target the Clean Air Rule to the emissions limits in RCW 70.235, rather than the best science, is arbitrary in light of the fact that Ecology has concluded that “Washington State’s existing statutory limits should be adjusted to better reflect the current science” and that “[t]he limits need to be more aggressive in order for Washington to do its part to address climate risks and to align our limits with other jurisdictions that are taking responsibility to address these risks.” Ecology’s continued failure to make a substantive “recommendation” to the Legislature to update RCW 70.235.020 based upon current climate science serves to exacerbate, prolong, and potentially ensure perpetually the impairment of Youth Petitioners’ fundamental and inherent rights to a healthful and pleasant environment. Not only is Ecology failing to take legally required action, but the agency is affirmatively advocating, by virtue of its silence, that the Washington Legislature “impos[e] risks on future generations (causing intergenerational inequities) and liability for the harm that will be caused by climate change that we are unable or unwilling to avoid.” In light of the clear threats to Youth Petitioners’ inalienable rights to a healthful and pleasant environment, Ecology’s decision to target the Clean Air Rule to RCW 70.235.020 is irrational and will not be upheld by a

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23 RCW 70.235.040.
25 Youth Petition for Rulemaking (June 17, 2014) (Exhibit B) at 53.
26 Ecology December 2014 Report (Exhibit G) at 18. Ecology’s action essentially asks the Legislature to violate the Public Trust Doctrine which “prohibits the State from disposing of its interest in the waters of the state in such a way that the public’s right of access is substantially impaired, unless the action promotes the overall interests of the public.” Rettkowski, 122 Wn.2d at 232.
27 Ecology December 2014 Report (Exhibit G) at 15 (“Globally, 2013 was the fourth warmest year on record. Globally averaged temperature has increased by 1.5° or 0.85°C between 1880 and 2012. The [IPCC] confirmed continuing the current pattern of greenhouse gas emissions would likely lead to a rise in temperature which will pose unprecedented risks to people’s lives and wellbeing.”).
28 Ecology is now court ordered to make the recommendation to the legislature in advance of the 2017 legislative session. Foster et al. v. Ecology, No. 14-2-25295-1, King County Superior Court (Order on Petitioners’ Motion for Relief Under CR 60(b)) (May 16, 2016) (Exhibit E) at 3 (“Ecology shall provide a recommendation to the 2017 legislature on greenhouse gas limits for the state of Washington as provided in RCW 70.235.040.”).
29 Id. at 18.
court of law.

Furthermore, Ecology’s claims that “[t]he proposed rule is intended to at a minimum achieve the statutory reductions in Chapter 70.235 RCW,” is contradicted by information in the rulemaking record.\(^\text{30}\) It makes no sense for Ecology to promulgate a Clean Air Rule in advance of making its recommendation to the Legislature to revise the emission reductions in RCW 70.235.020. The science is clear as to what those reductions need to be, but Ecology continues to abdicate its moral and legal responsibility to tell Washingtonians how we collectively must reduce our GHG emissions to “do [our] part to reach global climate stabilization levels.”\(^\text{31}\) Because Ecology is now court-ordered to make this legislative recommendation, it is imperative that Ecology target its Clean Air Rule towards achieving the science-based emission reductions contained in its recommendation, not the reductions set forth in RCW 70.235.020, which the agency acknowledge would lead to dangerous levels of warming and would jeopardize the rights of young people.

b. Ecology Must Use Its Authority To Protect Public Health

Ecology’s proposed rule permits GHG emissions beyond levels that are safe for humanity. By legalizing emissions at dangerous levels, Ecology places the public’s health at serious risk. As discussed above, Ecology is bound by law to “preserve, protect, and enhance the air quality for current and future generations.”\(^\text{32}\) Ecology’s authority under the Washington Clean Air Act is quite broad. Under the law, the Legislature directs Ecology to “secure and maintain levels of air quality that protect human health and safety.”\(^\text{33}\) Furthermore, this protection is extended to plants, animals, and property.\(^\text{34}\) Recognizing the serious consequences of air pollution in Washington, the Legislature called for immediate action to return air quality levels to “protect health and the environment” and to “prevent any areas of the state with acceptable air quality from reaching air contaminant levels that are not protective of human health and the environment.”\(^\text{35}\)

Human-caused fossil fuel burning and the resulting climate change are already contributing to an increase in asthma, cancer, cardiovascular disease, stroke, heat-related morbidity and mortality, food-borne diseases, and neurological diseases and disorders.\(^\text{36}\) Climate change has been called “the most serious threat to the public health of the 21st

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\(^{30}\) Ecology, Cost Benefit Analysis at 51.

\(^{31}\) RCW 70.235.020(1)(a)(iii).

\(^{32}\) RCW § 70.94.011.

\(^{33}\) Id.

\(^{34}\) Id.

\(^{35}\) Id.

Droughts, floods, heat waves and other extreme weather events linked to climate change also lead to a myriad of health issues. The World Health Organization has stated that “[l]ong-term climate change threatens to exacerbate today’s problems while undermining tomorrow’s health systems, infrastructure, social protection systems, and supplies of food, water, and other ecosystem products and services that are vital for human health.” Climate change is not only expected to affect the basic requirements for maintaining health (clean air and water, sufficient food, and adequate shelter) but is likely to present new challenges for controlling infectious disease and even “halt or reverse the progress that the global public health community is now making against many of these diseases.” Children are especially vulnerable to adverse health impacts due to climate change.

Recent studies have highlighted the adverse mental health effects that result from climate change. One study noted that as many as 200 million Americans are expected to have mental health problems as a result of climate change impacts and added that mental health disorders are likely to be one of the most dangerous indirect health effects of climate change. The mental health effects can include elevated levels of anxiety, depression, PTSD, and a distressing sense of loss. The impacts of these mental health effects include chronic depression, increased incidences of suicide, substance abuse, and greater social disruptions like increased violence.

In Washington, most health effects associated with climate change are expected to be negative and will include increased respiratory diseases, including asthma, heart attacks, and cancer. Moreover, as GHG emissions stay the same and continue to rise, Washingtonians can expect increased water shortages due to decreased snowpack and early snowmelt. Water shortages affect the viability of native salmon species, which jeopardizes the mental health and welfare of the state’s tribal communities, who have relied upon these natural resources for time immemorial.

By authorizing the State’s top polluters to continue unsafe levels of GHG emissions that exceed both scientific and end existing statutory limits, Ecology actively puts Washingtonians’ health at risk, in violation of Ecology’s mandate under the Clean Air Act. The People entrusted Ecology to protect them from the harmful effects of air pollution and climate change. By allowing industry to continue to pollute beyond safe limits, the department breaches this trust.
c. The Clean Air Rule Must Protect the Waters of the State

By not developing a rule that is based on science and targeted to put Washington on a path to reaching global climate stabilization levels, Ecology is abdicating its responsibility as trustee of the waters of the state. The legislature has delegated a significant amount of authority to Ecology to act to protect the natural resources in the state, including air and water. In passing the Clean Air Act, the legislature explicitly recognized “air pollution control projects may affect other environmental media. In selecting air pollution control strategies state and local agencies shall support those strategies that lessen the negative environmental impact of the project on all environmental media, including air, water, and land.” Ecology can and should implement this authority to fulfill its statutory mandate to protect both the air and waters of the state:

it is the purpose of this chapter to establish a single state agency with the authority to manage and develop our air and water resources in an orderly, efficient, and effective manner and to carry out a coordinated program of pollution control involving these and related land resources. To this end a department of ecology is created by this chapter to undertake, in an integrated manner, the various water regulation, management, planning and development programs now authorized to be performed by the department of water resources and the water pollution control commission, the air regulation and management program now performed by the state air pollution control board, the solid waste regulation and management program authorized to be performed by state government as provided by chapter 70.95 RCW, and such other environmental, management protection and development programs as may be authorized by the legislature.

“The legislature further recognizes that as the population of our state grows, the need to provide for our increasing industrial, agricultural, residential, social, recreational, economic and other needs will place an increasing responsibility on all segments of our society to plan, coordinate, restore and regulate the utilization of our natural resources in a manner that will protect and conserve our clean air, our pure and abundant waters, and the natural beauty of the state.”

Ecology is specifically charged with “the supervision of public waters within the state.” “[A]ll waters within the state belong to the public” and “[t]he power of the state to regulate and control the waters within the state shall be exercised” in accordance with

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44 RCW 70.94.011.
45 RCW 43.21A.020 (emphasis added).
46 RCW 43.21A.010 (emphasis added).
47 RCW 43.21A.064(1).
RCW 90.03.48. Only Ecology has the authority to establish and protect minimum flows or levels.49 Only Ecology has “the jurisdiction to control and prevent the pollution of streams, lakes, rivers, ponds, inland waters, salt waters, water courses, and other surface and underground waters of the state of Washington.”50 As part of that authority, Ecology has a mandatory duty to promulgate “rules and regulations relating to standards of quality for waters of the state and for substances discharged therein in order to maintain the highest possible standards of all waters of the state in accordance with the public policy as declared in RCW 90.48.010.”51 Given the devastating impacts our waters are, and will be, facing due to climate change, it is imperative that Ecology invoke its statutory authority as trustee of our state’s water resources and promulgate a Clean Air Rule that is based on science.

d. The Clean Air Rule Must Mitigate Against Ocean Acidification

Ecology has recognized that global warming is occurring and adversely impacting Earth’s climate.52 At the same time, ocean acidification “has been observed,” due to the ocean absorbing approximately “30 percent of the emitted anthropogenic carbon dioxide,” thereby threatening Earth’s ocean life.53 If immediate action is not taken to draw down carbon dioxide emissions, the costs of climate change and ocean acidification impacts to Washington are projected at $10 billion per year by 2020.54

As discussed above, Ecology is the agency with the authority to adopt “rules and regulations relating to standards of quality for waters of the state and for substances discharged therein in order to maintain the highest possible standards of all waters of the state in accordance with the public policy as declared in RCW 90.48.010.”55 The State has previously acknowledged, “acidification near the coasts, and particularly in highly populated and developed areas, is often exacerbated by local sources of pollutants, such as nutrients and organic material, that generate additional carbon dioxide in marine waters.”56 In spite of long-standing efforts by the Center for Biological Diversity,57 Ecology still has not amended its water quality standards or taken other regulatory action

48 RCW 90.03.010.
49 RCW 90.03.247; RCW 90.22.010 (“The department of ecology may establish minimum water flows or levels for streams, lakes or other public waters for the purposes of protecting fish, game, birds or other wildlife resources, or recreational or aesthetic values of said public waters whenever it appears to be in the public interest to establish the same.”).
50 RCW 90.48.030.
51 RCW 90.48.035.
52 Foster, et al. v. Ecology, King County Superior Court No. 14-2-25295-1 SEA (Ecology’s Answer) (filed October 6, 2014) at 3:3-5.
53 Id. at 3:4, 14-16.
55 RCW 90.48.035.
57 The legal authority and obligation to use existing authority to address ocean acidification is set forth in the attached petitions, both of which are hereby incorporated by reference. Center for Biological Diversity, Petition to EPA for Additional Water Quality Criteria & Guidance Under Section 304 of the Clean Water Act, 33 U.S.C. § 1314, to Address Ocean Acidification (April 17, 2013) (Exhibit H); Center for Biological Diversity Petition to EPA for Revised State Water Quality Standards for Marine pH Under the Clean Water Act, 33 U.S.C. § 1313(c)(4) (October 18, 2012) (Exhibit I).
to address ocean acidification. This should be done forthwith and is an integral component of any attempt by Ecology to address climate change.

IV. THE PROPOSED CLEAN AIR RULE VIOLATES ECOLOGY’S STATUTORY & CONSTITUTIONAL OBLIGATIONS BECAUSE IT LEGALIZES DANGEROUS LEVELS OF GHG EMISSIONS & FAILS TO UTILIZE CURRENT CLIMATE SCIENCE

The draft Clean Air Rule violates Ecology’s constitutional and statutory responsibilities as outlined above because it legalizes dangerous levels of carbon dioxide emissions. No person or corporation has the legal right to emit unlimited amounts of carbon dioxide in a manner that abridges the constitutional rights of young people and violates the existing statutory laws. Ecology’s historic inability to regulate emissions of carbon dioxide does not somehow confer upon an entity the right to continue to pollute, because that right never existed. By promulgating a Clean Air Rule that regulates only a very small segment of entities that emit GHG gases over a certain threshold (beginning at 100,000 metric tons of CO2e starting in 2017, and leading to 70,000 metric tons of CO2e in 2035), Ecology has implicitly authorized continued emission of GHGs by all entities that fall under those thresholds, including non-covered entities. Ecology is without authority to do so because the science is clear that action violates the constitutional rights of young people.

a. Ecology Must Base Its Rule On The Best Available Climate Science to Protect Young People & Future Generations

i. The Best Available Climate Science Provides a Prescription for Restoring the Atmosphere, Stabilizing the Climate System & Protecting the Waters of the State: Atmospheric CO2 Levels Must Be Reduced to Below 350 ppm By 2100

In order to protect our planet’s climate system and vital natural resources on which human survival and welfare depends, and to ensure that young people’s and future generations’ fundamental and inalienable human rights are protected, the Clean Air Rule must be based on the best available climate science. There are numerous scientific bases for setting 350 parts per million (‘ppm”) as the uppermost safe limit for atmospheric CO2 concentrations. Ecology continues to shirk its responsibility to inform the public what GHG emissions are necessary to fulfill its constitutional and statutory obligations. Notably, the agency has presented no science that contradicts this scientific prescription first presented by youth in Washington State in 2011.58

There are three main reasons why Ecology must adopt the scientific prescription described in these comments. First, returning CO2 concentrations to 350 ppm would restore the energy balance of Earth and allow as much heat to escape into

58 Svitak, et al. v. State, King County Superior Court No. 11-2-16008-4 SEA (Amended Complaint) (filed May 18, 2011) (Exhibit J).
space as Earth retains, which has kept our planet in the “sweet spot” for humans and other species to thrive.

Second, CO₂ levels exceeding 350 ppm are creating a planet warmer than humans have ever lived in and are disrupting the physical and biological systems in which human civilization has evolved. The consequences of even 1 degree Celsius of warming will be significant for humanity, but scientists believe we can preserve our ice sheets and for the most part our shorelines and ecosystems, if we limit long-term warming to 1 degree Celsius (short-term warming will inevitably exceed 1 degree Celsius but must exceed 1 degree Celsius for a minimal amount of time). If we allow sustained global average temperature increases of more than 1 degree Celsius we will suffer irreversible climate destabilization and a planet largely inhospitable to human civilization.

Third, marine animals, including coral reefs, cannot tolerate the acidifying and warming of our ocean waters that results from increased CO₂ levels, 30% of which is absorbed by the oceans. At 400 ppm CO₂, the coral reefs of the world and shellfish are rapidly declining and will be irreversibly compromised if we do not quickly reverse course. The economic and cultural consequences of the loss of marine resources, including salmon and shellfish, are exponential and cannot be quantified.

All government policies, including the Clean Air Rule promulgated by Ecology, regarding greenhouse gas/CO₂ pollution and de/reforestation worldwide should be aimed at 350 ppm by 2100. Fortunately, it is still not only technically and economically feasible to get there, but transitioning to renewable energy sources will provide significant economic and public health benefits and improve the quality of lives. But time is running out. We cannot continue to base life and death policies on politics rather than science.

1. Restoration of the Earth’s Energy Balance

To protect Earth’s climate for present and future generations, we must restore Earth’s energy balance. By burning fossil fuels and deforesting the planet, which results in an increase in greenhouse gases in the atmosphere, especially CO₂, humans have altered Earth’s energy balance. The best climate science shows that if the planet once again sends as much energy into space as it absorbs from the sun, this will restore the planet’s climate equilibrium. Scientists have accurately calculated how Earth’s energy balance will change if we reduce long-lived greenhouse gases

61 John Abatzoglou et al., A Primer on Global Climate Change and Its Likely Impacts, in Climate Change: What It Means for Us, Our Children, and Our Grandchildren 11, 15-22 (Joseph F. C. DiMento & Pamela Doughman eds., 2007).
such as CO₂. We would need to reduce atmospheric CO₂ concentrations by at least 50 ppm, from their 2015 level of 400 ppm in order to increase Earth’s heat radiation to space, if other long-lived gases do not continue to increase.

2. Stop Global Surface Warming that Will Disrupt the Physical and Biological Systems on Which Humans Depend

In order to protect the physical and biological systems on which humans rely for their basic needs and the stability of their communities, we must reduce atmospheric CO₂ concentration to no more than 350 ppm and stabilize GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

Current science shows that while global surface heating may rise as much as 1.5 °C above pre-industrial temperatures because of warming already locked into the pipeline from existing CO₂ pollution, to protect Earth’s natural systems, long-term average global surface heating should not exceed 1 °C this century. In other words, even 1.5 °C of heating is unsafe, and we must stabilize at no more than 1 °C of heating over pre-industrial temperatures. According to current climate science, to prevent global heating greater than 1 °C, concentrations of atmospheric CO₂ must decline to 350 ppm or less by the end of this century. However, today’s atmospheric CO₂ levels are over 400 ppm and rising.

3. Targeting Reductions to Allow More than 2 °C Warming is Unlawful

A target of keeping global surface heating to 2 °C above pre-industrial temperatures, which approximately equates to an atmospheric CO₂ concentration of 450 ppm, cannot be considered a safe target for present or future generations, and is not supported by current science of climate stabilization or ocean protection, nor is it accepted by the IPCC. Notably, Ecology has admitted that “the Washington state

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62 James Hansen, Storms of My Grandchildren 166 (2009) (“Also our best current estimate for the planet’s mean energy imbalance over the past decade, thus averaged over the solar cycle, is about +0.5 watt per square meter. Reducing carbon dioxide to 350 ppm would increase emission to space 0.5 watt per square meter, restoring the planet’s energy balance, to first approximation.”).
64 See Hansen, Where Should Humanity Aim?, 217 (2008) (“If humanity wishes to preserve a planet similar to that on which civilization developed and to which life on Earth is adapted, Paleoclimate evidence and ongoing climate change suggest that CO₂ will need to be reduced from its current 385 ppm to at most 350 ppm.”).
67 United Nations, Framework Convention on Climate Change, Conference of the Parties, Paris Agreement, Article 2 (“1. This Agreement, in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by: (a) Holding the increase in the global average
emission reductions currently required by RCW 70.235.020 are not sufficient to keep the rise in surface temperature below 2°C.”\textsuperscript{68} Earth’s paleoclimate history demonstrates that climate impacts accompanying global warming of 2°C or more would be irreversible and catastrophic for humanity. For example, the paleoclimate record shows that warming consistent with CO₂ concentrations as low as 450 ppm may have been enough to melt almost all of Antarctica.\textsuperscript{69} The warming of the past few decades has brought global temperature close to if not slightly above the prior maximum of the Holocene epoch. Human society must keep global temperature at a level within or close to the Holocene range to prevent dangerous climate change. Global warming of 2°C would be well above Holocene levels and far into the dangerous range and has been described as “an unacceptably high risk of global catastrophe.”\textsuperscript{70}

The widely used models that allow for 2°C temperature increase, and therefore advocate for a global CO₂ emission reduction target aimed at a 450 ppm CO₂ standard, do not take into account significant factors that will compound climate impacts. Most importantly, they do not include the slow feedbacks that will be triggered by a temperature increase of 2°C.\textsuperscript{71} Slow feedbacks include the melting of ice sheets and the release of potent greenhouse gases, particularly methane, from the thawing of the tundra.\textsuperscript{72} These feedbacks might show little change in the short-term, but can hit a point of no return, even at a 2°C temperature increase, that will trigger further warming and sudden catastrophic impacts. For example, the Greenland and Antarctic ice sheets “required millennia to grow to their present sizes. If ice sheet disintegration reaches a point such that the dynamics and momentum of the process take over, reducing greenhouse gases may be futile to prevent major ice sheet mass loss, sea level rise of many meters, and worldwide loss of coastal cities—a consequence that is irreversible for practical purposes.”\textsuperscript{73}

These slow feedbacks are part of the inertia of the climate system, where “[t]he inertia causes climate to appear to respond slowly to this human-made forcing, but further long-lasting responses can be locked in.”\textsuperscript{74} Thermal inertia is primarily a result of the global ocean, which stores 90% of the energy surplus, and therefore perpetuates increased global temperature even after climate forcings, or emissions, have declined.\textsuperscript{75} Thus, the longer we wait to reduce global CO₂ concentrations, the


\textsuperscript{69} Dec. of Dr. James E. Hansen, Juliana et al., v. United States et al., No. 6:15-cv-01517-TC, 14 (D. Or. Aug. 12, 2015).

