[redacted]

March 20, 2014

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Coastal Programs Division (NORM3)
Office of Ocean and Coastal Resource management
National Ocean Service
National Oceanic Atmospheric Administration
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Re: Disapproval of Oregon Coastal Nonpoint Pollution Control Program
Docket No. 2013-30297

Dear Ms. Gore:

[redacted] supports the U.S. Environmental Protection Agency (EPA) and National Oceanic and Atmospheric Administration's (NOAA) decision to disapprove of Oregon's Coastal Nonpoint Pollution Control Program (Oregon CNPCP). For the reasons discussed in the following comments, [redacted] encourages EPA and NOAA to maintain its position of disapproval and require demonstrated improvement on the issues identified in the Oregon Coastal Nonpoint Program NOAA/EPA Proposed Finding (EPA/NOAA Finding), especially with regard to improved pesticides application restrictions and protections for all classes of streams in both forestry and agricultural areas. Additionally, we encourage EPA and NOAA to require even greater pesticide protection standards for all land use areas within the Oregon Coastal Zone to prevent many of the unmonitored dangers that these chemicals pose to humans and aquatic species, like salmon.

[redacted] is a national, grassroots membership organization, representing community-based groups and a range of people seeking to improve protections for the environment and individuals from pesticides. Based in Washington, D.C., our membership includes residents from all 50 states, including Oregon, and from around the world.

[redacted] recognizes the difficult position Oregon administrators are placed in with a disapproval determination. The restriction of federal funds that follows such a determination compounds many of the issues that local governments face in funding implementation and enforcement projects of the very nature required within the Coastal Nonpoint Management Programs. Recognizing this difficulty, [redacted] still supports EPA and NOAA's decision to disapprove because mere promises and plans are not enough, especially with the increasing use of pesticides and the threats they pose to sensitive waterways, environments, and

ecosystems within the Oregon Coastal Zone, many of which are not monitored or fully recognized by existing frameworks.

A. Coastal Zone Management Act and Adjoining Legal Standards

One of the primary goals of the Coastal Zone Management Act (CZMA) is to "to preserve, protect, develop, and where possible, to restore or enhance, the resources of the Nation's coastal zone for this and succeeding generations."[1] To achieve this purpose and several others identified in CZMA, Congress mandated that the federal government assist and monitor state governments tasked with developing and implementing coastal management programs.[2] After its passage, Congress expanded CZMA with the Coastal Zone Act Reauthorization Amendments (CZARA) and imposed additional programmatic goals of "develop[ing] and implement[ing] management measures for nonpoint source pollution to restore and protect coastal waters…."[3]

In its coastal nonpoint program, a state or territory must *at a minimum* describe how it will implement nonpoint source pollution controls, known as management measures, that conform with those described in federal agency guidance. Finalized in 1993, the expansive *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters* (Coastal Nonpoint Guidance) describes source-specific management measures to reduce nonpoint pollution impacts on coastal waters.[4]

Beyond complying with the detailed Coastal Nonpoint Guidance, states and territories must also revise its coastal nonpoint program from time to time to incorporate *additional* management measures for land uses and areas subject to water quality standards and protected designated uses.[5] These programs must also align with overlapping environmental laws and regulations, such as the Clean Water Act (CWA),[6] Endangered Species Act (ESA),[7] and Federal Insecticide Fungicide and Rodenticide Act (FIFRA).[8]

B. Findings of EPA and NOAA

It is with these legal obligations in mind and the specific requirements and models established in the Coastal Nonpoint Guidance that EPA and NOAA determined that Oregon's Coastal Nonpoint Program failed to meet its legal obligations on a few key conditions. The first involving urban area management measures, the second pertaining to onsite sewage disposal systems, and the third concerning additional management measures for forestry operations.

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[1] Coastal Zone Management Act (CZMA), 16 U.S.C. § 1452(1).
[2] *Id.*
[3] 16 U.S.C. § 1455b.
[4] U.S. Envt'l Prot. Agency, *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*, EPA 840-B-92-002 January 1993, http://water.epa.gov/polwaste/nps/czara/index.cfm; see also Chapter 3: Management Measures for Forestry, http://water.epa.gov/polwaste/nps/czara/upload/czara_chapter3_forestry.pdf.
[5] 16 U.S.C. § 1455b(b)(3); see also Clean Water Act (CWA), 33 U.S.C. § 1313.
[6] 33 U.S.C. § 1251 *et seq*.
[7] 16 U.S.C. § 1531 *et seq.*
[8] 7 U.S.C. § 136 *et seq.*

Finally, EPA and NOAA also raised concerns over its previous interim approval of Oregon's agricultural area management measures.

While [redacted] supports EPA and NOAA decisions concerning all of these identified issue areas and the reasoning behind the overall disapproval of Oregon's CNPCP because of the specified inadequacies in these areas, it is the EPA and NOAA findings concerning pesticide use within the forestry and agricultural areas that we lend our strongest support for disapproval.

Among the specific reasons for disapproval, EPA and NOAA targeted Oregon's lack of buffers for pesticide application on type N (small, non-fish bearing) streams:

> The federal agencies' January 13, 998 Findings noted that Oregon had published forest practices rules that require buffer zones for most pesticide applications. However, these rule changes did not address aerial application of herbicides on non-fish bearing streams, which comprise a significant portion of the total stream length in the coastal nonpoint management area.[9]

These concerns are underscored by the fact that while EPA and NOAA found Oregon's independent state-level frameworks and actions to address pesticide water quality controls sufficient and even commendable because of their monitoring mandates and multi-agency management team, state administrators had failed to implement any of the monitoring programs or management measures within the coastal zone watersheds.[10] Similarly, EPA and NOAA also cited insufficient riparian buffers against pesticide contamination for all stream designations in agricultural areas as an issue.

We reiterate that disapproval of Oregon's CNPCP for these purposes related to pesticides earns [redacted] full support, however, we would also add that it does not go far enough. Oregon's pesticide laws, forestry management laws, clean water laws, and its implementing regulatory programs fail to adequately protect coastal zone resources and the people living within the coastal zone from the dangers of the increasing use of pesticides across all land uses and activities, but especially in the activities of forestry and agriculture.

C. <u>Pesticides and Oregon's Coastal Nonpoint Pollution</u>

Nonpoint pollution sources, like forestry and agriculture, present increasingly difficult sources of water pollution to control because of the many exemptions to federal environmental laws surrounding these activities. For example, with the passage of the Agricultural Act of 2014, forestry operations were officially exempted from the National Pollutant Discharge Elimination System (NPDES) permitting program that acts as the primary control of water pollution within

[9] U.S. Envt'l Prot. Agency and National Oceanic and Atmospheric Admin., *Oregon Coastal Nonpoint Program NOAA/EPA Proposed Finding*, Dec. 20, 2013 [hereinafter "EPA/NOAA Finding"], 11-12, http://coastalmanagement.noaa.gov/nonpoint/oregonDocket/OR%20CZARA%20Decision%20Doc%2012-20-13.pdf.

[10] EPA/NOAA Findings at 12.

the United States.[11] Most agriculture has also been exempted from the same standards since the inception of the CWA. No doubt part of the reason for the passage of CZARA, these traditionally exempted and damaging to water quality activities require heightened attention in the particularly sensitive coastal zones.

i. Known Risks of Pesticides

Adding pesticides into the mix only makes these water quality and health threats worse and, unfortunately, the known risks of even the allegedly "safer" pesticides are serious for humans and threatened species, like salmon, alike. Using the commonly applied (in both forestry and agricultural operations) herbicide of glyphosate as an example, studies abound concerning health and environmental effects.[12]

a. Glyphosate: Health Impacts

A study published in 1999 found that people exposed to glyphosate are 2.7 times more likely to contract non-Hodgkin lymphoma (NHL).[13] In 2002, a study of Swedish men showed that glyphosate exposure was *significantly* associated with an increased risk of NHL, and hairy cell leukemia- a rare subtype of NHL.[14] Further, a 2003 review of studies conducted on farmers by researchers at the National Cancer Institute shows that exposure to glyphosate is associated with an increased incidence of NHL.[15] The American Cancer Society states that non-Hodgkin lymphoma is a cancer that starts in cells called lymphocytes, which are part of the body's immune system.[16]

This list continues. Breast cancer,[17] ADD/ADHD,[18] increased risks of late abortion,[19] and endocrine disruption[20] have all been linked to glyphosate exposure. Glyphosate has also been *suggestively* associated with an increased risk of multiple myeloma, according to an Agricultural

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[11] Agricultural Act of 2014, Sec. 12313, Jan. 27, 2014, http://agriculture.house.gov/sites/republicans.agriculture.house.gov/files/pdf/legislation/AgriculturalAct2014.pdf.

[12] Beyond Pesticides, *ChemicalWATCH Factsheet: Atrazine*, http://www.beyondpesticides.org/pesticides/factsheets/Atrazine.pdf.