\textsuperscript{70} Id. at 17.

\textsuperscript{71} Hansen, Assessing “Dangerous Climate Change,” 15.

\textsuperscript{72} Id.

\textsuperscript{73} Id. at 13.

\textsuperscript{74} Id. at 1.

\textsuperscript{75} Id. at 4-5, 13.
more thermal inertia will already be in play and climate impacts will continue to escalate.

Furthermore, 2°C targets would lead to an increase in the use of fossil fuels that are more difficult to extract, and thus are compounded with the expenditure of greenhouse gases due to the transport and intensive mining process resulting in “more CO₂ [emissions] per unit useable energy.”76 The 2°C target also reduces the likelihood that the biosphere will be able to sequester CO₂ due to carbon cycle feedbacks and shifting climate zones.77 Under the allowable emissions with this target, other greenhouse gases, such as methane and nitrous oxide would continue to increase, further exacerbating climate change impacts.78 These factors are missing from the 2°C scenarios, which have been widely accepted and used in the creation of climate policies and plans.

A temperature rise of 2°C will not only lock in a further temperature increase due to thermal inertia, but it will also trigger irreversible impacts, including rapid, nonlinear sea level rise and species loss described above.79 Most models look at sea level rise as a gradual linear response to melting ice sheets. However, “it has been argued that continued business-as-usual CO₂ emissions are likely to spur a nonlinear response with multi-meter sea level rise this century.”80 This sea level rise would occur at a pace that would not allow human communities or ecosystems to respond.

An emission reduction target aimed at 2°C would “yield a larger eventual warming because of slow feedbacks, probably at least 3°C.”81 Once a temperature increase of 2°C is reached, there will already be “additional climate change “in the pipeline” even without further change of atmospheric composition.”82 Dr. James Hansen warns that “distinctions between pathways aimed at 1°C and 2°C warming are much greater and more fundamental than the numbers 1°C and 2°C themselves might suggest. These fundamental distinctions make scenarios with 2°C or more global warming far more dangerous; so dangerous, we [James Hansen et al.] suggest, that aiming for the 2°C pathway would be foolhardy.”83 This target is at best the equivalent of “flip[ping] a coin in the hopes that future generations are not left with few choices beyond mere survival. This is not risk management, it is recklessness and we must do better.”84 Thus, a global average atmospheric concentration of CO₂ of 450 ppm, or a concentration of CO₂e between 450 and 550 ppm, would result in dangerous anthropogenic interference with the climate system and would threaten all

76 Id. at 15.
77 Id. at 15, 20.
78 Id. at 20.
79 Id. at 6.
80 Id.
81 Id. at 15.
82 Id. at 19.
83 Id. at 15.
public natural resources around the world and the health and well-being of all Earth’s inhabitants.

Importantly, the Intergovernmental Panel on Climate Change (“IPCC”) has not established nor endorsed a target of 2°C warming above the preindustrial period as a limit below which the climate system will be stable. The 2°C figure was reached as a compromise between the emission reduction scenarios and associated risks summarized by Working Group I of the 2007 IPCC Fourth Assessment Report, and because policymakers felt that it was politically achievable. As the IPCC makes clear, “each major IPCC assessment has examined the impacts of [a] multiplicity of temperature changes but has left [it to the] political processes to make decisions on which thresholds may be appropriate.” Two degrees Celsius warming above pre-industrial levels has never been universally considered “safe” from either a political or scientific point of view. As the United Nations Framework Convention on Climate Change (“UNFCCC”) stated: “The ‘guardrail’ concept, in which up to 2°C of warming is considered safe, is inadequate and would therefore be better seen as an upper limit, a defense line that needs to be stringently defended, while less warming would be preferable.” And according to a Coordinating Lead Author of the IPCC’s 5th Assessment Report, the 2°C “danger level” seemed:

utterly inadequate given the already observed impacts on ecosystems, food, livelihoods, and sustainable development, and the progressively higher risks and lower adaptation potential with rising temperatures, combined with disproportionate vulnerability.

The most recent IPCC synthesis of climate science confirms that additional warming of 1°C (we already have 0.9°C warming above the preindustrial average) jeopardizes unique and threatened systems, including ecosystems and cultures. The IPCC also warns of risks of extreme events, such as heat waves, extreme precipitation, and coastal flooding, and “irreversible regime shifts” with additional warming.

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90 Petra Tschakert, 1.5 °C or 2 °C: a conduit’s view from the science-policy interface at COP20 in Lima, Peru, Climate Change Responses 8 (2015), http://www.climatechangeresponses.com/content/2/1/3.
92 Id.
4. **Protect Waters of the State & Marine Life From Deadly Acidification and Warming of Ocean Waters**

Conveniently, oceans have the same scientific standard of protection as the atmosphere and climate system. Marine organisms and ecosystems are already harmed and will increasingly continue to be harmed by the effects of ocean acidification. Critically important ocean ecosystems, such as coral reefs, are severely threatened by present day CO₂ concentrations of approximately 400 ppm and it is vitally important that atmospheric CO₂ levels are reduced to below 350 ppm in order to protect ocean ecosystems. The IPCC never concluded that 2°C warming or 450 ppm would be safe for ocean life. According to Dr. Ove Hoegh-Guldberg, one of the world’s leading experts on ocean acidification and the Coordinating Lead Author of the oceans chapter of the 5th Assessment Report of the IPCC:

Allowing a temperature rise of up to 2°C would seriously jeopardize ocean life, and the income and livelihoods of those who depend on healthy marine ecosystems. Indeed, the best science available suggests that coral dominated reefs will completely disappear if carbon dioxide concentrations exceed much more than today’s concentrations. Failing to restrict further increases in atmospheric carbon dioxide will eliminate coral reefs as we know them and will deny future generations of children from enjoying these wonderful ecosystems.

Even the 2015 Paris Agreement backed off of making any assumptions that 2°C is a safe level of warming though it did not state a maximum safe level of long-term warming, instead committing to pursue efforts to limit the temperature increase to 1.5°C. To prevent further degradation or the eventual depletion of the oceanic resources, it is imperative that atmospheric CO₂ concentrations be returned to below 350 ppm by the end of this century.

5. **The Clean Air Rule Must Be Aimed at 350 ppm and Mandate Annual Reductions of 8% Per Year**

It is imperative that all states and governments around the world, including the Washington Department of Ecology, set GHG emission limits targeted at 1°C temperature change, or a maximum of 350 ppm in global CO₂ levels, in order to avoid the cascading impacts that will occur with a 2°C or 450 ppm default policy based on political feasibility rather than scientific necessity. To reduce global atmospheric CO₂ to 350 ppm by the end of this century, this target would require that if global CO₂ emissions had flatlined with a peak in 2016, Washington emissions be reduced by 8% per year beginning in 2017, alongside Washington’s share in

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94 *Id.* at 2.
95 *Id.*
96 *Paris Agreement*, Article 2, Section 1(a).
achieving 100 GtC of global CO₂ sequestration through reforestation and soil protection. Continued delay makes it harder and harder for youth and future generations to protect a livable world. It is imperative to establish emission limits to put states and sovereigns around the world on a trajectory aimed for 350 ppm.

Atmospheric CO₂ levels are currently on a path to reach a climatic tipping point. Absent immediate action to reduce CO₂ emissions, atmospheric CO₂ may reach levels so high that life on Earth as we know it is unsustainable at these levels. Governments have the present ability to curtail the environmental harms detailed above. Atmospheric CO₂ concentrations will decrease if states stop (or greatly reduce) their burning of fossil fuels. The environmental harms and threat to human health and safety as described above can only be avoided if atmospheric CO₂ concentrations are immediately reduced. Any more delay risks irreversible and catastrophic consequences for youth and future generations.

Fossil fuel emissions must decrease rapidly if atmospheric CO₂ is to be returned to a safe level in this century. Improved forestry and agricultural practices can provide a net drawdown of atmospheric CO₂, primarily via reforestation of degraded lands that are of little or no value for agricultural purposes, returning us to 350 ppm somewhat sooner. However, the potential of these measures is limited. Immediate and substantial reductions in CO₂ emissions are required in order to ensure that the youth and future generations inherit a planet that is inhabitable.

6. **An Additional 100 gtC Must Be Sequestered Through Reforestation & Soil Protection Measures**

The scientific prescription for climate recovery requires both emission reductions and sequestration of 100 gigatons of carbon through reforestation and soil protection.

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97 Hansen Decl. (Exhibit O).
99 Harvey Blatt, America’s Environmental Report Card xiii (2005) (“How can we stop this change in our climate? The answer is clear. Stop burning coal and oil, the sources of nearly all the carbon dioxide increase.”).
100 Hansen, Where Should Humanity Aim?, 217 (discussing the need to reduce the atmospheric CO₂ concentration to 350 ppm).
101 Id. at 227.
102 For an overview of the carbon cycle and sequestration potential of forests and soil, see Expert Declaration of Thomas Crowther, Ph.D., in support of Western Environmental Law Center and Our Children’s Trust’s comments on proposed Clean Air Rule, WASH. ADMIN. CODE § 173-442 (July 22, 2016) (“Crowther Decl.”).
104 It is important to note that reforestation and sequestration efforts are not a replacement for emission reductions of at least 8% per year (2016 baseline); they are in addition to emission reductions.
We cannot halt the rise in global surface temperatures without addressing forest and vegetation loss and degradation of soil. Furthermore, since the concentration of CO2 in the atmosphere is currently over 400 parts per million (ppm) and the safe level is no more than 350 ppm, we need to draw down this excess CO2 out of the atmosphere.\(^{105}\)

Specifically, Washington must sequester at least 9,393,160 metric tons of CO2 per year between 2012 and 2050 in order to proportionally contribute to the global prescription of 350 ppm.\(^{106}\) In actuality, since Washington’s forests have above average potential for carbon sequestration, Ecology should aim to sequester even more CO2 than its average share. To comply with the scientific prescription for climate recovery, Ecology must promulgate regulations and policies that mandate sequestration in addition to reducing emissions.\(^{107}\) Ecology’s Rule fails to properly analyze sequestration in a number of ways: 1) it does not address deforestation or reforestation; 2) it does not provide for sustainable forest management practices to improve sequestration and reduce wildfires; and 3) it fails to properly consider soil carbon sequestration.

(a) Forest Carbon Sequestration is an Integral Component of Climate Recovery that Ecology Failed to Consider.

The Rule fails to properly consider possibilities for reforestation or for slowing deforestation. Washington is home to 20-21 million acres of forestland – half of its total land area.\(^{108}\) State-conducted inventories report that Washington forests are net sinks of CO2.\(^{109}\) About 29 MMtCO2e are sequestered by Washington forest biomass every year.\(^{110}\) Consequently, forest management is integral to any effective and enduring climate change mitigation strategy in Washington.

Washington forests are exceptional carbon sinks but deforestation poses a serious risk to their carbon storage capacity. Pacific Northwest (PNW) forests have the highest

\(^{105}\) Crowther Decl. ¶ 5.

\(^{106}\) This number is calculated by multiplying the annual carbon sequestration requirement per capita for 2012-2050 by the population of Washington. Based on a global annual carbon sequestration requirement of 1.31 Metric Tons CO2 per person, EUGENE SUSTAINABILITY OFFICE, METHODOLOGY FOR ESTABLISHING A COMMUNITY CARBON BUDGET 6, at https://www.eugene-or.gov/DocumentCenter/View/26229, and Washington population estimates of 7,170,351 in 2015, Washington, UNITED STATES CENSUS BUREAU: QUICKFACTS, at https://www.census.gov/quickfacts/table/PST045215/53,00 (last visited July 20, 2016).

\(^{107}\) Crowther Decl..


\(^{110}\) CENTER FOR CLIMATE STRATEGIES, supra note 7, at ES-4.
carbon stocks in the United States.111 Forests in the western PNW are particularly effective carbon sinks due to the large presence of coniferous and old growth trees and historically infrequent fires.112 All of these factors allow significant amounts of carbon to accumulate in PNW forests.113 However, between 1988 and 2004, 17% of western Washington’s forestland was converted to other uses.114 Every year, an additional 0.37% to 1.04% of Washington’s forestland is converted into residential or commercial development.115 Such land use change reduces Washington’s overall carbon storage capacity and thus impairs capacity for climate recovery.

Mandating carbon storage in Washington forests is vital to restoring a safe atmospheric balance of CO₂. In a report commissioned by Ecology in response to an executive order from Governor Gregoire, the 2010 Forest Carbon Workgroup expressed its belief that “conversion of forestland to non-forest uses represents one of the greatest sources of loss of forest carbon sequestration and storage, and therefore avoiding such conversion where feasible is a high priority means of reducing those losses and accompanying GHG emissions.”116 Similarly, the United Nations has stated, “combating climate change without slowing deforestation is a lost cause.”117 These conclusions are based on the scientific consensus that deforestation is “one of the largest anthropogenic sources of emissions to the atmosphere globally.”118 Net deforestation is responsible for 20% of the increase of atmospheric CO₂ globally since the preindustrial era.119 This amounts to an additional 100 gigatons of carbon in the atmosphere.120

To adequately heed current science, Ecology must include regulations aimed at increasing carbon sequestration by preventing any net forest loss immediately, then promoting reforestation and more sustainable forestry practices aimed at achieving the required 9,393,159 metric tons of CO₂ sequestration per year. These measures must be in addition to reducing overall emissions from other sectors.

112 Id.
113 Id.
114 BRADLEY ET AL., supra note 6, at 269.
115 Id. at 260.
119 Hansen et al., supra note 2, at 10.
120 Id.
Ecology has failed to properly consider forest health management or analyze the impacts of increasing intensity and frequency of forest fires on sequestration potential. Unhealthy forests increase the risk of extreme wild fires, which in turn reduce forest sequestration potential. With wildfires increasing in frequency and intensity across Washington State, managing forest health will be essential to protecting carbon storage processes.

The dangers of increased fire risk with regards to sequestration have been noted by numerous state-sponsored efforts in Washington. Forest fires release carbon sequestered in forests and reduce the carbon storage capacity across the state. Forest fires reduce sequestration potential by “affect[ing] the land-atmosphere exchange of [carbon] directly by releasing CO₂ to the atmosphere . . . and indirectly by shifting forest age class distributions toward a greater proportion of young forests.”

As climate change worsens, “Washington’s forests are likely to experience significant changes in the establishment, growth, and distribution of tree species as a result of increasing temperatures, declining snowpack, and changes in soil moisture.” Forests also face increased threats of fire, insect outbreaks, and diseases. All of these factors result in hazardous amounts of excess fuel in forests, which will result in an increased frequency and intensity of wildfires in Washington. In fact, Washington is already experiencing its worst fire seasons in recorded history – more than 1,000,000 acres burned in 2015 and 400,000 acres in 2014. Around 13.3 million acres – greater than half – of Washington forests are at moderate to high risk for fire.

Despite the huge importance of forest carbon sequestration in climate recovery, Ecology’s Rule fails to consider or recommend any methods for restoring and maintaining the health of Washington’s forests to avoid the detrimental impacts of severe wildfires on Washington’s sequestration potential. While Ecology does not directly

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121 2010 FOREST CARBON WORKGROUP, supra note 14, at 11.
122 Id.
123 Raymond & McKenzie, supra note 9, at 1589-90.
125 Id.
126 2010 FOREST CARBON WORKGROUP, supra note 14, at 11.
127 CENTER FOR CLIMATE STRATEGIES, supra note 7, at I-5.
manage state and private forest lands. Ecology is the agency established “to manage and develop our air and water resources in an orderly, efficient, and effective manner.”

(c) Ecology Failed to Mandate Soil Protection and Enhancement as a Means to increase Washington’s Carbon Sequestration Potential.

Finally, the proposed Rule fails to require measures to increase and protect soil carbon sequestration. Through both organic matter and inorganic compounds, “soil is a large reservoir of carbon.” Soil organic matter stores about three times more carbon than forests and other vegetation. Every 1% increase in average soil organic carbon content has the potential to reduce CO2 in the atmosphere by up to 2%. Methods for improving soil carbon sequestration include the application of compost, diversifying planting practices on farms, and adding biochar to soils.

In addition, agricultural soils in Washington store an estimated 1.4 MMtCO2e per year but have the potential to store much more with management aimed at improving sequestration. The agricultural sector could improve soil carbon storage capacity through sustainable farming practices such as efficient fertilizer use and solid manure management. Ecology must produce soil protection guidelines and encourage and incorporate such methods into the Rule to comply with the scientific prescription. Ecology is in the process of developing a general discharge permit for Concentrated Animal Feeding Operations on the state. As part of this permit, Ecology is able to mandate manure management practices that are designed to enhance the state’s sequestration potential. In its current form, the draft permit does nothing to do that, but measures can and should be incorporated into the final version of the permit. By failing to mandate soil carbon sequestration and sustainable agriculture practices, Ecology ignores processes pivotal to climate recovery in Washington.

Ecology has failed to properly consider the sequestration potential of forests and soil in the proposed Rule. To comply with the current scientific consensus that effective
climate recovery initiatives must include sequestration improvements, Ecology must address factors such as reforestation, forest management, soil carbon sequestration, and sustainable agricultural practices in its Rule. These sequestration initiatives must be in addition direct reductions in Washington’s GHG emissions. Forest and soil management are not an alternative to reducing emissions but rather a discrete, pivotal component of any effective climate recovery plan.

b. The Proposed Clean Air Rule is Not Targeted To Achieve 350 ppm By the End of the Century

i. Ecology’s Proposed Rule is Designed to Reduce Washington Emissions by Roughly 1% Per Year, Which Is Illegal

Ecology must fully analyze and disclose annual emission reduction rates relative to statewide emissions in order to understand the full impact of the rule on all of the emissions for which Washington must control and reduce. Because that analysis does not exist, our calculations show that for the first 3 years the rate of reduction relative to statewide emissions is only ~0.92% per year, gradually increasing through 2036, but still at rates far beneath the 8% required if emission reductions began in 2017 based on a 2016 flatline peak. However because Ecology’s rule delays actual emission reductions until 2018, and far later for many sectors, Ecology’s proposed emission reductions are even further off track from the best science, which by 2018 would require at least 8.5 percent annual reductions, coupled with carbon sequestration in soils and forests.

ii. The Proposed Rule Regulates An Insufficient Number of Sources

In the proposed Clean Air Rule, Ecology fails to regulate a sufficient number of greenhouse gas emissions sources. The proposed rule claims to cover only 66% of overall state greenhouse gas emissions. By establishing an excessively high compliance threshold (starting at 100,000 MT of CO₂e dropping to 70,000 MT of CO₂e) and failing to regulate some of the state’s most significant emission sectors, the agency proposes a severely inadequate emissions reduction scheme. In Foster v. Ecology, the court found that Ecology’s current climate change policies did not “preserve, protect and enhance the air quality for current and future generations.” Under the current proposed rule, Ecology continues to narrow the scope of the rule, to exclude some of the largest state emissions sources, including transportation, industrial forestry, agriculture, and corporations that emit less than 70,000 MT of CO₂e. Ecology has the authority, and legal obligation, to create a comprehensive and more stringent rule and set standards for all

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141 See Crowther Decl., supra note 1, at 3.
142 Hansen et al., supra note 2, at 1.
143 See Hansen Decl. (Exhibit O), ¶¶ 70, 82, 84.
emissions sources.\textsuperscript{146} In order to ensure the protection of current and future generations, Ecology must expand the rule to cover all major sources of GHG emissions in the state of Washington.

1. **Ecology Must Regulate Transportation Emissions**

   In the proposed Clean Air Rule, Ecology does very little to require actual reductions of state transportation emissions. Washington’s transportation sector accounts for the largest percentage of greenhouse gas emissions, approximately 44\%, and thus must be regulated in the proposed Clean Air Rule.\textsuperscript{147} The state has recognized that “addressing [transportation] emissions is key to achieving Washington’s statutory greenhouse gas reduction goals (RCW 70.235.020).”\textsuperscript{148} The *Foster* court noted that Ecology has not adequately addressed transportation emissions in existing policies and thus suggested that Ecology is obligated to address transportation emissions in the Clean Air Rule in order to protect the rights of young people.\textsuperscript{149}

   The proposed rule provides an option for covered parties to obtain ERUs through existing commute trip reduction programs. However, this provision is of little value. Commute trip reduction program emission reductions are separate from the proposed rule, and are presumed to occur even without the rule. As a result, any ERUs generated under commute programs are non-additional to overall emissions reductions. It is illogical for emission reductions from the commute trip reduction generated ERUs to be counted in determining transportation sector emission reductions.

   Ecology’s delayed regulation of petroleum fuel producers and importers does not suffice to address the state’s tremendous amount of GHG emissions from transportation. Ecology has essentially ignored the back end of the problem, i.e. the emissions from combustion of fossil fuels by vehicles. Within the transportation sector, “the consumption of gasoline in vehicles is the largest single source of emissions in Washington . . . accounting for over 23\% of total emissions in 2010.”\textsuperscript{150} The bottom line is that Ecology does not explicitly set emissions standards for or regulate transportation sector emissions in the rule, leaving to our children the challenge of emission reductions in this significant sector. There is no question that Ecology has the existing legal authority to regulate emissions resulting from the sale of petrochemical products (gasoline, diesel, propane, etc.), or vehicle emissions specifically, as illustrated by its

\textsuperscript{146} RCW § 70.94.331.
development of a draft Clean Fuel Standard. The Legislature has not taken that authority away and it must be implemented as part of the Clean Air Rule. For example, all distributors of gasoline, diesel, or propane could be required to reduce the emissions resulting from the sale of those products by 8 percent per year.

4. **Ecology Must Regulate Emissions from New and Retrofitted Buildings**

   Residential, commercial, and industrial greenhouse gas emissions represent 22-30% of Washington’s GHG emissions.\(^{151}\) To address these emissions, Ecology must establish emissions standards for new or retrofitted buildings to ensure that new buildings are not locking in old energy-inefficient infrastructure and that the emissions for which they are responsible meet the limits set by Ecology, consistent with science-based standards. The new emission standards for buildings must put Washington on track to achieve a rate of reductions for this sector, which when combined with other sectors, will equal the total annual emission reductions required by the best science. We are not asking Ecology to change existing state law regarding energy-related building standards,\(^{152}\) but rather that Ecology acknowledge the reality that buildings are sources of GHG emissions and should be regulated as such.

3. **Ecology Must Regulate Industrial Forestry**

   Ecology must do more to limit industrial logging emissions by regulating the industrial forestry sector under the Clean Air Rule. At present, Ecology fails to properly disclose or analyze GHG emissions from the forestry sector, even though those emissions trigger reporting requirements under existing state law.\(^{153}\) A recent study critiques the global accounting practice used in assessing forest sector GHG emissions, which lumps timber industry emissions with carbon sequestered on forest conservation land.\(^{154}\) Ecology cannot fall into the same trap and assume that all GHG emissions from the forestry sector are counteracted by forest sequestration. Instead, Ecology must include GHG emissions from the forestry sector in its GHG inventory and regulate the forestry sector as part of its emission reduction regime.

4. **Ecology Must Regulate Emissions from Agriculture**

   Ecology’s proposed rule also fails to regulate agricultural activities (including manure management and fertilizer use), which are responsible for a sizeable amount of GHG emissions in the state.\(^{155}\) The failure to regulate agriculture makes no sense,

\(^{151}\) *See* Department of Ecology, Climate Change, Frequently asked questions about the Washington Clean Air Rule (July 21, 2016), at [http://www.ecy.wa.gov/climatechange/CarbonRuleFAQ.html](http://www.ecy.wa.gov/climatechange/CarbonRuleFAQ.html); RCW § 19.27A.130.

\(^{152}\) RCW 19.27A.

\(^{153}\) RCW 70.94.151(5)(a).


especially in light of the fact that the agricultural sector seeks to benefit substantially from Ecology’s proposal to count agricultural activities as recognized as generating emission reduction units.\(^{156}\) In 2012, agricultural soils in Washington emitted 1.7 MMTCO2e and manure management was responsible for another 1.2 MMTCO2e.\(^{157}\) Together with emissions from livestock through enteric fermentation, the agricultural sector was responsible for around 5.4% of Washington’s total emissions in 2012.\(^{158}\)

Concentrated Animal Feeding Operations (CAFOs) are major contributors of greenhouse gas emissions (“GHG”) in the state of Washington. “Agricultural activities such as manure management, fertilizer use, and livestock (enteric fermentation) result in methane and nitrous oxide emissions that account for 6% of State GHG emissions in 2005.”\(^{159}\) Worldwide, the livestock sector generates more GHG emissions as measured in CO₂ equivalent (18%) than the transportation sector.\(^{160}\) Livestock generates 65% of human-related nitrous oxide which has 296 times the global warming potential of CO₂, accounts for 37% of all human-induced methane\(^{161}\) and is responsible for 64% of ammonia emissions: devastating health effects. Id. Global greenhouse gas emissions from the agricultural sector totaled 4.69 billion tons of carbon dioxide (CO₂) equivalent in 2010 (the most recent year for which data are available), an increase of 13 percent over 1990 emissions. By comparison, global CO₂ emissions from transport totaled 6.76 billion tons that year, and emissions from electricity and heat production reached 12.48 billion tons, according to Worldwatch Institute’s Vital Signs Online service (www.worldwatch.org).\(^{162}\) Manure management activities have been identified as a major contributing factor to increased GHG emissions:

Manure that is deposited and left on pastures contributes to global nitrous oxide emissions because of its high nitrogen content. When more nitrogen is added to soil than is needed, soil bacteria convert the extra nitrogen into nitrous oxide and emit it into the atmosphere—a process called nitrification. Emissions from manure on pasture were highest in Asia, Africa, and South America, accounting for a combined 81 percent of global emissions from this source.\(^{163}\)

\(^{156}\) WAC 173-442-160(6).
\(^{158}\) Id.
\(^{160}\) Livestock’s Long Shadow – Environmental Issues and Options, United Nations Food & Agriculture Organization (Nov. 29, 2006).
\(^{161}\) This assumes that methane causes 23 times as warming as CO₂ but as discussed below, this measure of warming is outdated. Methane is now estimated to cause 34 times the amount of warming of CO₂.
\(^{163}\) Id.
In Washington, “[t]he manure management category [of emissions], which shows the highest rate of growth relative to the other categories, accounted for 11% [] of total agricultural emissions in 1990 and is estimated to account for about 25% [] of total agricultural emissions in 2020.”164 The science is clear that livestock population is a critical component of any emissions calculation for the agricultural sector. Id. The GHG emissions calculations done in Washington for the agricultural sector explicitly recognize the need for more precise data because “[e]missions from enteric fermentation and manure management are dependent on the estimates of animal populations and the various factors used to estimate emissions for each animal type and manure management system (i.e., emission factors which are derived from several variables including manure production levels, volatile solids content, and CH₄ formation potential).” Id. at F-6.

In 2012, the leading source of methane in the United States was enteric fermentation, and manure management was the fifth largest source.165 Activities associated with manure management are also the third largest source of nitrous oxide, another powerful greenhouse gas.166 In Washington State, enteric fermentation was responsible for 2.0 million metric tons of CO₂ equivalents (“MMT CO₂eq”) and manure management was responsible for 1.1 MMT CO₂eq in the year 2010.167

Methane is produced by ruminants during the digestion process. Furthermore, anaerobic conditions in manure holding areas and runoff lagoons lead to methane emissions. The EPA website estimates that one cow produces up to 110 kg of methane per year.168 Nitrous oxide, a powerful greenhouse gas,169 is also produced from combined manure and urine during storage. In addition, the farm equipment, generators and boilers used at the feedlot facility and heavy-duty diesel trucks transporting livestock and feed will produce carbon dioxide from fuel usage and from electricity usage. Diesel-powered engines and generators are also a significant source of black carbon. If Ecology wants to give the agricultural industry the economic benefit of generating emission reduction units, it must also treat agriculture as a covered party under the rule.

5. **Ecology Must Regulate Consumption-based Emissions**

Ecology must do a greenhouse gas emissions inventory that includes consumption-based emissions. A consumption-based emissions inventory is a greenhouse gas inventory including estimates of embedded emissions associated with the

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166 Id. at 2-5.
169 Myhre et al, IPCC AR5 Chapter 8 at 714 (N₂O GWP = 298 over 100 years and 268 over 20 years).
life cycle of materials and services, including electricity and fuels, consumed in Washington. These emissions are included regardless of whether they physically originate in Washington. A consumption-based inventory uniquely counts out-of-state emissions associated with producing the products, services, and fuels consumed in Washington. It also counts emissions associated with producing fuels that are used to generate electricity consumed in Washington. Ecology has not provided a consumption-based inventory for CO2 emissions, which would include all embedded CO2 emissions for goods produced outside of Washington and consumed within Washington. Without this inventory and analysis, Ecology cannot accurately account for all of the State’s emissions sources to ensure that it is fulfilling its constitutional and statutory mandate to protect the rights of young people and future generations.

Oregon is a model state for accounting for consumption emissions. The state has recognized that Oregon households’ consumption affects the global environment and contributes to climate change.170 In order to assess more complete carbon footprint, the State developed a scheme to include out-of-state production emissions for products consumed within the state. Emissions are counted if they satisfy households’ economic final demand.171 The inventory includes emissions associated with tangible commodities such as food, vehicles, appliances, furnishings and electronics. It also includes services, fuels, and electricity.172 The inventory helps Oregon “design strategies that lower the carbon intensity of goods and services consumed by Oregonians and create incentives for Oregon’s in- and out-of-state suppliers to shift to production methods that reduce their carbon footprint.173 Ecology has failed to include emissions standards for consumption emission reductions into the rule. In order to effectively address all of Washington’s GHG emissions, Ecology must 1) prepare a consumption-based inventory of Washington GHG gases and 2) set consumption emission reduction emission standards as part of the Clean Air Rule.

6. **Ecology Must Lower the Threshold for Covered Parties**

   Ecology must lower the threshold for parties to be covered under the rule in order to adequately reduce atmospheric CO2 levels. The current threshold schedule is arbitrary and not based on sound science. Under the proposed rule, the first compliance period includes covered parties with annual emissions greater or equal to 100,000 MT CO2.174 The compliance threshold gradually decreases by 5,000 MT CO2 each compliance period until it reaches 70,000 MT CO2 in 2035, after which the threshold remains at 70,000 MT CO2. So in essence, Ecology is legalizing the emission of massive amounts of CO2 and makes it impossible for the state to reduce its GHG emissions in the manner prescribed

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171 Id.
172 Id at 29.
173 Id at 9.
174 Clean Air Rule, Wash. Admin. Code § 173.442.110(3) (proposed May 31, 2016); WAC § 173.442.030(3).
by best available climate science. The thresholds selected by Ecology grossly deviate from current state and federal reporting requirements as well as other cap and trade programs. In Washington, facilities and transportation fuels suppliers emitting at least 10,000 MT CO$_2$ of greenhouse gases are statutorily required to report their emissions.\textsuperscript{175} It follows, then, that Ecology has express legislative approval to regulate sources that exceed more than the 10,000 MT CO$_2$ threshold.

Additionally, the EPA reporting threshold is 25,000 MT CO$_2$.\textsuperscript{176} California’s reporting threshold is 25,000 MT CO$_2$, and the state also requires entities whose annual emissions equal or exceed 25,000 MT CO$_2$ of GHG emissions to comply with the state cap-and-trade program.\textsuperscript{177} To date, Ecology has offered no justification for deviating from either the 10,000 MT CO$_2$ or 25,000 MT CO$_2$ thresholds or failing to connect its established thresholds to science-based levels of emission reductions. In order to be on track to adequately reduce statewide emissions, Ecology should lower the compliance threshold to at least match the GHG emission reporting threshold of 10,000 MT CO$_2$.

Washington’s Clean Air Act provides Ecology broad authority to cover significantly more parties that what is proposed in the current draft of the rule.\textsuperscript{178} Pursuant to the Washington Clean Air Act, Ecology is charged with securing and maintaining the “. . .levels of air quality that protect human health and safety. . .”\textsuperscript{179} In order to reduce atmospheric CO$_2$ emissions to 350 ppm by the end of the century, it is imperative that Ecology regulate a significantly larger segment of GHG emitters.\textsuperscript{180}

**iii. The Proposed Rule Illegally Delays Compliance & Contradicts Ecology’s Own Findings that Urgent Action is Needed to Draw Down GHG Emissions**

After detailing the devastating impacts all sectors of Washington will face in light of climate change, in December 2014 Ecology proclaimed:

> If we delay action by even a few years, the rate of reduction needed to achieve these goals would have to be beyond anything achieved historically and could be very costly.

* * *

Climate change is not a far off risk. Globally, it is happening now and is worse than previously predicted, and it is forecasted to get worse.

\textsuperscript{175} RCW § 70.94.151 (5)(a) (“The department shall adopt rules requiring persons to report emissions of greenhouse gases as defined in RCW 70.235.010 where those emissions from a single facility, source, or site, or from fossil fuels sold in Washington by a single supplier meet or exceed ten thousand metric tons of carbon dioxide equivalent annually.”).

\textsuperscript{176} 40 C.F.R. § 98.2.

\textsuperscript{177} Cal. Code Regs. tit. 17, §§ 95812, 95101.

\textsuperscript{178} RCW § 70.94.331.

\textsuperscript{179} RCW § 70.94.011.

\textsuperscript{180} See Hansen, et al. *Assessing ‘Dangerous Climate Change.’*
We are imposing risks on future generations (causing intergenerational inequities) and liability for the harm that will be caused by climate change that we are unable or unwilling to avoid.\textsuperscript{181}

In spite of this finding, which simply reiterates what the agency has been saying for years,\textsuperscript{182} Ecology has arbitrarily allowed a twenty-year “phase-in” for covered parties to come into compliance with the requirements of the rule. It is unfathomable for Ecology to sanction such a long delay for implementation of the rule in light of its own findings regarding the urgency of the climate crisis. The Clean Air Rule must require immediate reductions of GHG emissions if we are to have any hope of contributing to the resolution of the climate crisis. We have a very small window of opportunity to achieve global concentrations of 350 ppm by the end of the century and Ecology’s “kick the can down the road” approach is unlawful.

iv. The Emissions Threshold Arbitrarily Does Not Continue To Decrease After 2035

Remarkably, Ecology does not decrease the emissions threshold after 2035, a time when the young people of today will be experiencing more severe impacts of living in a climate-changed world. Ecology offers no justification for this. Given the science that clearly demonstrates the need and feasibility of a achieving net-zero carbon economy in Washington state,\textsuperscript{183} it is illegal for Ecology to sanction such dangerous levels of GHG emissions after 2035.

v. The Proposed Rule Arbitrarily Relies Upon A Flawed Washington GHG Reporting Program

The current GHG reporting program (GHGRP) rules does not cover all petroleum products, and appears to be limited to “liquid motor vehicle fuel, special fuel, or aircraft fuel.” This should be clarified and addressed by Ecology. Are liquefied petroleum gases and all other petrochemical products covered by the reporting program? If so, they should be regulated under the proposed Clean Air Rule.

Even under its current GHGRP, Ecology is 4 years behind in reporting emissions data. Our consultant has provided up to date emissions data for WA through 2015 based on the EPA Tool and EIA SEDS data.\textsuperscript{184} This level of information on emissions and the trajectory are a major failing of the proposed rule.

\textsuperscript{182} See, e.g., Ecology, Path to a Low Carbon Economy, Ecology Publication No. 10-01-011 (December 2010) at 1 (“Global climate change is the economic and environmental issue of our lifetime. The science is clear that we must move forward quickly to reduce greenhouse gas (GHG) emissions in order to mitigate its effects. Without action, climate change will negatively affect nearly every part of Washington’s economy through changes in temperature, sea level, and water availability.”).
\textsuperscript{183} See Jacobson Decl. (Exhibit P).
\textsuperscript{184} See Exhibit Q (Washington Emissions Data Compared to Science-Based Emissions Reductions-OCT).
Further, Ecology intends to update the reporting methodology and requirements for GHG reporting in preparation for the Clean Air Rule implementation in a way that, when the updates take effect, expected emissions from individual fuel providers will change (based upon the new methodology) and entities that currently appear that they would be covered or not covered under the program based on old data may switch to being covered or not covered when the new reporting methodology comes into effect. However, none of this is clear in the proposed rule, which leaves a tremendous amount of uncertainty for the public and industry. Furthermore, an accurate reporting system is a necessary first step towards fulfilling Ecology’s obligation to address climate change.

vi. The Rule’s Reliance on Offsets is Flawed

(a) The proposed Rule Allows Ecology to Delegate Responsibility for the Creation of Offsets and their Attendant Emissions Reductions to Other State Agencies and External Carbon Registries.

Ecology’s strong reliance on the use of offsets is ill advised. The proposed rule establishes a compliance obligation WAC 173-442-200(3) that must be met with emissions reductions by the end of each compliance period as measured in Emissions Reduction Units, which are equivalent to one metric ton of CO2e WAC 173-442-020(1)(m). According to Ecology’s cost-benefit analysis, covered parties may, individually or in combination:

A. Reduce emissions on-site at the covered party, or obtain the equivalent of similar reductions from other covered or voluntarily participating parties.
B. Offset emissions using an in-state emissions reduction project or program, including RECs, as allowed by the proposed rule.
C. Purchase emissions allowances through existing carbon markets if allowed by the proposed rule.

In their analysis, Ecology forecast a range of compliance costs per MT CO2e for each compliance option. The estimated costs are:

Emission reduction programs (Renewable Energy Credits): $3 – $11 per MT CO2e
Emissions reduction projects: $5 – $29 per MT CO2e
Market emissions reductions: $13 – $14 per MT CO2e
On-site emissions reductions: $23 – $57 per MT CO2e

The cost-benefit analysis acknowledged that:

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185 For a more thorough description of the problems associated with offsets, see the comments submitted by Food and Water Watch on the proposed Clean Air Rule.
Actual costs depend on the method of compliance chosen, and Ecology assumes that covered parties will choose the lowest-cost option available to them. In order, these are RECs, in-state emissions reduction projects, market purchases, and on-site emissions reductions.¹⁸⁸

These projected results highlight the importance of offset projects and programs under the proposed rule, given that Ecology expects them to be preferred by covered parties given their more favorable economics. Further, as a centerpiece to the proposed rule, Ecology identifies a wide range of projects and programs that can generate offset credits, and indeed encourages polluters to take advantage of offsets rather than reducing their own emissions in the state. This is the wrong approach.

As the agency responsible for operating and enforcing any Washington GHG reduction program, Ecology is legally obligated to ensure that its verification criteria are met. However, the proposed rule shifts responsibility for determining projects and programs that generate offset credits to other state agencies and external registry programs, and provides contradictory provisions as to eligible programs, making Ecology’s job of policing offsets criteria virtually impossible.

A key criterion for offset credit is that the emissions reductions must be “[a]dditional to existing law or rule” and cannot be used if “[i]f an emission reduction is required by another statute, rule, or other legal requirement.” WAC 173-442-150 Nevertheless, the proposed rule would allow emissions reductions from the following already-existing “policies” to create ERUs and be used for compliance: (1) The EPA Clean Power Plan; (2) The Washington GHG emissions performance standard; (3) The Washington CO2 mitigation standard for fossil-fueled thermal electric generation facilities; and (4) Commute trip reduction programs.