[13] L. Hardell & M. Eriksson, *A Case-Control Study of Non-Hodgkin Lymphoma and Exposure to Pesticides,* Cancer, 85(6), 1999, 1353–1360.

[14] Hardell L, Eriksson M, & Nordstrom M. 2002. Exposure to pesticides as risk factor for non-Hodgkin's lymphoma and hairy cell leukemia: pooled analysis of two Swedish case-control studies. Leuk Lymphoma, 43(5), 1043-1049.

[15] De Roos, *et al.*, *Integrative assessment of multiple pesticides as risk factors for non-Hodgkin's lymphoma among men*, Occup Environ Med, 60(9) (2003).

[16] American Cancer Society. *Detailed Guide: Lymphoma, Non-Hodgkin Type:What Is Non-Hodgkin Lymphoma? Cancer Reference Information*. Available at http://www.cancer.org/docroot/CRI/content/CRI_2_4_1X_What_Is_Non_Hodgkins_Lymphoma_32.asp.

[17] Siriporn Thongprakaisang, *et al.*, *Glyphosate induces human breast cancer cells growth via estrogen Receptors*, Food and Chemical Toxicology 59 (2013), 129–136.

[18] V.F. Garry, *et al.*, *Birth defects, season of conception, and sex of children born to pesticide applicators living in the Red River Valley of Minnesota, USA*, Environ Health Perspect, 110(Suppl 3): 441–449 (2002).

[19] Arbuckle, T.E., Z. Lin, and L.S. Mery. 2001. An Exploratory Analysis of the Effect of Pesticide Exposure on the Risk of Spontaneous Abortion in an Ontario Farm Population. Environmental Health Perspectives 109:851-857.

[20] Walsh, L. P., McCormick, C., Martin, C., & Stocco, D. M. 2000. Roundup Inhibits Steroidogenesis by Disrupting Steroidogenic Acute Regulatory (StAR) Protein Expression. Environ Health Perspect, 108, 769–776.

Health Study published in 2005.[21] Multiple myeloma is another type of cancer that starts in plasma cells- a type of white blood cell.[22]

Health effects are not limited to humans. A 2011 study found that glyphosate changed the toxicological parameters in certain fish.[23] Another study from 2010 found that sublethal residues of glyphosate induced immunological responses in fish and alters their natural immune response to bacterial and possibly to other aquatic microorganism.[24] Chronic exposure has been associated with histopathological damage in the gills and liver of freshwater fish species, some of which was irreversible.[25] A study found that Roundup, the most commonly used glyphosate product, alone is "extremely lethal" to amphibians in concentrations found in the environment.[26]

b. Glyphosate: Environmental Hazards

Beyond health hazards, the environmental impacts of glyphosate to surface waters and surrounding areas are becoming an increasing concern. More than 180 million pounds of glyphosate are used annually in the U.S. The U.S. Geological Survey (USGS) recently published a report which documents the distribution and trends of pesticide use from 1992-2009.[27] Because of this heavy use, glyphosate is routinely detected in surface and groundwater samples. A separate USGS survey detected glyphosate in 36% of samples, and aminomethylphosphonic acid or AMPA (a degradation product of glyphosate) in 69% of the samples.[28]

While some of this data originates from agricultural areas where glyphosate use is in the largest quantities, the fact remains that EPA acknowledges glyphosate's potential to contaminate surface water on a national level because it does not readily break down in water or sunlight. Due to glyphosate's potential for water contamination, EPA set its maximum contaminant level

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[21] A.J.D. De Roos, *et al.*, *Cancer Incidence among Glyphosate-Exposed Pesticide Applicators in the Agricultural Health Study*. Environmental Health Perspectives, 113(1), 49-54 (2005).

[22] National Cancer Institute, *What You Need to Know About: Multiple Myeloma* (2008), available at http://www.cancer.gov/cancertopics/wyntk/myeloma/page2.

[23] L. Glusczak L, *et al., Acute Exposure to Glyphosate Herbicide Affects Oxidative Parameters in Piava (Leporinus obtusidens)*, Arch Environ Contam Toxicol, 61(4):624-30 (2011).

[24] LC Kreutz, *et al.*, *Exposure to sublethal concentration of glyphosate or atrazine-based herbicides alters the phagocytic function and increases the susceptibility of silver catfish fingerlings (Rhamdia quelen) to Aeromonas hydrophila challenge*, Fish Shellfish Immunol, 29(4):694-7 (2010).