To the extent that emission reductions are required by these programs, their use for the creation of offsets would lead to double-counting and violate the additionality criterion. To generate ERUs, sectors include transportation, combined heat and power, energy, livestock and agriculture, waste and wastewater, and industrial sectors. The proposed rule establishes exceedingly complicated and poorly specified processes to determine actual emissions reductions and the generation of ERUs from activities and programs within these sectors. WAC 173-442-160. They include protocols from established registries or state agency processes to establish the eligibility of activities and programs in each sector, and the ensuing emissions reductions that Ecology would rely on to assign ERUs. The sole responsibility for Ecology for offsets would be to “assign the appropriate quantity of ERUs.” WAC 173-442-160.

For each sector, other entities besides Ecology would be responsible for determining emissions reduction activities and programs and the resulting emission reductions. However, for each of these sectors, emissions reductions may also be determined through a methodology approved by Ecology, with Ecology assigning a value

¹⁸⁸ Id. p. 23.
for a quantity of ERUs. WAC 173-442-060. Ecology’s ability to judge whether or not projects and programs meet established criteria, especially the critical criterion of non-additionality, would be highly compromised given that these offsets would be administered by separate agencies and held to the standards of different registry protocols.

Finally, nowhere in the proposed rule is it specified how covered parties can acquire offset credits or the ERUs deemed created by Ecology, by funding projects and programs, purchasing credits from the responsible parties, or other means. The failure of the proposed rule to spell out how the marketplace for offset credits would operate is an enormous and inexplicable gap in the design of the proposed offset program.

(b) The Excessive Role Envisioned for Allowances Would Impose Costs and Deny Benefits to Washingtonians.

The proposed rule establishes purchases of allowances from external multisector GHG emission reduction programs as a compliance option. WAC 173-422-110(3). The proposed rule sets limits on how much of a covered party’s compliance obligation can be met through allowances, starting at 100% for the first two compliance periods and declining slowly over time. WAC 173-442-170. Ecology’s focus should be on requiring polluters to install the technology needed to minimize the pollution. Ecology should not be legalizing the continued discharge of dangerous levels of GHG emissions. Such an approach puts those in close proximity to the polluting facilities in harms way. Those are precisely the people Ecology is supposed to be protecting.

As an initial matter, the proposed rule states that allowances must be “derived from methodologies congruent with chapter 173-441 WAC.”189 This chapter is Washington’s GHG reporting rule. Allowances are not the same as activities that generate GHG emissions reductions reportable to the Washington system. Rather, they are officially-sanctioned authorizations by air quality regulators allowing a certain amount of GHG emissions to be emitted. It is unclear what this provision seeks to accomplish.

The ability of covered parties to use allowances for all or most of their compliance obligations prioritizes perceived market efficiencies over equally important non-market factors. Ecology’s cost-benefit analysis acknowledges that there are trade-offs between in-state reductions and allowances. For example, the cost-benefit analysis identifies important pollution and environmental justice factors to weigh against the use of allowances. It acknowledges that reductions in associated emissions such as criteria pollutants and toxic air pollutants can have major public health benefits.190 Ecology identified a number of population groups living near GHG emissions facilities: children, the elderly, minorities, and low-income, linguistically-isolated, and less educated populations. While each of these groups living near covered facilities stand to benefit from on-site emissions reductions, Ecology declined to analyze the tradeoffs between

189 Id. p. 18.
190 Id. p. 39
these. This is reflected in the proposed rule, which leaves it up to covered parties to
decide which compliance options to use based on their monetary costs alone. Ecology’s
assumption that on-site emission reductions will be selected last by covered parties makes
it highly likely that Washingtonians are not going to see the potential benefits of a rule
that regulates actual GHG emissions.

(c) Ecology Must Create Opportunities for Public Involvement in the
Implementation of Any GHG reduction Program.

Any offset program should be fully transparent and involve public participation in
implementation, such as third-party verification of reductions, the assignment of
emissions to entities that do not have reported emissions, and the assignment of ERUs to
offset projects. We believe that a vehicle for public oversight should be established under
the rule to provide the public with opportunities to participate directly in the state’s
efforts to reduce GHG emissions. In California, oversight committees were established
during the initial operations of the CA Cap and Trade Program, including an Emissions
Market Assessment Committee and an Economic and Allocation Advisory Committee. A
public oversight committee should include representatives of groups interested in the
achievement of GHG reductions in Washington and communities disproportionately
impacted by GHG pollution and climate change.

V. ECOLOGY’S COST BENEFIT ANALYSIS IS FLAWED

a. The Social Cost of Carbon Estimates Require Reductions Based on
Science

i. Ecology is Required to Consider the Real Costs & Benefits of the
Proposed Clean Air Rule.

Under RCW 34.05.328, the Department of Ecology is required to “[d]etermine
that the probable benefits of the rule are greater than its probable costs, taking into
account both the qualitative and quantitative benefits and costs and the specific directives
of the statute being implemented.” Ecology assessed some costs in its Preliminary Cost-
Benefit and Least Burdensome Alternative Analysis.191 In this analysis, Ecology
estimates the value of reducing GHG emissions based on the social cost of carbon (SCC)
developed by the federal government and the expected trajectory of GHG reductions as
covered parties meet their GHG emission reduction pathways. The SCC developed and
used by the federal government estimates economic damages expected from increases in
carbon dioxide emissions, monetized as dollars per metric ton.192 The damages from
climate change assessed in the SCC include “changes in net agricultural productivity,
human health, property damages from increased flood risk, and changes in energy system
costs, such as reduced costs for heating and increased costs for air conditioning.”193 The

191 Ecology Publication No. 16-02-008 (June 2016).
193 Id.
purpose of the SCC, pursuant to Executive Order 12866, is to enable governmental agencies to include the social benefits of reducing CO₂ emissions when conducting cost-benefit analyses on regulatory actions that affect global emissions. We applaud and support Ecology’s use of the SCC as part of its rulemaking process, especially since the most significant social costs of climate change will be experienced by the young and future generations. It is important that those costs are weighed against the minimal costs imposed on the corporations who are to be primarily regulated under the rule. We also support Ecology’s focus on global damage estimates as opposed to solely domestic estimates because of the inherent global nature of climate change. That being said, we offer the following comments to improve the accuracy of Ecology’s analysis.


For 2015, the U.S. has estimated the SCC range as between $11 and $105 per metric ton; for 2020, the range is between $12 and $123. When these estimates are viewed as “avoided costs,” they represent the dollar value of the benefits from avoiding future damages caused by climate change. However, the U.S. (and now Ecology) erroneously uses unreasonably high discount rates as a key component of the SCC, which discounts future benefits more steeply than near-term benefits, thereby valuing adults of the present generation more highly than children and all future generations, in violation of long-standing principles of evolutionary biology and morality, as well as legal rights of youth and future generations. Discount rates essentially are used to calculate the present value of future damages, and are represented as percentages. The federal government uses four discount rates to calculate a range of present values for the average annual SCC forecast by three integrated assessment models. The discount rates are 5%, 3%, 2.5%, and the 95th percentile at 3%, the high end of the distribution of potential future damages. Higher discount rates give less value to future damages and yield lower present values and, alternatively, lower discount rates give greater value to future damages and yield higher present values. The federal government uses a range of


198 Id.

199 Id. at 2
discount rates “because the literature shows that the [SCC] is highly sensitive to the
discount rate and because no consensus exists on the appropriate rate to use for analyses
spanning multiple generations.”200 The 2.5% discount rate is not, as Ecology suggests,
the most appropriate discount rate and the SCC values derived from a 2.5% discount rate
should not be valued as the most likely SCC.201 Rather, the range of costs produced by
the SCC are simply meant to cover a range of future damage estimates. The 2.5%
discount rate applied by Ecology is too high and, therefore, inappropriate for use in its
cost-benefit analysis.

Generations

Agencies using the SCC developed by the U.S. Interagency Working Group rely
on estimates that do not adequately represent the costs of climate change to children and
future generations.

According to the 2010 Technical Support Document of the Interagency Group:

With respect to the pure rate of time preference, most papers in the climate
change literature adopt values for $\rho$ [discount rate] in the range of 0 to 3 percent
per year. The very low rates tend to follow from moral judgments involving
intergenerational neutrality. Some have argued that to use any value other than $\rho
= 0$ would unjustly discriminate against future generations (e.g., Arrow et al.
1996, Stern et al. 2006). However, even in an inter-generational setting, it may
make sense to use a small positive pure rate of time preference because of the
small probability of unforeseen cataclysmic events (Stern et al. 2006).202

Nevertheless, although estimates for appropriate discount rates of future
generations ranged from 1% to 3%,203 the Working Group chose 3% as the central value.
The Working Group “consistently chose relatively high discount rates available, without
explaining its rejection of alternative lower ones.”204 Of the four major uncertainties that
exist in applying economics to future climate change impacts, the Interagency Working
Group selected “the option[s] that minimize[ ] estimates of climate risks and damages.”205

200 Id.
201 AIR QUALITY PROGRAM, WASHINGTON STATE DEPARTMENT OF ECOLOGY, PRELIMINARY COST-BENEFIT
AND LEAST-BURDENsome ALTERNATIVE ANALYSIS, CHAPTER 173-442 WAC, 1, 12, 60 (2016) at
of Carbon for Regulatory Impact Analysis Under Executive Order 12866” at 21 (February 2010) available
at https://www.whitehouse.gov/sites/default/files/omb/inforeg/for-agencies/Social-Cost-of-Carbon-for-
RIA.pdf
203 Id. at 21
impact analyses: an introduction and critique,” at 8 (Sept. 2012) available at
205 Frank Ackerman and Elizabeth A. Stanton, “Climate Risks and Carbon Prices: Revising the Social Cost
of Carbon,” at 6 (2011) available at http://sei-us.org/Publications_PDF/SEI-Climate-Risks-Carbon-Prices-
By selecting these lower-risk options, the Working Group ignores “increasingly ominous scientific evidence about climate risks [that] imply much greater losses at higher temperatures.” These risks must be considered when determining the SCC because “[b]y the time we know what climate sensitivity and higher temperature damages turn out to be, it will be much too late to do anything about it.”

The EPA acknowledges that current SCC modeling does not account for all important damages. There is a noted absence in the models of many physical, ecological, and economic impacts predicted by current climate science. In responding to comments on the development of the SCC, the Interagency Working Group acknowledged that two of the three models used to derive an average SCC do not account for variability in the climate that could affect agriculture. Additionally, the models used in the SCC do not accurately, or at all, account for feedback loops such as ocean circulation patterns, forest diebacks, sea ice melt, and permafrost melt. Experts with the Natural Resources Defense Council found the models “likely to understate impacts by excluding a large number of factors that would increase it while excluding only a very small number of countervailing forces.” Moreover, the models used to develop the SCC omit climate change damages to fisheries, forests, and resource scarcity due to migration. A 2014 study found that the SCC should be no lower than $125 per metric ton based on an aggregate of studies using high and low discount rates, and even this value, which is marginally larger than federal estimates, was considered “realistic and conservative.” Further, some studies find negative discount rates may be more appropriate for estimating the SCC.

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206 Id. at 13
207 Id. at 19
209 Id.
211 Id.
Ecology estimates the present value of avoided GHG emissions under the proposed rule over a 20-year period as $14.5 billion, which is a vast underestimate. Governor Inslee stated in Executive Order 14-04 that “the effects of climate change on water supplies, public health, coastal and storm damage, wildfires, and other impacts, will cost Washington almost $10 billion per year after 2020” based on a study by the University of Oregon. Governor Inslee also stated that “studies conducted for the Western Climate Initiative indicated that a program to limit carbon emissions, implemented through market mechanisms, would result in a net increase of 19,300 jobs and increased economic output of $3.3 billion in Washington by 2020.”

Another indicator that Ecology’s estimate of the benefits of the rule is underestimated is its failure to take into account the Social Cost of Methane (SCM). Estimates of the SCM range from roughly $490 to $1500/MT in 2015 (in 2012 dollars) at discount rates of 5% and 2.5% respectively. The SCM has been adopted by EPA in recent regulatory impact analyses. In its cost-benefit analysis, Ecology failed to account for methane’s much greater impact on climate and its much higher social cost. According to the Washington GHG Inventory, methane emissions were estimated from the natural gas and wood products sectors at .9 MMTCO2e, roughly 1% of total GHG emissions. As noted above, methane is highly likely to be emitted by other sectors and we expect actual methane emissions to be significantly higher than those reported in the Inventory. If roughly half of the methane emissions reported in the Inventory were eliminated by the CAR, it would add roughly $32 million to the benefits under the rule.

Furthermore, Governor Gregoire, in Executive Order 12-07 stated:

Washington is the country’s top provider of farmed oysters, clams, and mussels. Our shellfish growers employ directly and indirectly more than 3,200 people around the state and provide an annual total economic contribution of $270 million statewide. The increasing levels of acidification in Washington’s marine waters pose serious and immediate threats to our shellfish resources, and the revenue and jobs supported by the shellfish industry.

The UW Climate Impact Group reports that “[b]y the end of the century, ocean

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218 Id. at 2
219 Marten et al., Incremental CH4 and N2O mitigation benefits consistent with the U.S. Government’s SC- CO2 estimates, Climate Policy,15:2, 272-298 (2015).
221 Id.
Acidification is projected to result in a 40% reduction, globally, in the rate at which mollusks (e.g., mussels and oysters) for shells, as well as a 17% decline in growth, and a 34% decline in survival.\(^{223}\) These numbers serve as examples that the estimated $14.5 billion in avoided costs is much lower than the actual avoided costs of climate change. Many other Washington-specific costs (e.g., loss of forest land due to wildfires, loss of tidelands due to sea level rise, etc.), are incorrectly omitted from this equation.

Finally, the “pure discounting” approach taken by the federal government values harm and death to future generations as only a fraction of the value of harm and death to the present generation.\(^{224}\) Discounting has been criticized as violating intergenerational neutrality, favoring the present generation over future generations.\(^{225}\) Applying higher discount rates in determining the SCC diminishes future generations’ rights to life, liberty, due process, and equal protection. Thus, a social cost of carbon analysis that applies a discount rate to the lives of future generations is manifestly unconstitutional and will lead to unconstitutional policies that lock in dangerous levels of warming, such as the proposed Clean Air Rule in its current form.

iv. Ecology’s Estimates Are Inadequate

Ecology estimates the SCC for present and future generations of Washingtonians based on the SCC developed by the federal government, but many assumptions and parameters used in Ecology’s estimates equate to grossly inadequate values. First, Ecology is basing the SCC on a 20-year timeframe. This timeframe is not only shorter than that utilized by the federal government, but the most severe climatic damage will occur beyond the 20-year mark. Second, Ecology fails to account for many important damages that climate change will bring, including physical, ecological, and economic impacts on both the local and global scale. Last, as stated above, evidence suggests that the discount rate used by the federal government favors the present generation over future generations and that the actual SCC is much higher than current SCC estimates. While we support Ecology’s use of the SCC in its economic analysis, it requires revision for the reasons set forth above.

VI. THE RULE ARBITRARILY EMULATES CAP & TRADE PROGRAMS IN OTHER JURISDICTIONS THAT ARE NOT WORKING & FAILS TO DIRECTLY REGULATE EMITTERS AND SAFEGUARD AGAINST LEAKAGE AND MARKET INSTABILITY

The ERU system, the centerpiece of Ecology's Proposed Clean Air Rule, is modeled on cap-and-trade programs, such as California's, that do not adequately reduce emissions and, if pursued, must be accompanied by strong, direct regulation of emission

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\(^{224}\) John E. Davidson, Amicus Curiae Brief, Juliana v. United States, at 29 (Feb. 24, 2016)

sources. The Proposed Rule relies upon a market based system that will fail to result in anything near the reductions needed; an approach that actually risks market instability. To remedy this, Ecology must ensure that rule requires actual, on-site emission reductions, coupled with a cap-and-trade approach that incorporates safeguards not currently in place in this Proposed Rule's ERU program.

(a) Cap-and-trade programs alone do not result in the emissions reductions necessary to address the risks of climate change

Ecology's exclusive reliance on a cap-and-trade model as the primary component of its emissions reduction program ignores the fact that other jurisdictions, such as California, have not achieved clear emissions reductions from these types of programs. For example, while California's cap-and-trade program has been portrayed as the centerpiece of efforts to halt climate change, it only accounts for a small proportion of targeted emission reductions. In fact, to this point, it has not resulted in any measurable reductions in emissions. This is consistent with the results of other market-based programs, which tend to be aimed more at assuaging business concerns rather than actually reducing GHG emissions. We understand that corporations feel they need to continue to profit at the expense of young people and future generations, but Ecology's Proposed Rule is a giant corporate giveaway that does not make the covered parties pay into the ERU trading system created by the rule.

(b) Existing Cap-and-Trade Programs Suffer from Leakage

Ecology's Proposed Rule, in allowing offsets and failing to include safeguards, risks leakage and the negation of any real emissions reductions, as well as market instability. To protect against these issue, Ecology must include safeguards in the rule, such as tighter restrictions on offsets. Leakage occurs when the actual total amount of emissions are not reduced, but are rather shifted so as to make it appear that an entity has reduced emissions. Broadly allowing offsets risks, as the Proposed Rule does, risks widespread leakage and a failure to produce any reduction in emissions. To protect against this catastrophe, Ecology should review the language in AB32 in California which aimed to ensure leakage was minimal. Ecology must, however, avoid California's, subsequent mistake, where negotiations with industry resulted in a series of exemptions that now allow for carbon leakage that potentially matches the quantity of carbon in the market. Not only does this negate any positive impact of California's

227 See, e.g., Food and Water Watch Comment Letter (July 22, 2016) at ¶ 11.
229 Id. See California Health and Safety Code (2014: §§ 35852(b), (b)(8)).
cap-and-trade program, it may be, in part, responsible for the reduction in demand for carbon credits in May's auction.\textsuperscript{231}

Recently, California's carbon credit auction resulted in only 10\% of credits available being purchased. Analysts suggest that the causes of this dismal auction outcome involved three primary issues, two of which are issues specific to California's tax structure and statutory guidelines.\textsuperscript{232} The third, however, overproduction of credits, results from leakage and emissions shuffling. Ecology's Proposed Rule must be modified to ensure that its ERU program does not suffer from the same sort of leakage that California's rule does. To do so, it must further limit reliance on offsets and ensure that the ERUs are allocated for true emission reductions and not as a result of shuffling or other activities that mask an industry's continued emissions.\textsuperscript{233}

Ecology’s proposed rule emulates aspects of the California cap-and-trade approach, without the additional regulations needed to reduce emissions and without sufficient safeguards, such as tight controls on offsets, to reduce leakage. It therefore fails to adequately cap emissions while risking instability greater than that that has occurred in California. In promulgating this rule, Ecology not only ensures that Washington's attempt to combat climate change is minimal and unlawful, but that this state will not lead in the effort to reduce emissions as envisioned by the Legislature and Governor Inslee. In addition, the destabilization and failure of the ERU program will result in and reinforce anxiety in other states about the risks of diverse approaches to emissions reduction. By creating a rule that directly acts to reduce emissions at the source and, for any cap-and-trade component of that rule, taking into considerations the lessons offered by California and other jurisdictions, Ecology has the opportunity to remedy this before this Proposed Rule becomes cemented as active regulation.

\textbf{VII. ECOLOGY HAS THE LEGAL TOOLS IT NEEDS TO REDUCE WASHINGTON’S SHARE OF EMISSIONS ON A PATH TARGETED TO 350 PPM BY THE END OF THE CENTURY}

In addition to Ecology’s Constitutional obligation to protect public trust resources, Ecology has ample legal authority to require more stringent emission reductions targeted to achieving 350 ppm by the end of the century. Ecology has been entrusted with protecting Washingtonians’ health and safety\textsuperscript{234} through the management


\textsuperscript{232} Commentators believe the current legal challenge, based on Proposition 13’s requirement that new taxes be supported by a two-third vote of the legislature, will not be successful. While the original statutory authority to initiate the cap-and-trade program possibly ends 2020, the legislature recently released a series of amendment’s that would continue the program through 2030. See Dan Walters, \textit{Could California’s ‘cap-and-trade’ auction meltdown happen again?} The Sacramento Bee. (June 13, 2016). http://www.sacbee.com/news/politics-government/politics-columns-blogs/dan-walters/article83098292.html Last accessed July 19, 2016.

\textsuperscript{233} See, e.g., Wara Comment Letter on Proposed Clean Air Rule ¶ 5. 6.

of air and water resources.\textsuperscript{235} Moreover, it must do its part to stabilize global climate levels.\textsuperscript{236} In order to achieve these goals, and comply with its other statutory obligations described above, Ecology has rulemaking authority to adopt rules and regulations that protect Washingtonians’ “fundamental and inalienable right . . . to live in a healthful and pleasant environment.”\textsuperscript{237} In addition, Ecology has a specific mandate to promulgate rules “establishing air quality objectives and air quality standards.”\textsuperscript{238} The department must fulfill its duties by managing and developing air and water resources,\textsuperscript{239} providing sound science to facilitate development of state electric power resources,\textsuperscript{240} limiting GHG emissions by complying with state law and regularly providing scientifically-informed recommendations to the Legislature,\textsuperscript{241} and mitigate harmful pollution and ocean acidification impacts to Washington’s waters.\textsuperscript{242} Additionally, Ecology has been entrusted with the protection of air quality for current and future generations and securing air quality levels to protect Washingtonians’ health and safety.\textsuperscript{243} The department must adopt rules and emission standards\textsuperscript{244} “as expeditiously as possible”\textsuperscript{245} to ensure air quality contaminant levels do not reach levels that endanger human health and the environment.\textsuperscript{246} Ecology must leverage their current authority to implement policies to ensure Washington is on track to achieve an annual 8% GHG emissions reduction.

(a) \textbf{100% Renewable Energy System By 2050}

A 100% renewable U.S. energy system can be achieved within the next thirty-five years without acquiring carbon credits from other countries. In other words, actual physical emissions of CO\textsubscript{2} from fossil fuels can be eliminated with technologies that are now available or reasonably foreseeable. This can be done at a reasonable cost by eliminating fossil fuel subsidies and creating annual and long-term CO\textsubscript{2} reduction targets. Net U.S. oil imports can be eliminated in about 25 years, possibly less. The result will also include large ancillary health benefits from the significant reduction of most regional and local air pollution, such as high ozone and particulate levels in cities, which is mainly due to fossil fuel combustion.\textsuperscript{247} Experts have:

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\textsuperscript{235} RCW § 43.21A.020.  \\
\textsuperscript{236} RCW § 70.235.020 (1)(a)(iii).  \\
\textsuperscript{237} RCW § 43.21A.010.  \\
\textsuperscript{238} RCW 70.94.011(2)(a).  \\
\textsuperscript{239} RCW § 43.21A.600 (2009).  \\
\textsuperscript{240} RCW § 70.235.020; RCW § 70.235.040.  \\
\textsuperscript{242} Wash. Rev. Code § 70.94.011.  \\
\textsuperscript{243} RCW § 70.94.331(2)(a)-(c) (1991).  \\
\textsuperscript{244} RCW § 70.94.011.  \\
\textsuperscript{245} Id.  \\
\textsuperscript{246} See Mark Z. Jacobson et al., 100% Clean and Renewable Wind, Water, and Sunlight (WWS) All-Sector Energy Roadmaps for the 50 United States, 8 Energy & Envtl. Sci. 2093 (2015) (for plans on how the United States and over 100 other countries can transition to a 100% renewable energy economy see \url{www.thesolutionsproject.org}); Arjun Makhijani, Carbon-Free, Nuclear-Free: A Roadmap for U.S. Energy Policy (2007); see generally Mark Z. Jacobson declaration, attached hereto as Exhibit P.}

44
found transitioning by 2050 to be economically feasible for every state. Importantly, states on schedule to transition to 100% renewable energy by 2050 will also reduce their emissions on the “350 by 2100”-trajectory, the pace needed to return atmospheric CO₂ levels to 350 parts/million by the year 2100, in line with the prescription stated by Dr. James Hansen and other expert climatologists.²⁴⁸

Experts state that approaches to transition to a renewable energy system and to phase out fossil fuels by about 2050 include: A cap on fossil fuel use that declines to zero by 2050 or a gradually rising carbon tax with revenues used to promote a zero-CO₂ emissions energy system and to mitigate adverse income-distribution effects; increasingly stringent efficiency standards; elimination of direct and indirect subsidies and other incentives for fossil fuel extraction, transportation, and combustion; investment in a vigorous and diverse research, development and demonstration program; banning new coal-fired power plants and phasing out existing coal-fired power plants; adoption of a policy that would aim to have essentially carbon-free state and local governments, including almost all of their buildings and vehicles by 2030; and adoption of a gradually increasing renewable portfolio standard for electricity until it reaches 100% by about 2050.²⁴⁹ Products and services already exist for building or remodeling buildings to have zero GHG emissions; for generating sufficient electricity with zero carbon dioxide emissions; for zero-emission transportation and industrial processes; and agricultural and forest processes that can also decrease GHG emissions and increase CO₂ sequestration. Governments around the world, including Washington, must fully consider and implement these measures in achieving their own annual emissions reduction measures to transition off of fossil fuels.

Furthermore, experts have already prepared plans for U.S. states, including Washington, as well as for over 100 countries that demonstrate the technological and economic feasibility of transitioning off of fossil fuels toward 100% of energy, for all energy sectors, from clean and renewable energy sources: wind, water, and sunlight by 2050. It is time to put these plans into action.

(b) Transitioning to 100% Clean and Renewable Energy by 2050 in Washington Is Possible & Necessary

Ecology can lead and facilitate Washington’s transition to 100% clean and renewable energy by 2050. Expert-prepared plans are already available to ensure Washington can meet emission reductions required by the best climate science. All that is missing is a comprehensive regulatory program by Ecology to facilitate and compel the transition. Reforming the energy system (in all sectors, including transportation) is technically and economically feasible, and in fact will be beneficial to Washingtonians and the state economy. Mark Jacobson, of Stanford University, is an expert who has

²⁴⁸ Jacobson Decl. at ¶ 5.
²⁴⁹ See id.
prepared a detailed plan for Washington and has offered a declaration in support of these comments on behalf of youth and future generations. The plan outlines the means by which solar, hydro and geothermal energy can take over the service now provided by fossil and bio-fuels across Washington State. See Figure 1. Additionally, the plan outlines policy measures needed to ensure Washington can transition to 100% renewable energy by 2050.

![Figure 1](image-url)

(i) Other Policy Options for Ecology

A wide array of emissions reduction policy options are available for Ecology to implement using its existing legal authority. We recognize the challenges the state has faced in light of our legislature’s recalcitrance to address climate change. But fortunately previous legislators, who took their job seriously as trustees of the state’s natural resources, gave us the tools we need to resolve this crisis. By implementing a combination of policies, instead of solely relying on the flawed Clean Air Rule, Ecology can more effectively and efficiently reduce Washington’s emissions. Furthermore, it is in both Ecology’s and the public interest for Ecology to collaborate with as many Executive agencies as possible and serve as a leader on the issue of climate change. An interdepartmental approach to climate change will result in the most robust and lasting change.

Much work has been done in regards to the policy measures that should be implemented to allow the state to reduce its GHG emissions. What is missing from Ecology, however, is the implementation and enforcement of the recommended policies.

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250 Mark Z. Robinson Declaration, attached as Exhibit P.

Ecology has the legal tools it needs to both require science-based emission reductions and to achieve them by setting emissions standards and implementing a wide array of complementary policies that when implemented will put Washington on a path to do its part to address global climate change and ocean acidification. Given the breadth of Ecology’s authority under the Clean Air Act, it can regulate all sources of pollution in the state by establishing air emission standards and limitations for those sources, including the electricity sector, building sector, transportation sector, industrial sector, agricultural sector, consumption sector, etc. Ecology will need to work in tandem with and collaboratively with other agencies and authorities as well in order to shift the systemic reliance on a fossil fuel-based energy system in all sectors, towards a renewable-based energy system. But to be clear, only Ecology is specifically charged with regulating emissions and setting standards and limits for those emissions. It cannot evade that statutory mandate simply because other agencies have overlapping authority that also affect emission levels. Ecology must lead, as mandated by the legislature. Climate change cannot be somebody else’s problem.

As examples, Ecology has the authority to implement all of the following policies and should thoroughly consider, evaluate and disclose the emission reduction potential of each of these policy mechanisms in its analysis of the proposed Clean Air Rule. Ultimately, it is up to Ecology to determine the appropriate policy make-up to achieve science-based emission reductions on track with the 350 ppm prescription. However, Ecology has not demonstrated that its current policy proposal, the Clean Air Rule, will be able to achieve emission reductions and thus these alternatives need to be considered. Thus, the following panoply should be considered:

1. Clean Energy Fund

Ecology should develop a Clean Energy Fund to offset costs of transitioning to renewable and clean energy and to administer a comprehensive regulatory scheme to reduce state emissions according to the best science and Ecology’s legal mandate. Clean Energy Funds are typically comprised of fees from consumer electricity bills or from electric utilities.\(^\text{252}\) Here however, the Fund could include fees charged to industries that emit GHGs, such as the petroleum refinery, production, or fuel distribution sector. These funds can be used in research and development of clean energy technologies and training, infrastructure upgrades, as well as sponsoring energy efficiency programs. For example, Clean Energy Fund fees may be collected by charging electricity consumers or by collecting or charging contributions from electric utility companies or other companies responsible for GHG emissions.\(^\text{253}\)

Any regulatory fee should be directly linked to the social costs associated with emissions, achieving appropriate science-based levels of emissions reductions, and


\(^{253}\) Id.
funding the regulatory program. Based on a report from Oregon, a fee on carbon of $150 a ton would only get Oregon about halfway to its (scientifically-inadequate) goal of reducing GHG emissions to 75% below 1990 levels.\(^{254}\) Even a regulatory fee on carbon of $150 per metric ton is well below the estimated cost to remove one metric ton of carbon from the atmosphere, which is around $600 per ton.\(^{255}\) Therefore, a regulatory fee on carbon is not likely to be sufficient on its own to meet Washington's required GHG emission reductions, but coupled with other efforts, is an important policy option for Ecology to consider.\(^{256}\)

The Washington Clean Air Act, administered by Ecology, directs state and local agencies to “lessen the negative environmental impact of . . . project[s] on all environmental media, including air, water, and land” when choosing air pollution control strategies.\(^{257}\) Furthermore, the Act directs that “the costs of protecting the air resource and operating state and local air pollution control programs shall be shared as equitably as possible among all sources whose emissions cause air pollution.”\(^{258}\) In accordance with the Act’s policy to “safeguard the public interest,” the Washington Clean Air Act, administered by Ecology, “provide[s] for the use of all known, available, and reasonable methods to reduce, prevent, and control air pollution.”\(^{259}\) The Department is “authorized to adopt such rules and regulations as are necessary and appropriate to carry out the provisions of this Chapter,” RCWA 43.21A.80, and as to the development of electric power resources, the Director “may represent the state and aid and assist the public utilities therein to the end that its resources shall be properly developed in the public interest insofar as they affect electric power . . . .”\(^{260}\) Ecology has full authority to impose regulatory fees in administering a comprehensive program to reduce GHG emissions without infringing on the taxation power of the legislature.\(^{261}\) Accordingly, Ecology should do the following:

- Impose regulatory fees on electric utilities and other industries directly emitting or responsible for emissions from the sale of their products


\(^{256}\) The passage of a carbon tax (e.g. Initiative 732) can also be used to facilitate the transition to clean energy and reduce the amount needed to be charged by a regulatory fee. Because that requires the passage of new law, we have not included a carbon tax on the list of policy options Ecology can and should implement.

\(^{257}\) RCW § 70.94.011.

\(^{258}\) Id.

\(^{259}\) RCWA 70.94.011.

\(^{260}\) RCWA 43.21A.605.

\(^{261}\) In Washington, a regulatory fee is distinguished from a tax if the following conditions are met: 1) the primary purpose of the fee “is to pay for a regulatory scheme, a particular benefit conferred, or mitigation of the burden created;” 2) “the money allocated [is] only to an authorized purpose;” and 3) “there is a direct relationship between the fee charged and the service received by those who pay the fee or between the fee charged and the burden produced by the fee.” *Storedahl Properties, LLC v. Clark County*, 178 P.3d 377, 382-5 (Wash.App. Div. 2, 2008). The Clean Energy Fund and its fees would clearly meet the test and qualify as a regulatory fee.
greater than 10,000 mtC, where the funds go into a Clean Energy Fund and are used for energy efficiency and clean energy projects.

- Provide permits to emit that include costs for GHG emissions, which feed into the Clean Energy Fund.
- Develop funding projects that allow utilities, property owners, businesses, and individuals access to Clean Energy Fund funds to assist their emission reduction efforts, with special consideration to low-income and disadvantaged communities.

2. New Building Emission Reductions and Green Building

Residential, commercial, and industrial greenhouse gas emissions represent 22% of Washington’s GHG emissions. As discussed earlier, Ecology must establish emissions standards for new or retrofitted buildings to ensure an expansion of energy efficiency measures. Additionally, technology already exists to implement Zero Energy Building (ZEB) standards. A ZEB is defined as “an energy-efficient building where, on a source energy basis, the actual annual delivered energy is less than or equal to the on-site renewable exported energy.” Thus, Ecology should consider the following in its proposed rule:

- Establish building emissions standards for new construction or retrofits to ensure expansion of energy efficiency measures that result in 100% carbon neutral buildings.
- Require all non-permitted businesses, including landlords, to do a carbon footprint audit that results in energy efficiency recommendations and make the Clean Energy Fund available for qualified projects.
- Provide support to the State Building Code Council, as needed, to ensure building codes are consistent with new emission standards and the legislature’s goal that by at least the year 2031, new homes and buildings will have zero fossil-fuel emissions. The legislature has found that energy efficiency is the “cheapest, quickest, and cleanest way to meet rising energy needs, confront climate change, and boost our economy.”

3. Electricity Sector Emission Reductions

The electricity sector represents 20% of Washington’s GHG emissions. Direct electricity production emissions can be addressed through the transition from fossil fuels to renewable energy. Washington’s electricity sector must eliminate coal, petroleum, and natural gas and transition to a 100% wind, water, and solar energy plan. In order to do

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264 RCW § 19.27A.020.

265 RCW § 19.27A.130.
this, utilities must enhance the current infrastructure to more efficiently generate, store, and distribute renewable energy electricity. These efforts can be facilitated by a Clean Energy Fund, which can provide funds for projects to increase generation capacity and storage and to ensure the most efficient electricity transmission. Ecology has the authority to establish a fund, to set emissions standards, and to provide guidance to utilities in transitioning to a 100% renewable energy system.

**Renewable Portfolio Standard**

Washington currently has a Renewable Portfolio Standard that “requires large utilities to obtain fifteen percent of their electricity from new renewable resources.”  The current statutory renewable energy targets are nine percent by 2016 and fifteen percent by 2020. Ecology does not need to wait for the Legislature to enact new statutory targets. Rather, the department must utilize its existing authority to expand the standard to require utilities incorporate 80% renewable energy by 2030 and 100% renewables by 2050, which are technically and economically feasible. Accordingly, Ecology must do the following:

- Expand Washington’s Renewable Portfolio Standard to require large utilities to obtain 80% of their electricity from new renewable resources by 2030 and 100% by 2050.

**Renewable Energy Funding Projects**

In order to efficiently transition to a 100% renewable energy sector, systems must be in place to create a robust energy infrastructure. The Clean Energy Fund provides a way for Ecology to offset the costs associated with transitioning to renewable energy. Ecology should develop multiple avenues for utilities, property owners, businesses, and individuals (especially from low-income areas and with special consideration of communities of color who are facing environmental injustice issues) to access funds to support renewable energy projects. Energy project funds may support energy efficiency improvements, sequestration activities, transitioning to 100% renewable energy sources, the elimination of diesel and gas backup generators, and other projects that reduce GHG emissions. Ecology should consider establishing the following funding projects:

- Develop a Property Assessed Clean Energy Program (PACE) that uses Clean Energy Fund funds to provide energy efficiency improvements loans for residential, commercial, and industrial facilities that are transferable to subsequent property owners.

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266 RCW § 19.285.010.
PACE programs are administered by local governments and provide loans to property owners for energy improvements.269 The financing mechanism allows owners to repay the loan with a 20-year term property tax-like assessment.270 If the property owner sells their property before the end of the loan term, the loan can be paid off or transferred to the new property owner.271

- Develop a fund specific to land use that allows landowners to apply for grants and incentives for sequestration activities and avoiding conversion.
  - Sequestration activities may include but are not limited to programs to encourage reforestation, improve forest management, reduce deforestation, conservation, and manage agricultural soils.272
- Develop an environmental justice fund to assist non-homeowners in low-income and disadvantaged communities to make their homes more efficient and lower their energy costs.
- Develop a fund for utilities transitioning to 100% renewable energy sources.
  - Increase the capacity factor of existing hydropower.273274
  - Encourage the use of heat pumps and constant energy use.275
  - Infrastructure upgrades.
- Develop plan to implement home and community energy storage and eliminate diesel and gas backup generators by 2030.276
- Develop incentive and rebate programs, including but not limited to energy efficiency measures in buildings, including appliances and processes; weatherization; landlord efficiency investment;277 efficient city street and building lighting; commercial and personal electric vehicles;

270 Id.
271 Id.
272 Managed agricultural soils have the potential store and reduce GHG emissions. Ecology should develop a grant program that encourages landowners to adopt recommended farming practices that result in GHG sequestration. Several of the recommended agricultural processes, including land application of biosolids and compost, have high accompanying costs. A grant program can help offset these costs to encourage better land practices while reducing overall GHG emissions. *See Department of Ecology, Soil Organic Carbon Storage (Sequestration) Principles and Management: Potential Role for Recycled Materials in Agricultural Soils of Washington State*, at vi (January 2015) available at vi, 68-9 https://fortress.wa.gov/ecy/publications/publications/1507005.pdf.
273 Washington produces more hydropower than any other state. Currently, there is an oversupply of energy from other sources, causing hydropower to operate at less than its maximum capacity. Washington does not need to install any new hydropower plants. Instead, it must increase the capacity to utilize all current energy waste. *Id* at 79-80
274 Id.
275 Id.
276 *See Jacobsen et al.* at 86.
277 Id.
alternative and public transportation; and the development of hydrogen fuel vehicle fleets.

Work with the Washington Utilities and Transportation Commission (UTC)

Ecology has the authority to aid and assist the public utilities to ensure that its resources are developed in the public interest. The health, environmental, and economic benefits of clean energy are in the public’s interest. Ecology should work with UTC to adjust electricity rate schedules, remote long-term renewable energy contracts, eliminate coal and natural gas from electricity sector, reduce overall power production, upgrade electricity transmission lines, streamline renewable energy permitting, and develop other actions that will lead to a 100% renewable energy system by 2050. As such, Ecology should aid and assist the UTC with the following:

- Adjust the rate schedule to encourage energy use when wind, water, and solar power generation is abundant or during traditionally low-use times.
- Require long-term, feed-in-tariff (FIT) contracts with providers of renewable energy at levelized rates for generation with optimal project siting requirements.
  - FITs are long-term fixed price renewable energy contracts between utilities and energy producers. They provide certainty to energy producers, and thus encourage the use of renewable energy. Currently, Washington utilizes a combination of net metering and a tax incentive mechanism. These policies can be replaced with a FIT.
- Eliminate coal and natural gas from the electricity sector, including both in-state generation and electricity purchased from out-of-state.
- Require new permits from fossil fuel burning power plants that collectively result in a net power reduction of 17.2 GW by 2050.
- Collaborate with the Western Interconnection states to develop plan to transition power lines to high-voltage direct current (HVDC) lines.
  - The current electricity transmission system utilizes high-voltage alternating current (HVAC) lines. HVDC lines are more efficient and less expensive. A network of HVDC lines reduces dependence on costly storage technologies to manage the intermittency of renewable energies.

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278 RCW § 43.21A.605
279 Id at 87.
280 See Evaluation at 36-7.
281 Jacobson Decl, Exhibit P at 87.
284 Id at 526.
○ Develop plan to streamline renewable energy permitting that will prioritize and fast track wind, water, and solar power generation and transmission lines permit applications;\textsuperscript{285} incorporate environmental review process in permit process; and establish a fund from Clean Energy Fund funds for easy small scale solar and wind permitting.