[25] E. Ortiz-Ordoñez, *et al.*, *Effect of Yerbimat Herbicide on Lipid Peroxidation, Catalase Activity, and Histological Damage in Gills and Liver of the Freshwater Fish Goodea Atripinnis*, Arch Environ Contam Toxicol, 61(3):443-52 (2011).

[26] R. Relyea, *The lethal impact of Roundup on aquatic and terrestrial amphibians*, Ecological Applications, 15(4): 1118–1124 (2005).

[27] U.S. Gelogical Service, *National Assessment Shows Geographic Distributions and Trends of Pesticide Use, 1992-2009*, 2013. Available at http://www.usgs.gov/newsroom/article.asp?ID=3594.

[28] Scribner, E. A., Battaglin, W. A., Dietze, J. E., & Thurman, E. M. 2003. Reconnaissance Data for Glyphosate, Other Selected Herbicides, Their Degradation Products, and Antibiotics in 51 Streams in Nine Midwestern States, 2002 *U.S. Geological Survey*, Open-File Report 03–217(101 p).

(MCL) at 0.7 parts per million (ppm).[29] Unfortunately, many of the above-noted health effects and environmental impacts have been observed at levels below this MCL.

In the Oregon Coastal Zone, neither FIFRA, nor state pesticides, agricultural, or forestry laws adequately protect or account for these known risks. But even more unsettling than the known hazards of the pesticides in Oregon's Coastal Zone are the unknowns.

i. Unknown and Unregulated Uses of Pesticides

EPA and NOAA improperly assume that, should riparian buffer standards for type N streams and monitoring programs within the coastal zone adhere to existing state laws and programs concerning water quality and pesticides, then Oregon's CNPCP would warrant approval. We disagree because existing state and federal laws fail to address large swaths of the pesticide application activities and fail to collect critical pesticide application and risk data.

As documented in a recent report, *Oregon's Industrial Forests and Herbicide Use: A Case Study of Risk to People, Drinking Water and Salmon*, private forestry operations in Oregon operate under antiquated and loose regulations, allowing aerial spraying and unmonitored applications of pesticides as compared to their federal forestry operation and border-state counterparts.[30] The report discusses several disturbing findings:

- There are known endocrine disrupting chemicals entering our drinking water sources and fish-bearing streams.
- Oregon does not require a no-spray buffer near homes and schools.
- Aerial herbicide sprays regularly occur directly over headwaters and tributaries of protected salmon streams.
- Oregon permits pesticides to be sprayed with only the smallest protective buffer of 60 feet from salmon and steelhead streams—a buffer significantly smaller than other Northwest states with similar forest and river ecosystems.
- Stricter chemical and pesticide rules apply in neighboring states with heavy forestry industries.
- Under the current administrative rules, the Oregon Forest Practices Act prohibits researchers, doctors and the public from obtaining accurate information about what types and quantities of herbicides are sprayed.[31]

As it stands, following Oregon's pesticide laws and frameworks are not enough to address the heavily unregulated private forestry practices, even if properly implemented. For agricultural operations, many of the same issues apply.

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[29] U.S. Envt'l Prot. Agency, *Basic Information about Glyphosate in Drinking Water*. available at http://water.epa.gov/drink/contaminants/basicinformation/glyphosate.cfm.

[30] Laurie Bernstein and Lisa Arkin, Beyond Toxics*, Oregon's Industrial Forests and Herbicide Use: A Case Study of Risk to People, Drinking Water and Salmon*, December 2013 [hereinafter "Beyond Toxics Report"], http://www.beyondtoxics.org/work/pesticide-reform/forestry-pesticide-project/.

[31] *Id.*

ii. Unknown and Unmonitored Risks of Pesticides

Unknown and unmonitored uses are a large part of the problem, but so too are the unknown and unmonitored health and environmental risks, a fact directly raised by litigation concerning failed mandatory ESA evaluations of 37 pesticides for potential impacts on endangered and threatened species. [32] As most risk assessments are based on not only old but incomplete data and endpoint evaluations, pesticides application management measures should require reevaluation for this endpoints and impacts on health the environment. [33] Here are some examples.

a. Inert Ingredients In Pesticides

Also known as "adjuvants," pesticide formulations contain so-called inert ingredients. Unfortunately, most risk assessments and testing standards for pesticides do not require extensive testing or disclosure of the inert ingredients, which can be biologically and chemically active. Since these ingredients are anything but inert, they can pose more dangers than the active ingredients in the pesticide formulation, while also amplifying the toxic effects of the active ingredients. Because these ingredients are often unknown even to those applying the pesticides, they are even harder to track and monitor and would not be captured under existing practices.