4. Transportation

Transportation emissions represent 44\% of overall GHG emissions in Washington.\textsuperscript{286} Ecology must establish new transportation emissions standards to ensure the reduction of transportation emissions. Ecology can create a schedule to phase out fossil fuel vehicles and transition to 100\% zero emissions by 2050. In the interim, Ecology should implement a program that encourages the use of low-carbon clean fuels. Additionally, Ecology should develop a plan to transition all public transportation fleets to 100\% zero emissions by 2050. In an effort to slash transportation emissions, Ecology should consider the following:

○ Implement a zero emissions vehicles (ZEV) goal that requires 50\% of all vehicles sold by 2025 to be electric (zero-tailpipe emissions) with the elimination of fossil fuel-vehicle sales by 2050.\textsuperscript{287}

○ Implement a low carbon fuel standard, which includes a low-carbon full lifecycle analysis (LCFS)\textsuperscript{288} to encourage the use of low-carbon clean fuels until fossil fuel vehicles are completely phased out.
  ■ A LCFS regulates fuel producers and importers selling gasoline and diesel fuel. It generates credits for lower carbon intensive transportation fuels, including ethanol, natural and bio-based gases, biodiesel, and electricity.\textsuperscript{289}

○ Enhance public transportation fleets and infrastructure:
  ■ Develop a plan to transition to 50\% land and water electric vehicle fleets by 2025 and 100\% by 2050
  ■ Provide assistance to local planning departments to develop a more robust and efficient public transportation infrastructure that encourages the use of public and alternative transportation.

(ii) Policies Ecology Should Recommend to the Legislature to Reduce the Burden on Ecology

\textsuperscript{285} Id at 85.
\textsuperscript{287} See Evaluation at 31-2.
\textsuperscript{289} In 2010, Ecology analyzed the effectiveness of a LCFS and found that it “would reduce covered transportation GHG emissions by up to 12 percent above the policies the state currently has in place” and “provide a clear, long-term market for biofuels, electricity, and other alternative fuels in the state and promote investment in the infrastructure to deliver the low-carbon fuels of the future to Washington consumers.” Id.
Ecology has a mandate to act now to reduce state GHG emissions. Ecology must do all it can to ensure the reduction of atmospheric CO₂ levels and ensure the protection of current and future generations. All of the policies listed in the previous section can be accomplished without additional Legislative approval. However, it may benefit the agency to make legislative recommendations, which, if enacted, could facilitate state efforts in mitigating the harmful effects of climate change. Regardless, the agency must act urgently and not wait for the Legislature to respond to recommendations. In an effort to collaboratively address climate change, Ecology should recommend the Legislature do the following:

1. **Tax Credits**
   - Implement a carbon tax, and use funds for clean energy transition incentives and rebates programs, environmental justice programs, forest and soil protection programs and adaptation plans.\(^{290}\)
     - Carbon taxes can help policymakers, individuals, and firms prepare for GHG emissions costs by providing price certainty to the market.\(^{291}\)
   - Create tax credits for emission reduction initiatives, including but not limited to green building initiatives, solar production projects, and industrial on-site wind, water, solar electricity generation.
   - Provide state funding to support on-site industrial wind, water, and solar electricity generation.

   - Increase renewable energy targets for all sectors under RCW 19.285.040 to 80% by 2030 and 100% by 2050.\(^{292}\)

3. **Green Building Standards**
   - Mandate that all new construction meet green building standards.
     - Washington Revised Code 39.35D currently mandates that projects receiving state funding must meet green building standards. The statute extends to all of Ecology’s building projects. Ecology should recommend that this statute be expanded to all new construction.\(^{293}\)
   - Provide tax exemptions for landlords’ energy efficiency projects in rental properties.

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\(^{290}\) See Evaluation at 29-30.

\(^{291}\) Id.


4. Electricity Sector
   ○ Require energy grid storage of 1.3 GWh by 2020.\textsuperscript{294}
   ○ Impose fines for excess wind, water, and solar energy bleeding.

5. Incentives and Rebates
   ○ Pass enabling legislation to remove barriers to local Property Assessed Clean Energy (PACE)\textsuperscript{295} programs administration that support energy conservation and renewable energy.\textsuperscript{296}
   ○ Establish a fund for electric utilities, property owners, industries, and individuals to incorporate renewable energy technologies into electric sector. Projects may include but are not limited to heat pump utilization, solar panels, and electric vehicles.

There are many other policy options that Ecology can and should implement in order to reduce GHG emissions in a manner that protects the rights of young people and future generations.

VIII. CONCLUSION

We recognize that Ecology is currently under court order to finalize the Clean Air Rule by the end of the year. That order is in place in light of the urgency of the climate crisis and Ecology’s historic inability to take regulatory action to reduce the state’s GHG emissions. In light of the significant flaws in the existing draft of the Clean Air Rule that have been described above, we encourage you to work with us, as petitioners in the Foster case, on developing a rule that is based upon science, not politics.

We hereby incorporate by reference all hyperlinked and cited documents throughout these comments into the administrative record for this project. They are all publicly available. If you require PDF or hard copies of any of the hyperlinked or cited documents, please let us know and we will supply them; otherwise we will assume that Ecology can access them via the internet and will include them in the administrative record.

Respectfully Submitted,

\textit{s/ Andrea K. Rodgers} \quad \textit{s/ Julia Olson}

Andrea K. Rodgers \quad Julia Olson

Attorney \quad Executive Director & Chief Legal Counsel

\textsuperscript{294} See Jacobson et al. at 86.
\textsuperscript{296} Id.
EXHIBITS:

A. List of people and organizations that these comments are also submitted on behalf of

B. Petition for Rulemaking (June 17, 2014)

C. Ecology’s Denial of Petition for Rulemaking (August 14, 2014)

D. Foster, et al. v. Ecology, No. 14-2-25295-1 SEA (King County Superior Court)
   (Order Affirming the Department of Ecology’s Denial of Petition for Rulemaking)
   (Nov. 19, 2015)

E. Foster, et al. v. Ecology, No. 14-2-25295-1 SEA (King County Superior Court)
   (Order on Petitioners’ Motion for Relief Under CR 60(b)) (May 16, 2016)

F. Washington Executive Order 14-04 (April 29, 2014)

G. Ecology December 2014 Report

H. Center for Biological Diversity, Petition to EPA for Additional Water Quality
   Criteria & Guidance Under Section 304 of the Clean Water Act, 33 U.S.C. § 1314,
   to Address Ocean Acidification (April 17, 2013)

I. Center for Biological Diversity Petition to EPA for Revised State Water Quality
   (October 18, 2012)

J. Svitak, et al. v. State, King County Superior Court No. 69710-2-I (Amended
   Complaint) (filed May 18, 2011)

K. Foster, et al. v. Ecology, King County Superior Court No. 14-2-25295-1
   (Department of Ecology’s Response to June 23, 2015 Court Order) (filed August 7,
   2015)

L. Dec. of Dr. Richard H. Gammon, Foster v. Wash. Dep’t of Ecology, No. 14-2-

M. Dec. of Dr. Ove Hoegh-Guldberg, Foster v. Wash. Dep’t of Ecology, No. 14-2-

N. Declaration of Thomas Crowther, Ph.D.

O. Declaration of Dr. James Hansen

P. Declaration of Mark Jacobson

Q. Washington Emissions Data Compared to Science-Based Emissions Reductions
OREGON CONFINED ANIMAL FEEDING OPERATION
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
INDIVIDUAL PERMIT #OR0000000000
Public Notice Version
State of Oregon
Department of Agriculture
Confined Animal Feeding Operation Program
and
Department of Environmental Quality
Water Quality Division

In compliance with the provisions of Oregon Revised Statutes (ORS) Chapter 468B,
Oregon Administrative Rules (OAR) Chapter 340, Divisions 40, 45 and 51 and Chapter 603, Division 74,
the Federal Water Pollution Control Act as amended (The Clean Water Act),
Title 33 United States Code, Section 1251 et seq., and
the National Pollutant Discharge Elimination System (NPDES) program.

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<td>Location: Homestead Ln. 1.5 miles east of the intersection of Homestead Ln. and Poleline Rd. Hermiston, OR 97838</td>
<td>Sub-basin: Middle Columbia – Lake Wallula and Umatilla</td>
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<tr>
<td>Waste and wastewater Land Application Site:</td>
<td>Hydro Code: 17070101</td>
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Approximately 5,189 acres of irrigated cropland adjacent to the facility. | County: Morrow |
Latitude/Longitude: 45.747824, -119.570086 | Nearest surface stream which would receive waste if it were to discharge: Columbia Improvement District Canal |
Township 2N, Range 26E of Tax lot 302 and Township 3N, Range 26E of Tax lots 500, 1401 and 1506) | Applicable Standards: OAR Chapter 340-040, OAR 340-041-0642 to 0665 and OAR 340-051-0005 to 0080 |

EPA REFERNCE NO.: OR0000000

Ray Jaindl, Director
Natural Resources and Pesticides
Oregon Department of Agriculture (ODA)

Don Butcher
Eastern Region Water Quality Section Manager
Oregon Department of Environmental Quality (DEQ)

PERMITTED ACTIVITIES
Until this permit expires or is modified or revoked, the permittee is authorized to discharge to waters of the state in accordance with the special and general conditions that follow.
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SPECIAL CONDITIONS

DEFINITIONS

1. “25-year, 24-hour rainfall event” means an event with a probable recurrence interval of once in twenty-five years as defined by the National Weather Service in Technical Paper Number 40, “Rainfall Frequency Atlas of the United States,” May 1961, or equivalent regional or state rainfall probability information developed from this source.


3. “Agency” means Oregon Department of Environmental Quality or Oregon Department of Agriculture.

4. “Agricultural stormwater” is defined at 40 CFR § 122.23(e).

5. “Animal waste management plan” or “AWMP” or “waste management plan” means a written document containing the minimum elements necessary to manage manure, litter, and process wastewater from operations covered by this permit in accordance with the terms and conditions of this permit.

6. “Agronomic application rate” means the rate or amount of nutrients applied to the soil for utilization by growing or planned crops such that the crops remove the same or greater amount of nutrients provided by the agronomic application.

7. “Bedding,” means any absorbent material that is used to provide animal cleanliness and comfort in a confinement system. Bedding materials include but are not limited to: straw; sawdust; wood shavings; grass seed cleanings; recycled, composted, or dried manure solids; and recycled paper products. Bedding that comes into contact with animals, manure, litter, or process wastewater is determined to be manure, litter, or process wastewater for purposes of this permit.

8. “Confined animal feeding operation” or “CAFO” as defined in OAR 603-074-0010(3) and OAR 340-051-0010(2) means:
   (a) The concentrated confined feeding or holding of animals or poultry, including but not limited to horse, cattle, sheep, or swine feeding areas, dairy confinement areas, slaughterhouse or shipping terminal holding pens, poultry and egg production facilities and fur farms:
      (i) In buildings or in pens or lots where the surface has been prepared with concrete, rock or fibrous material to support animals in wet weather; or
      (ii) That have wastewater treatment works; or
      (iii) That discharge any wastes into waters of the state; or
   (b) An animal feeding operation that is subject to regulation as a concentrated animal feeding operation pursuant to 40 CFR § 122.23.

9. “Director” means the director of the State of Oregon Department of Environmental Quality or director of the State of Oregon Department of Agriculture or their authorized designee(s).

10. “Discharge” when used without qualification means the “discharge of a pollutant.” “Discharge of a pollutant” is defined at 40 CFR § 122.2.

11. “Dry waste” means any solid manure, litter, bedding, or waste feed that cannot be transferred or applied with a pump or pipe system. Precipitation that comes into contact with dry waste does not change dry waste into wet waste. Dry waste may contain urine, manure, leachate or incidental process wastewater that has been absorbed into the feces, and used bedding materials in amounts that allow the waste to retain the dry characteristic so that the material cannot be transferred or applied with a pump or through a pipe.

12. “Dry waste treatment works” means any plant or other works used for the purpose of treating, stabilizing or holding wastes as a dry, solid substance. Dry waste treatment works for purposes of this permit do not utilize pumps or pipes to transfer or apply dry waste and typically do not need any added water or liquid to transfer or apply dry waste. Dry waste treatment works include but are not limited to manure piles and covered dry manure stack storage facilities.

13. “Dry-weather discharge” means a discharge of manure, litter or process wastewater from a land application area that is not defined as Agricultural Stormwater (40 CFR 122.23(e)) and where the land application of manure, litter, or process wastewater has not met all the site-specific nutrient management practices contained in the agency-approved Animal Waste Management Plan and specified in 40 CFR 122.42(e)(1)(vi)-(xi). Dry weather discharges include but are not limited to: discharges through tile drains, discharges combined with irrigation water, infiltration of nutrients below the crop root zone, discharges due to failure of manure application or irrigation equipment.
14. “Frozen soil,” means soil that has a soil temperature of 32°F (or 0°C) or less in any three (3) continuous inches of the top 12 inches of soil.

15. “Groundwater” means water in a saturated zone or stratum beneath the surface of land or below a surface water body.

16. Does “litter” need to be defined?

17. “Manure” means solids or liquids excreted from an animal or other material (for example, bedding, compost, litter, feed waste, silage leachate, raw materials such as feed or silage) that comes into contact with solid or liquid excreted from an animal.


20. “Overflow,” means the discharge of manure or process wastewater resulting from the filling of wastewater or manure storage structures beyond the point at which no more manure, process wastewater, or stormwater can be contained by the structure.

21. “Person” is defined at ORS 468.005

22. “Point source” is defined at 40 CFR § 122.2

23. “Pollutant” is defined at 40 CFR § 122.2.

24. “Pollution” or “water pollution” is defined at ORS 468B.005(5).

25. “Process wastewater” or “process wastes” means water directly or indirectly used in the operation of the CAFO for any or all of the following: spillage or overflow from animal or poultry watering systems; washing, cleaning or flushing pens, barns, manure pits, or other CAFO facilities; direct contact swimming, washing, or spray cooling of animals; or dust control. Process wastewater or process wastes also includes any water that comes into contact with any raw materials, products, or byproducts including manure, litter, feed, milk, eggs, or bedding. OAR 340-051-0010(5) and OAR 603-074-0010(17)

26. “Production area” means that part of a CAFO that includes the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas. The animal confinement area includes but is not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milk rooms, milking centers, cow yards, barnyards, medication pens, walkers, animal walkways, and stables. The manure storage area includes but is not limited to lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, and composting piles. The raw materials storage area includes but is not limited to feed silos, silage bunkers, and bedding materials. The waste containment areas include but are not limited to settling basins, and areas within berms and diversions that separate uncontaminated stormwater. Also included in the definition of production area is any egg washing or egg processing facility, and any area used in the storage, handling, treatment, or disposal of animal mortalities. OAR 340-051-0010(6) and OAR 603-074-0010(18)

27. Quantitation Limits (QLs) – The QL is the minimum level, concentration or quantity of a target analyte that can be reported with a specified degree of confidence. It is the lowest level at which the entire analytical system gives a recognizable signal and acceptable calibration for the analyte. It is normally equivalent to the concentration of the lowest calibration standard adjusted for sample weights, volumes, preparation and cleanup procedures employed. The QL as reported by a laboratory is also sometimes referred to as the Method Reporting Limit (MRL) or Limit of Quantitation (LOQ).

28. “Saturated soil” means soil with all available pore space filled that has reached its maximum retentive capacity as defined in “Qualitative Description of Soil Wetness” (Brady, N. and Weil, R., p. 201, 2007).

29. “Setback” as defined at 40 CFR §412.4(b)(1) means a specified distance from surface water or potential conduits to surface water where manure, litter, and process wastewater may not be land applied. Examples of conduits to surface water include but are not limited to: Open tile line intake structures, sinkholes, and agricultural well heads.

30. “Treatment works” means any plant or other works used for the purpose of treating, stabilizing or holding wastes. ORS 468B.005(8)

31. “Vegetative buffer” as defined at 40 CFR §412.4(b)(2) means a narrow, permanent strip of dense perennial vegetation established parallel to the contours of and perpendicular to the dominant slope of the field for the purposes of slowing water runoff, enhancing water infiltration, and minimizing the risk of any potential nutrients or pollutants from leaving...
the field and reaching surface water.

32. “Waste storage facilities,” means the physical system used for the isolation and retention of process wastes on the confined animal feeding operation until their ultimate utilization.

33. “Wastes” is defined at ORS 468B.005(9).

34. “Water” or “waters of the state” is defined at ORS 468B.005(10).

35. “Waters of the U.S.” is defined at 40 CFR § 122.2.

36. “Wet waste,” means any liquid manure, contaminated stormwater, process wastewater, liquid feed waste and silage or manure leachate. Wet waste may include solid material particles that are suspended or dissolved in the liquid.

37. “Wet waste treatment works” means any plant or other works used for the purpose of treating, stabilizing or holding wet wastes. Wet waste treatment works for purposes of this permit include, but are not limited to: tanks or lagoons to store wet waste; pumps, pipes, curbs, gutters, and collection sumps to direct, collect, transfer, or apply wet wastes; and any system that separates dry waste from wet waste.

S1. PERMIT COVERAGE

S1.A. What activities are covered by this permit?

1. This permit covers the discharge of pollutants resulting from processes, wastes, and operations that are properly identified by the registrant through its AWMP approved by ODA.

2. This permit does not cover disposal of human wastes or treatment works that mix human and animal wastes. Any person owning or operating such a system must apply to DEQ for coverage under an individual or general permit issued pursuant to ORS 468B.050. This permit may be used in addition to an individual or general permit issued by DEQ pursuant to ORS 468B.050 that covers some other type of wastewater at this same facility, for example, septic system wastewater.

3. Pursuant to 40 CFR § 122.23(e), precipitation-related discharges that qualify as agricultural stormwater discharges from land application areas are not subject to NPDES permit requirements. For discharges from the land application area to meet the definition of agricultural stormwater, manure and wastewater must be applied in accordance with site specific practices listed in the agency-approved AWMP that ensure appropriate agricultural utilization of nutrients.

S1.B. Will my information be kept confidential?

Information, including the name and address of an NPDES permit applicant or permittee, NPDES permit applications and attachments (for example, AWMPs), NPDES permits, and NPDES permit discharge data cannot be kept confidential pursuant to 40 CFR § 122.7(b) and (c), ORS 468.095(1), and ORS 192.410 to 192.505. The applicant or permittee may request that the director classify other records as confidential upon a proper showing that the record is a trade secret pursuant to ORS 468.095(2).

S1.C. How do I transfer permit coverage to a new owner or operator?

The permittee must complete a Permit transfer form and submit it to the agency for approval at least 30 days before transfer of the CAFO is scheduled to occur or as specified by the agency. The form must be signed by the previous owner or operator as well as the new owner or operator. The agency will respond to the request for transfer by conducting a site inspection and a review of the permit file. The agency will notify the permittee and transferee in writing of transfer of coverage under this permit or deny the request with an explanation of why the request was denied.
S1.D. **How do I renew permit coverage?**
To renew permit coverage, the permittee must submit to the agency a renewal application at least 180 days before the expiration date of this permit or as specified by the agency in the renewal notice but no later than the expiration date of this permit. Applicants must certify on their renewal application whether an AWMP is new, updated or current and on file. New and updated animal waste management plans must be submitted with the application.

S1.E. **How do I terminate permit coverage?**
1. The agency will terminate coverage under this permit upon issuance of coverage under a general NPDES permit or coverage under an individual or general water pollution control facility permit.

2. The permittee may request in writing to the agency that the permit be terminated if any one of the following applies:
   (a) Conditions or standards have changed so that the CAFO no longer qualifies for or is required to have coverage under this permit.
   (b) The permittee no longer has animals on site and all waste storage and control facilities have been cleaned and re-purposed or decommissioned in accordance with the following requirements:
      (i) **Cleaning/Re-purposing Requirements**
         (1) All liquid and solid manure, litter and process wastewater must be removed from the structure(s) and either land applied according to the agency-approved AWMP or exported according to S2.K, p. 10.
         (2) All liquid storage facilities that could fill with rain water must be flushed with clean water, the flush water land applied or exported and the remaining liquid in the structure tested to confirm the E. coli level is at or below the water quality standard of 406 CFU/100ml of sample.
      (3) All liquid transfer systems are cleaned and modified so that they would not be a conduit for any pollutant to enter surface or ground waters.
      (ii) **Decommissioning Requirements**
         (1) All liquid and solid manure, litter and process wastewater must be removed from the structure(s) and either land applied according to the approved AWMP or exported according to S2.K, p. 10.
         (2) If the structure has a synthetic liner, the liner must be removed and disposed, or recycled, in a lawful manner.
         (3) After completion of [ii(1)] above, any earthen structure must be filled with soil and returned to the grade matching the surrounding area. All soil fill and remaining exposed soil must be seeded to site-appropriate grass or ground cover to prevent erosion.

3. The permittee must also certify that it will not commence operation of a regulated CAFO at the same location until the appropriate NPDES or WPCF permit coverage has been obtained.

4. The agency will respond to the request for cancellation by conducting a site inspection and a review of the permit file. The agency will notify the permittee in writing of termination of coverage under this permit or deny the request with an explanation of why the request was denied.

S1.F. **What are the public notice and participation requirements of this permit?**
1. Prior to approving new permit coverage, renewing permit coverage, or approving proposed substantial changes to an AWMP, the agency will provide public notice and participation opportunity including a public hearing. The agency will provide at least 30 days notice before the hearing is held. The public comment period will remain open for additional comments for at least seven (7) days after the public hearing.

2. Application and permit documents (for example, Application to Register, renewal application, AWMP, Land Use Compatibility Statement) will be available for public review at ODA headquarters and appropriate field offices. Electronic copies of documents will be provided upon request.
S1.G. NPDES Public Notice Requirements:
1. Receipt of an application for existing operation not currently under an NPDES permit or new proposed operation.
   (a) Public notice of a comment period of at least 35 days provided as follows:
       • Published in regional newspaper;
       • Posted on agency websites;
       • Emailed to interested persons list maintained by ODA; and
       • Public notice contents: name of operation, name of operator or owner if different than operator, mailing address, and telephone number, physical address of operation, type of operation, number of animals proposed, Land Use Compatibility Statement, Summary of AWMP.
   (b) Opportunity for public hearing (See S1.F.4).
   (c) A written response to relevant comments will be developed by the agency and made available to interested person.
2. Receipt of renewal application or proposed substantial change to permittees AWMP (See S3.D.1(a)).
   (a) Public notice of a comment period of at least 35 days provided as follows:
       • Posted on agency websites;
       • Emailed to interested persons list maintained by ODA; and
       • Public notice contents: name of operation; city, county, and zip code of facility location; permit registration number; and type of operation. For a substantial change to an AWMP the notice will also contain an overview of the proposed substantial change.
   (b) Agency will notify the permittee of its final decision concerning the proposed changes after the public notice period ends.

S2. DISCHARGE LIMITATIONS AND OPERATING REQUIREMENTS

S2.A. Prohibitions and Discharge Limitations
1. The permittee must not discharge manure, litter, or process wastewater to surface water of the state except as allowed in S2.B and S2.C and provided these discharges to surface water do not exceed the following effluent limits.
   (a) E. coli must not exceed zero organisms/100 mL or quantitation limit of 2 Colony Forming Units/100 mL or 0.0 most probable number/100 mL;
   (b) Nitrate plus Nitrite Nitrogen (NO₃+NO₂) must not exceed zero mg/L or quantitation limit of 0.1 mg/L;
   (c) Total Phosphorus (P) must not exceed zero mg/L or quantitation limit of 0.1 mg/L.
2. The permittee must not discharge manure, litter, or process wastewater to groundwater of the state except as allowed in S2.B and S2.C and provided these discharges to groundwater do not exceed the following effluent limits based on monitoring well data.
   (a) E. coli must not exceed zero organisms/100 mL or quantitation limit of 2 Colony Forming Units/100 mL or 0.0 most probable number/100 mL;
   (b) The Concentration Limits developed following the requirements listed in S5.C (pg. 17).

Types of discharge that are prohibited include but are not limited to: contaminated runoff from confinement or waste accumulation areas; overflow or discharges from waste storage facilities; discharges due to improper land application activities resulting in seepage below the root zone, surface drainages or field tile outlets; dry-weather discharges, discharges due to equipment failure; leakage or seepage from facilities in the production area in excess of approved designs; and discharges to underground injection control (UIC) systems.

3. Compliance with the above limitations will generally be achieved by the absence of effluent. If releases do occur, the effluent limits above must be determined by laboratory test results of a representative grab sample of the discharge taken at the time of occurrence. If a grab sample is not taken, then the permit registrant is in violation of the effluent limits. Leaching from the land application area will be assessed for compliance as described in S4.A (pg 13), S5.B and S5.C (page 16 & 17).
S2.B. **Production Area Limitations**

1. The permittee must not discharge manure, litter, or process wastewater to surface water of the state from the production area, except when:
   
   (a) Rainfall events cause an overflow of waste management and storage facilities designed, constructed, operated, and maintained to contain all manure, litter, and process wastewater, including the runoff and direct precipitation, from a 25-year, 24-hour rainfall event; and
   
   (b) The production area is operated in accordance with the applicable inspection, maintenance, recordkeeping, and reporting requirements of this permit.

2. The permittee must properly land apply manure, litter, and wastewater from the production area in a manner consistent with S2.C. All other authorized discharges from the production area listed in S2.C, must be managed to minimize impacts on surface water and groundwater of the state and meet the effluent limits in S2.A above.

3. The permittee must not exceed the seepage design rates approved by the agency for waste storage or animal confinement facilities in the production area and seepage to groundwater from these facilities must not violate state groundwater quality protection standards.

S2.C. **Land Application Limitations**

1. To prevent discharges to waters of the state, the permittee must apply manure, litter, or process wastewater to land application areas at agronomic rates in accordance with the permittee’s ODA-approved AWMP. Land application areas include land under the control of the permittee, to which manure, litter, or process wastewater from the production area is or may be applied.

2. The permittee’s discharges to groundwater due to seepage below the root zone of the crop or by other means must not violate state groundwater quality protection standards.

3. The permittee is allowed to apply manure, litter, or process wastewater to frozen soil provided:
   
   (a) The AWMP addresses such applications [see S3.C.2(k), p. 12];
   
   (b) The application does not result in a discharge to surface water or groundwater, except as allowed in S2.B and S2.C; and
   
   (c) Land applications do not cause or contribute to a violation of state water quality standards.

4. The permittee must not apply manure, litter, or process wastewater to saturated soils immediately before or during rainfall events that are expected to result in surface runoff. If the permittee makes such an application because it is a desired alternative to allowing waste storage or treatment works to overflow (for example, land application to saturated soils to pond wastewater onsite provides for greater protection of surface water than a direct overflow of a waste storage tank to surface water), the application will be considered a violation of this permit.

S2.D. **Direct Access by Animals to Surface Water of the State in the Production Area Prohibited**

The permittee must prevent direct animal contact with surface water of the state in the production area of its CAFO. Direct animal contact means any situation where animals in the production area have free access and are allowed to loiter or drop waste in surface water. Direct contact with surface water of the state by animals on pasture or rangeland is not, by itself, a violation of this permit.

S2.E. **Waste Storage Facilities**

1. The permittee must provide adequate storage capacity for solid and liquid wastes at all times so that land application occurs only during periods when soil and weather conditions allow for agronomic application and are in compliance with the Land Application Limitations in S2.C, p. 9 of this permit.

2. The permittee must site, design, construct, operate, and maintain all waste storage facilities to contain all manure, litter, process wastewater, and stormwater runoff and direct precipitation from a 25-year, 24-hour rainfall event for the storage period established in the ODA-approved AWMP. New and modified construction of waste facilities must be approved in advance and prior to construction by the agency in conformance with ORS 468B.055 and OARs 340-051 and 603-074.
3. The Permittee must also have depth markers in all surface liquid impoundments (for example, lagoons, ponds, tanks) designed to clearly indicate the:
   (a) Maximum design volume,
   (b) Minimum capacity necessary to contain the 25-year, 24-hour rainfall event, including additional freeboard requirements, and
   (c) Depth of manure and process wastewater.

S2.F. Prevention of System Overloading
1. The permittee may not increase the number of animals over 10% or 25 animals, whichever is greater, of the maximum number assigned by the agency in the Notice of Registration and Individual Permit Summary until an updated plan is approved in writing by the agency (see S3.B AWMP Submittal, p. 11, and S3.D Requirements for AWMP Updates and Changes, p. 12).
2. The permittee must ensure that animal numbers do not exceed the capacity of the waste storage facilities described in the ODA-approved AWMP.

S2.G. Handling of Animal Mortalities
The permittee must not dispose of animal mortalities in liquid manure or treatment works. Animal mortality composting is allowed and must be described in the Animal Waste Management Plan. The permittee must handle animal mortalities in such a way as to prevent discharge of pollutants to waters of the state (surface water and groundwater).

S2.H. Proper Operation and Maintenance
The permittee must at all times properly operate and maintain all facilities and systems used for process wastewater collection, storage and utilization, and correct any deficiencies found as soon as possible.

S2.I. Maintaining Compliance if System Fails
The permittee must control all applications and discharges upon reduction, loss, or failure of the waste storage or utilization facilities until the facilities are restored or an alternative method of storage or utilization is provided. This requirement also applies when the primary source of power is reduced, lost, or fails.

S2.J. Setback Requirement
The permittee must develop and maintain setbacks or vegetated buffers when manure, litter, or process wastewater application occur adjacent to any surface water, open tile intake structures, sinkholes, well heads, or other conduits to surface water or groundwater. The permittee must also include descriptions of setbacks, vegetated buffers, and/or equivalent measures in its AWMP. Compliant setbacks, vegetated buffers, or equivalent measures include the following:
1. 100 ft. setbacks (non-vegetated, non-managed buffers).
2. 35 ft. vegetated, managed buffers.
3. If approved by the agency, variable-width, seasonal setbacks determined by the type of manure, litter or process wastewater and application method used.
4. If approved by the agency, a demonstration that a setback or vegetated buffer is not necessary or may be reduced in size because implementation of alternative conservation practices or field-specific conditions will provide equivalent or better environmental protection than [1., 2. and 3.] above.

S2.K. Manure, Litter, or Process Wastewater Transfers
1. The permittee retains responsibility of the manure, litter, or process wastewater until the transfer or export is completed with the required documentation.
2. The permittee must maintain manure, litter, or process wastewater transfer or export records as required by §4.C.2, p. 15.
3. Prior to transferring manure, litter, or process wastewater to other persons, the permittee must provide the recipient of manure, litter, or process wastewater with a manure nutrient analysis conducted within the previous 12 months.
S2.L.  Proper Disposal of Other Wastes
The permittee must dispose of any chemicals or other wastes in accordance with applicable state regulation. The permittee must manage chemicals and wastes to prevent their disposal in any manure, litter, process wastewater, or stormwater storage or treatment system unless specifically designed to treat these wastes and the pollutants and treatment systems are identified in the AWMP. The permittee must not dispose of chemicals or other wastes to any system used for the control of uncontaminated stormwater.

S3. ANIMAL WASTE MANAGEMENT PLAN

S3.A. Animal Waste Management Plan (AWMP) Implementation and Compliance
1. Upon issuance of this permit, the permittee must implement its current ODA-approved AWMP developed for its CAFO.
2. The permittee’s ODA-approved AWMP is incorporated into this permit by reference. The permittee must comply with all terms and conditions of its ODA-approved AWMP. Failure to comply with the ODA-approved AWMP constitutes a violation of the terms and conditions of this permit.

S3.B. AWMP Submittal and Public Notice
1. The applicant applying for permit coverage for the first time must submit its AWMP with the application to ODA for review and approval.
2. AWMPs are subject to public notice requirements detailed in S1.F, p. 7.

S3.C. AWMP Elements
1. The permittee must ensure that its AWMP is adequate for the proposed or existing population of animals, reflective of the proposed or existing facility operation, and prepared in accordance with the terms and conditions of this permit, OAR 340-051, and OAR 603-074.
2. The AWMP must to the extent applicable include the following:
   (a) Procedures to ensure collection, handling, and storage of contaminated stormwater runoff from the production area, manure, litter, and process wastewater in compliance with the requirements of S2. Discharge Limitation and Operating Requirements. Calculations used to determine that storage capacity exists must be provided, including a demonstration that facilities are at least designed and constructed to contain all manure, litter, process wastewater, and stormwater runoff and direct precipitation from a 25-year, 24-hour rainfall event.
   (b) Procedures to ensure proper operation and maintenance of the storage facilities.
   (c) Procedures for proper management of animal mortalities. The procedures must ensure that animal mortalities are disposed of legally and are not disposed of in any storage or treatment system that is not specifically designed to treat animal mortalities.
   (d) Procedures to ensure that clean water is diverted, as appropriate, from the production area.
   (e) Procedures to prevent direct contact of confined animals with surface water.
   (f) Identification of appropriate site-specific conservation practices to be implemented, including buffers, setback areas, or equivalent practices, to control runoff of pollutants to surface water and groundwater.
   (g) Protocols to land apply manure, litter, or process wastewater in accordance with site-specific nutrient management practices that ensure: 1) appropriate agricultural utilization of the nutrients in the manure, litter, or process wastewater, and 2) application of nutrient at rates not to exceed the maximum agronomic application rate included in the ODA-approved AWMP. The protocols must include the following:
      (i) The NRCS Phosphorous Index, USDA/NRCS Oregon Agronomy Technical Note #26, revised October 2008 or equivalent calculation must be completed for all fields or management units that receive manure, litter or process wastewater to determine if nitrogen or phosphorous is the most limiting nutrient. The maximum nutrient application rate must be calculated for the most limiting nutrient and must account for all other nitrogen and phosphorus sources.
      (ii) Expected crop yields.
      (iii) Calculations showing the total nitrogen and phosphorus to be applied annually to each field from manure, litter, process wastewater, and other sources.
      (iv) Annual manure application rates and an explanation of the basis for determining these rates. For large CAFOs, these rates must be based on actual test data. For other operations, data or “book
values” from established reference sources (for example, Oregon Animal Waste Management program) may be used instead of actual testing.

(v) Method(s) used to apply manure, litter, or process wastewater

(vi) Timing of manure, litter, and process wastewater applications.

(h) For all operations, protocols for soil testing. For large CAFOs, protocols for testing of manure, litter, and process wastewater. For other operations that are not required to test manure, litter, or process wastewater, test protocols are not required but the references that are used to characterize manure, litter, or process wastewater must be included.

(i) If applicable, an Agricultural Compost Management Plan must be included as required by OAR 340-096 for composting activities.

(j) If applicable, a Solid Waste Conversion Technology Plan must be included as required by OAR 340-096.

(k) Frozen soil application procedures if applications of manure, litter, or process wastewater will be made to frozen soil. At a minimum, the following must be included:

(i) Description of the potential receiving field(s), estimates of waste amounts and types, and estimated timing of applications.

(ii) Aerial photo(s) identifying all areas and surface water bodies within 1,000 ft. of the boundaries of the receiving field(s).

(iii) Soil map(s) identifying soil types for receiving field(s).

(iv) Topographic map(s) for receiving field(s).

(v) Description of the structural practices in place to ensure that no discharges to surface water occur during application and after the soil thaws.

(vi) Description of the method used to determine when soil is frozen and management practices to be followed when planning an application and during and after an application to frozen soil.

(vii) Description of monitoring and reporting requirements to ensure that the permittee is in compliance with frozen soil application procedures.

(l) Procedures for transfer or export of manure, litter, or process wastewater.

(m) Identification of specific records that will be maintained to document the implementation and management of the minimum elements described above.

S3.D. Requirements for AWMP Updates and Changes

1. AWMP Changes
   (a) Substantial changes. The permittee must submit any proposal to make substantial changes to its AWMP to the agency for approval at least 60 days in advance of the proposed changes. The agency will provide public notice on the proposal as described in S1.F, p. 7. The agency will notify the permittee of its final decision concerning the proposed changes after the public notice period ends. The permittee must not implement a proposed change until the agency has approved it. The following types of changes to an AWMP are considered substantial and a major modification described in OAR 340-045-0055:

(i) Addition of new land application areas not previously included in the AWMP, unless the land application area is covered by an existing AWMP that has already been incorporated into an existing NPDES permit and the application of manure, litter, or process wastewater on the newly added land application area is in accordance with that existing NPDES permit.

(ii) Any changes to the field-specific maximum annual rates for land application.

(iii) Any changes to the maximum amounts of nitrogen and phosphorus derived from all sources for each crop.

(iv) Addition of any crop or other uses not included in the AWMP and corresponding field-specific rates of application.

(v) A change in the type of manure system including but not limited to switching from a dry to a liquid manure system, switching from a liquid to a dry manure system, or changing the manure system to accommodate an animal species or type of operation not included in the scope of the current AWMP.

(vi) Any changes that are likely to increase the risk of pollutant transport to surface water or groundwater.
(b) **Non-substantial changes.** The permittee must submit any proposal to make non-substantial changes to its AWMP to the agency for approval at least 60 days in advance of the proposed changes unless a different timeframe is allowed by the agency. A proposal for a non-substantial change is not subject to public notice. The agency will notify the permittee of its final decision concerning the proposed changes after reviewing the proposal. The permittee must not implement a proposed change until the agency has approved it. The following types of changes to an AWMP are considered non-substantial provided they do not result in a substantial modification listed in paragraph (a) above:

1. An increase in animal numbers greater than 10% of the registrant's maximum allowed animal numbers.
2. When facility expansions, production increases, or process modifications will result in new or increased generation of waste, litter, or process wastewater beyond the scope of the current AWMP.

S4. **MONITORING, INSPECTION, RECORDKEEPING, AND REPORTING REQUIREMENTS**

S4.A. **Monitoring Requirements**

1. **Prohibited Discharges**

   If a discharge to surface water or groundwater that is prohibited by S2.B or S2.C, p. 9 occurs, the permittee must record the following information and notify the ODA within 24 hours (see S4.D, p. 19 for written reporting requirements):

   (a) A description and cause of the discharge;
   (b) The period of discharge including exact date(s), time(s), and duration of discharge;
   (c) An estimate of discharge volume;
   (d) Name or location of receiving water;
   (e) If a grab sample was taken of the discharge;
   (f) Corrective steps taken, if appropriate, to reduce, eliminate, or prevent reoccurrence of the discharge;
   (g) For any unauthorized discharge that may have come in contact with a drinking water intake, confirmation that Oregon Emergency Response System (OERS) was notified.

<table>
<thead>
<tr>
<th>Item or Parameter</th>
<th>Minimum Frequency</th>
<th>Type of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>E. coli, Nitrate plus Nitrite Nitrogen (NO₃+NO₂), Total Phosphorus (P)</td>
<td>Upon Occurrence see S2.A.2, p. 8</td>
<td>Grab sample of effluent discharge from production or land application area, analyzed using test methods in 40 CFR Part 136.</td>
</tr>
</tbody>
</table>

2. **Animal Waste Holding Pond Monitoring**

<table>
<thead>
<tr>
<th>Item or Parameter</th>
<th>Minimum Frequency</th>
<th>Type of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wastewater and fresh water flow volumes into animal waste holding pond (AWHP)</td>
<td>Weekly</td>
<td>Estimate from depth records, Gauge readings</td>
</tr>
<tr>
<td>Solids volume removed from settling basins and pond</td>
<td>Each occurrence</td>
<td>Estimate</td>
</tr>
</tbody>
</table>

3. **Crop System Monitoring**

<table>
<thead>
<tr>
<th>Item or Parameter</th>
<th>Minimum Frequency</th>
<th>Type of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow volume</td>
<td>Each occurrence</td>
<td>Calculate or meter</td>
</tr>
<tr>
<td>Hydraulic loading (inches applied) from all wastewater and all irrigation applications</td>
<td>Monthly when irrigating, Field totals in Annual Report</td>
<td>Calculate or sensor</td>
</tr>
<tr>
<td>Wastewater: pH, total dissolved solids (TDS), total Kjeldahl nitrogen (TKN), nitrate + nitrite (NO₃ + NO₂), phosphorus (P), potassium (K), and salt</td>
<td>Weekly when applying wastewater</td>
<td>Grab</td>
</tr>
<tr>
<td>Manure solids: total N and P</td>
<td>Annually from each source, type</td>
<td>Grab</td>
</tr>
<tr>
<td>N and P content applied from any source</td>
<td>Each occurrence, Field totals in Annual Report</td>
<td>Record</td>
</tr>
</tbody>
</table>
Soil moisture | Weekly when irrigating | Record
--- | --- | ---
Crops grown | By rotation or seasonal | Record List
Soil chemistry: NO$_3$, TKN, P, K, pH, OM, Ca, Mg, Total Bases | Post-harvest (results must be used in nutrient budget prior to spring planting) | 0 - 12, 24 – 36, 48 - 60 inch depth.

4. **Groundwater and Tile Drain Outfalls* Monitoring**

Groundwater monitoring shall be in accordance with the agency-approved Groundwater Monitoring Plan (for plan requirement see S5.B). For each groundwater monitoring well and tile drain outfall*, the permittee must conduct monitoring as follows:

<table>
<thead>
<tr>
<th>Item or Parameter</th>
<th>Minimum Frequency</th>
<th>Type of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>Quarterly</td>
<td>Grab</td>
</tr>
<tr>
<td>Temperature</td>
<td>Quarterly</td>
<td>Grab</td>
</tr>
<tr>
<td>Electrical Conductivity</td>
<td>Quarterly</td>
<td>Grab</td>
</tr>
<tr>
<td>TDS</td>
<td>Quarterly</td>
<td>Grab</td>
</tr>
<tr>
<td>TKN</td>
<td>Quarterly</td>
<td>Grab</td>
</tr>
<tr>
<td>NO$_3$, NO$_2$</td>
<td>Quarterly</td>
<td>Grab</td>
</tr>
<tr>
<td>Cl</td>
<td>Quarterly</td>
<td>Grab</td>
</tr>
<tr>
<td>COD</td>
<td>Quarterly</td>
<td>Grab</td>
</tr>
<tr>
<td>Fe and Na</td>
<td>Quarterly</td>
<td>Grab</td>
</tr>
<tr>
<td>Mg and K</td>
<td>Quarterly</td>
<td>Grab</td>
</tr>
<tr>
<td>Soluble Reactive Phosphorus</td>
<td>Quarterly</td>
<td>Grab</td>
</tr>
</tbody>
</table>

*Not required when there is no flow.

S4.B. **Facility Inspection Requirements**

1. The permittee must monitor the operation and efficiency of all treatment, handling, and disposal facilities in accordance with its ODA-approved AWMP.

2. The permittee must conduct the following inspections:

<table>
<thead>
<tr>
<th>Area</th>
<th>Minimum Frequency</th>
<th>Type of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land application areas</td>
<td>Daily when operating</td>
<td>Visual inspection: record date and condition.</td>
</tr>
<tr>
<td>Production area, including:</td>
<td>Weekly</td>
<td>Visual inspection: record date and condition.</td>
</tr>
<tr>
<td>• Storm water diversion devices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Runoff diversion structures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Manure and wastewater conveyances</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Waste storage structures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Treatment systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water lines, including drinking water or cooling water lines</td>
<td>Daily</td>
<td>Visual inspection: record date and condition.</td>
</tr>
<tr>
<td>Equipment used for land application of manure, litter and/or wastewater</td>
<td>Daily, when equipment is in use</td>
<td>Visual inspection: record date and condition.</td>
</tr>
<tr>
<td>Liquid impoundments for manure and wastewater.</td>
<td>Weekly</td>
<td>Visual inspection: record date. Condition, and depth of wastewater according to depth marker.</td>
</tr>
</tbody>
</table>

3. The permittee must correct any deficiencies found as a result of these inspections as soon as possible. The permittee must record any actions taken to correct these deficiencies and, if deficiencies are not corrected within 30 days, provide an explanation of the factors preventing immediate correction.
S4.C. Recordkeeping and Availability Requirements

1. The permittee must maintain all information required by this permit at the facility for at least five years and make this information available to the agency upon request.

2. The permittee must record the following information:
   (a) Actual crop yields;
   (b) Date, amount, and nutrient loading of manure, litter, or process wastewater applied to each field;
   (c) Weather conditions at the time of application and 24 hours before and after application;
   (d) Calculations showing the total nitrogen and phosphorus to be applied annually to each field, including sources other than manure, litter, or process wastewater;
   (e) Total amount of nitrogen and phosphorus actually applied annually to each field, including documentation of calculations of the total amount applied;
   (f) Method(s) used to apply the manure, litter, or process wastewater; and
   (g) Total amount of manure or wastewater transferred or exported to other persons including the date and amount of each transfer or export, the name and address of each recipient, and copy of the manure nutrient analysis conducted provided to the recipient (see S2.K.3, p. 12).
   (h) Animal mortalities management and practices used to meet the requirements of S2.G, p. 10
   (i) Water level and water quality data in accordance with agency-approved Groundwater Monitoring Plan

S4.D. Reporting Requirements

1. Reporting to ODA and Oregon Emergency Response System (OERS)
   (a) If a discharge to surface water or groundwater occurs that is not allowed by S2.B and S2.C, p. 9, the permittee must notify ODA within 24 hours of the discharge. The permittee must submit a written report within five (5) days to ODA. The information to be submitted is listed in the monitoring requirements (See S4.A, p. 13) of this permit.
   (b) The permittee must notify ODA within 24 hours of becoming aware of any significant physical failure at any time of treatment works required under this permit.
   (c) The permittee must notify ODA within 24 hours of any permit noncompliance that may endanger health or the environment as described in G13.6, p. 21.
   (d) In addition to complying with [1.(c)] above, the permittee must notify Oregon Emergency Response System (OERS) of any unauthorized discharge that may come in contact with a surface water or groundwater drinking water system intake within 24 hours. Notification must be made by calling OERS at 1-800-452-0311.

2. Reporting of Monitoring Results of a Prohibited Effluent Discharge
   The permittee must submit monitoring information for an effluent grab sample no later than one month from the date the sample was taken unless a different schedule is established by an administrative order as described in S4.E, P.20.

3. Annual Report
   (a) The permittee must submit an annual report to ODA by March 15 of each year. The annual report must include the following for the previous calendar year:
      (i) Maximum number and type of animals approved by the agency in the permittee’s ODA-approved AWMP, whether in open confinement or housed under roof (for example, beef cattle, broilers, layers, swine weighing 55 pounds or more, swine weighing less than 55 pounds, mature dairy cows, dairy heifers, veal calves, sheep and lambs, horses, ducks, turkeys, other).
      (ii) Actual number of animals by type averaged over the year.
      (iii) Amount of total manure, bedding, litter, process wastewater, and other material that comes in contact with manure generated.
      (iv) Amount of total manure, bedding, litter, process wastewater, and other material that comes in contact with manure transferred to other persons by the permittee.
      (v) Amount of manure, bedding, litter, process wastewater, and other material that comes in contact with manure applied to land by the permittee.
      (vi) Total number of acres for land application covered by the AWMP developed in accordance with the terms of this permit.
      (vii) Total number of acres under control of the permittee that were used for land application of
manure, litter, and process wastewater in the previous 12 months.
(viii) Summary of all manure, litter, and process wastewater discharges from the production area that have occurred, including date, time and approximate volume.
(ix) A statement indicating whether the AWMP was developed or approved by a certified waste management planner.
(x) Any Concentrated Animal Feeding Operation that discharges to surface waters must also report the following items (xi) through (xvi). (40 CFR 122.42(e)(4)(viii)
(xi) Actual crop(s) planted and actual yield(s) for each field.
(xii) Actual nitrogen and phosphorus content of the manure, litter, and process wastewater.
(xiii) Data used and results of calculations based on protocol in the ODA-approved AWMP.
(xiv) Amount of manure, litter, and process wastewater applied to each field during the previous 12 months.
(xv) Results of soil testing for nitrogen and phosphorus if testing was performed.
(xvi) Amount of any supplemental fertilizer applied.
(xvii) Water level and water quality data collected as part of the Groundwater Monitoring Plan.

(b) The annual report must be signed and certified by the permittee or permittee’s authorized representative with the following statement: “I certify, under penalty of law, that this document and all attachments were prepared under my direct supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.”

S4.E. Additional Monitoring
1. The agency may establish specific monitoring requirements in addition to those contained in this permit by administrative order. An administrative order is an agency action expressed in writing directed to a named person or named persons (ORS 183.310).
2. If a permittee experiences two or more discharges within a 24-month period that are not associated with a 25-year, 24-hour or greater rainfall event, the agency may require additional surface water, groundwater, production area or process monitoring. Monitoring for the following parameters may be required: bacteria, total suspended solids, total kjeldahl nitrogen, biochemical oxygen demand, and other nutrient or process wastewater indicators. If the agency waives the additional monitoring requirements because such monitoring would be impracticable or not likely to produce useful information, the agency will set out the basis for the decision in writing and make the decision available to interested persons.

S5. GROUNDWATER MONITORING

S5.A. Hydrogeologic Characterization Report
1. Not less than 90 days prior to placing the wastewater handling system into service, the permittee shall submit a Hydrogeologic Characterization Report of the Waste Management Area (the dairy facilities and wastewater land-application areas) to the agency for review and approval. The Hydrogeologic Characterization Report shall be prepared in conformance with the DEQ’s guidance document titled “Oregon’s Groundwater Quality Protection Rules – A Resource Manual.” A work plan may be submitted for approval prior to developing the report.
2. The Hydrogeologic Characterization Report shall describe in detail the network of monitoring wells installed to characterize groundwater flow rate, flow direction, and seasonal variability in the Waste Management Area. Initial and available quarterly well water levels and water chemistry test results shall be included in the report. The report shall include recommendations for the selection of a compliance
wells located so as to detect adverse groundwater quality impacts. Well installation is often iterative because the wells themselves provide the information needed for optimal placement. The number of wells will depend on the size of the land application area and the hydrologic variability. This variability (e.g., seasonal changes in flow paths, preferential flows, plural source areas of varying nitrate concentration) should be captured by upgradient wells paired with directly down gradient wells.

S5.B. Groundwater Monitoring Plan

1. No later than 45 days following agency approval of the Hydrogeologic Characterization Report, the permittee shall submit a Groundwater Monitoring Plan for the Waste Management Area to the agency for review and approval. A Groundwater Monitoring Plan must be approved by the agency before the permittee places the facility into service. The Groundwater Monitoring Plan must be adequate to determine any adverse water quality impacts caused by the facility or land-application operation, and must include location and as-built construction information for the compliance point well(s).

2. In conjunction with submittal of the Groundwater Monitoring Plan, the permittee shall propose for agency approval, a submittal date for a Water Quality Analysis Report. The earliest potential date would be after completion of 9 quarters of groundwater monitoring, but could be later because the Water Quality Analysis Report must be based on an adequate understanding of site hydrogeology, including seasonal water level fluctuations, water quality fluctuations, and groundwater flow direction(s). The Water Quality Analysis Report must specify compliance wells and include concentration limits for each downgradient well.

S5.C. Groundwater Concentration Limits or Concentration Limit Variance

1. Prior to placing the facility into service or commencing land-application, and prior to the establishment of downgradient numeric limits, the compliance measure will be ‘no increase in nitrate concentrations between each up and down gradient well pair.

2. The permittee shall submit to the agency for review and approval a Water Quality Analysis Report no later than the date approved by the agency under S5.B.2 for submittal of the report. The report shall include, but not be limited to, a determination of background groundwater quality, an analysis of existing water quality data and existing impacts, and an analysis of potential impacts from facility activities.

3. Concurrent with submittal of the Water Quality Analysis Report, the permittee shall:

   (a) Propose site-specific concentration limits pursuant to OAR 340-040-0030(3) for the department’s consideration; or
   (b) Apply for a concentration limit variance pursuant to OAR 340-040-0030(4).

The permittee is required to meet the compliance dates that have been established in S5.A, B, and C. Prior to or no later than 14 days following any lapsed compliance date, the permittee shall submit to the department a report of noncompliance with the compliance dates in S5.A, B, and C. Any report of noncompliance shall include the cause of noncompliance.

S5.D. Monitoring Well Protection and Maintenance

1. The permittee must protect and maintain each groundwater-monitoring well so that samples can be collected that are representative of actual conditions.

2. If a monitoring well becomes damaged or inoperable, the permittee must notify ODA in writing within 14 days. The written report must describe what problem has occurred, the remedial measures that have been taken to correct the problem, and the measures taken to prevent its recurrence. The agency may require the replacement of inoperable monitoring wells.

S5.E. Monitoring Well Installation, Modification, Replacement, and Abandonment

For all monitoring well installations, modifications, replacements, and abandonments, the permittee must:

1. Comply with the Water Resources Department Rules (OAR Chapter 690, Division 240) and with the Department of Environmental Quality’s guidelines for groundwater monitoring well-drilling, construction, and decommissioning.
2. At least 30 days prior to conducting the activity, submit a plan and, if applicable, well location and design, to ODA for approval.

3. Submit well reports prepared by an Oregon-licensed Monitoring Well or Water Supply Well Constructor or State of Oregon Registered Professional Geologist or Civil Engineer to ODA within 30 days of well installation. Reports must include:
   (a) Start and completion date(s);
   (b) Latitude and longitude of well location;
   (c) Well depth; and
   (d) Land survey drawings that depict location of well and land application areas.

**GENERAL CONDITIONS**

The general conditions in this schedule apply only to the extent they do not conflict with the requirements contained in special conditions S1 through S4S5. If the permit requirements in special conditions S1 through S5 conflict with these general conditions, the permit requirements in special conditions S1 through S5 will control.

**G1. Compliance with other laws and statutes**

Nothing in the permit will be construed as excusing the permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

**G2. Duty to comply [40 CFR § 122.41(a)]**

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

1. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

2. The Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than 2 years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.
3. Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day, during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

G3. Duty to reapply [40 CFR § 122.41(b)]
If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

G4. Need to halt or reduce activity not a defense [40 CFR § 122.41(c)]
It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

G5. Duty to mitigate [40 CFR § 122.41(d)]
The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit, which has a reasonable likelihood of adversely affecting human health or the environment.

G6. Proper operation and maintenance [40 CFR § 122.41(e)]
The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

G7. Permit actions
1. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. [40 CFR § 122.41(f)]
2. After notice, registration under this permit may be modified or revoked as it applies to any person for cause as follows:
   (a) Violation of any terms or conditions of the permit,
   (b) Failure of the permittee to disclose fully all relevant facts, or misrepresentations of any relevant facts by the permittee during the permit issuance process and during the life of the permit;
   (c) Failure to pay permit fees required by Oregon Administrative Rule when due;
   (d) Information indicating that the permitted operation poses a threat to human health or welfare;
   (e) A change in ownership or control of the operation, or
   (f) Other causes listed in 40 CFR § 122.62 and 122.63.
3. Modification or revocation of coverage under this permit as it applies to any person may be initiated by the agency.

G8. Property rights [40 CFR § 122.41(g)]
This permit does not convey any property rights of any sort, or any exclusive privilege.

G9. Duty to provide information [40 CFR § 122.41(b)]
The permittee shall furnish to the director, within a reasonable time, any information which the director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the director, upon request, copies of records required to be kept by this permit.

G10. Inspection and entry [40 CFR § 122.41(i)]
The permittee shall allow the director or an agency authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:
1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act or state law, any substances or parameters at any location.

G11. Monitoring and records [40 CFR § 122.41(j)]
1. Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity.
2. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which must be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the director at any time.
3. Records of monitoring information must include:
   (a) The date, exact place, and time of sampling or measurements;
   (b) The individual(s) who performed the sampling or measurements;
   (c) The date(s) analyses were performed;
   (d) The individual(s) who performed the analyses;
   (e) The analytical techniques or methods used; and
   (f) The results of such analyses.
4. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 unless another method is required under 40 CFR subchapters N or O.
5. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

G12. Signatory requirement [40 CFR § 122.21(k)]
1. All applications, reports, or information submitted to the director shall be signed and certified. (See § 122.22)
2. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

G13. Additional reporting requirements [40 CFR § 122.41(l)]
1. Planned changes. The permittee shall give notice to the director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
   (a) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in § 122.29(b); or
   (b) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants, which are subject neither to effluent limitations in the permit, nor to notification requirements under § 122.42(a)(1).
   (c) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
2. Anticipated noncompliance. The permittee shall give advance notice to the director of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.
3. Transfers. This permit is not transferable to any person except after notice to the director. The director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act. (See § 122.61; in some cases, modification or revocation and reissuance is mandatory.)
4. **Monitoring reports.** Monitoring results must be reported at the intervals specified elsewhere in this permit.
   (a) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the director for reporting results of monitoring of sludge use or disposal practices.
   (b) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring must be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the director.
   (c) Calculations for all limitations that require averaging of measurements must utilize an arithmetic mean unless otherwise specified by the director in the permit.

5. **Compliance schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date.

6. **Twenty-four hour reporting.**
   (a) The permittee shall report any noncompliance that may endanger health or the environment. Any information must be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission must also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
   (b) The following must be included as information that must be reported within 24 hours under this paragraph.
      (i) Any unanticipated bypass that exceeds any effluent limitation in the permit. (See § 122.41(g) or G14, p. 21.)
      (ii) Any upset which exceeds any effluent limitation in the permit. (See § 122.41(n) or G15, p. 22.)
      (iii) Violation of a maximum daily discharge limitation for any of the pollutants listed by the director in the permit to be reported within 24 hours. (See § 122.44(g).)
   (c) The director may waive the written report on a case-by-case basis for reports under G13.6(b) of this section if the oral report has been received within 24 hours.

7. **Other noncompliance.** The permittee shall report all instances of noncompliance not reported under G13.4, 5, and 6 of this section, at the time monitoring reports are submitted. The reports must contain the information listed in G13.6 of this section.

8. **Other information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the director, it shall promptly submit such facts or information.

**G14. Bypass [40 CFR § 122.41(m)]**

1. **Definitions.**
   (a) **Bypass** means the intentional diversion of waste streams from any portion of a treatment facility.
   (b) **Severe property damage** means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources, which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

2. **Bypass not exceeding limitations.** The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of G14.3 and 4 of this section.

3. **Notice**
   (a) **Anticipated bypass.** If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
   (b) **Unanticipated bypass.** The permittee shall submit notice of an unanticipated bypass as required in G13.6 of this section (24-hour notice).

4. **Prohibition of bypass.**
   (a) Bypass is prohibited, and the director may take enforcement action against a permittee for bypass, unless:
      (i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
      (ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of
reasonable engineering judgment to prevent a bypass which occurred during normal periods of
equipment downtime or preventive maintenance; and
(iii) The permittee submitted notices as required under G14.3 of this section.

(b) The director may approve an anticipated bypass, after considering its adverse effects, if the director
determines that it will meet the three conditions listed above in G14.4(a) of this section.

G15. Upset [40 CFR § 122.41(n)]

1. **Definition.** Upset means an exceptional incident in which there is unintentional and temporary noncompliance
   with technology based permit effluent limitations because of factors beyond the reasonable control of the
   permittee. An upset does not include noncompliance to the extent caused by operational error, improperly
designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or
improper operation.

2. **Effect of an upset.** An upset constitutes an affirmative defense to an action brought for noncompliance with such
   technology based permit effluent limitations if the requirements of G15.3 of this section are met. No
determination made during administrative review of claims that noncompliance was caused by upset, and before
an action for noncompliance, is final administrative action subject to judicial review.

3. **Conditions necessary for a demonstration of upset.** A permittee who wishes to establish the affirmative defense
   of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence
   that:
   (a) An upset occurred and that the permittee can identify the cause(s) of the upset;
   (b) The permitted facility was at the time being properly operated; and
   (c) The permittee submitted notice of the upset as required in G13.6(b)(ii) of this section (24 hour notice).
   (d) The permittee complied with any remedial measures required under G5 of this section.

4. **Burden of proof.** In any enforcement preceding the permittee seeking to establish the occurrence of an upset has
   the burden of proof.