For example, glyphosate is listed as the active ingredient in a number of formulated end-use products like Rodeo or Roundup. The large remaining percentage of the contents of these products, however, is composed of what is merely described as "inert ingredients." These ingredients serve many purposes, often directly tied to produce efficacy. Chemical companies argue that disclosing these inert ingredients would reveal trade secrets.

Recent scientific inquiries reveal that these ingredients demonstrate significant toxic effect themselves and increase the toxicity of the active ingredients. A 2008 study was the first to definitively confirm this fact. The researchers found that glyphosate formulated products kill human cells, particularly embryonic, placental and umbilical cord cells, even at very low concentrations.[34] These researchers found that the formulations cause total cell death within 24 hours, through an inhibition of the mitochondrial succinate dehydrogenase activity, and necrosis, by release of cytosolic adenylate kinase measuring membrane damage. This study reports that polyethoxylated tallowamine or POEA, an "inert" surfactant, is responsible for the elevated toxic effects observed.

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[32] NW Coalition for Alternatives to Pesticides, LLC v. NMFS, No. 07-1791-RSL, *Stipulated Settlement Agreement and Order of Dismissal*, http://www.nmfs.noaa.gov/pr/pdfs/consultations/pesticide_agreement.pdf.

[33] Oregon Dept. of Forestry, Aerial Pesticides Application Project, *Executive Summary*, Final Report, March 2000, 1 (*Based on current understanding of the toxicity* of commonly used forest pesticides with regard to human health and aquatic biota, the authors conclude that forest practice rules are effective at protecting water quality during aerial herbicide and fungicide applications on Type F and D streams…."), http://www.oregon.gov/odf/privateforests/docs/chemappexecsum.pdf.

[34] N. Benachour, G.-E. Seralini, *Glyphosate Formulations Induce Apoptosis and Necrosis in Human Umbilical, Embryonic, and Placental Cell*s, Chemical Research in Toxicology, 22(1), 97-105 (2008).

Other studies have found that the formulated glyphosate products reduces human placental JEG3 cell viability at least two times more efficiently than glyphosate, disrupts aromatase activity and mRNA levels,[35] induce a dose-dependent formation of DNA adducts in the kidneys and liver of mice,[36] and induce developmental retardation of the fetal skeleton, a decrease in sperm number, and increase in the percentage of abnormal sperms.[37]

In light of such data demonstrating the toxic potential of glyphosate and its formulated products, especially the ingredient POEA, we believe that the use of glyphosate products poses unreasonable human health risks to the applicators, bystanders and other people in the vicinity exposed to the product due to pesticide drift and runoff. We also believe that studies like these conducted on Roundup demonstrate only the tip of the "inert" hazards iceberg and warrant additional research and study of all inerts before continued use in an area, let alone the highly sensitive Oregon Coastal Zone.

The dangers of inerts do not stop with humans. Using glyphosate as the demonstrative chemical again, glyphosate and its formulated products adversely impact aquatic organisms, contrary to industry claims. A study in 2005 found that Roundup as a whole is "extremely lethal" to amphibians in concentrations found in the environment.[38] Another study found that *Rana pipiens* tadpoles chronically exposed to environmentally relevant concentrations of glyphosate formulations containing POEA showed decreased snout-vent length at metamorphosis and increased time to metamorphosis, tail damage, and gonadal abnormalities. Other organisms such as the freshwater mussel, *Lampsilis siliquoidea,* are found to be the most sensitive aquatic organisms tested to date with glyphosate-based chemicals and its surfactant.[39]

EPA in its Reregistration Eligibility Decision (RED) document in 1993 acknowledges that an "inert" ingredient in some glyphosate end-use products was toxic to aquatic organisms and found that these products necessitated labeling: "toxic to fish" as these products are applied directly to aquatic environments.[40] EPA is also aware that glyphosate poses a risk of water contamination since it is not only released directly into aquatic environments, but also via the transport of residues adsorbed to soil particles suspended in runoff water, leaching, and drift.

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[35] S. Richard S, *et al.*, *Differential effects of glyphosate and roundup on human placental cells and aromatase*, Environ Health Perspect, 113(6), 716-720 (2005).

[36] Marco, P., Armelle, M., Claudia, B., & Silvio, P. 1998. 32P-postlabeling detection of DNA adducts in mice treated with the herbicide roundup. Environmental and Molecular Mutagenesis, 31(1), 55-59.

[37] E. Dallegrave, *et al.*, *The teratogenic potential of the herbicide glyphosate-Roundup® in Wistar rats*, Toxicology Letters, 142(1-2), 45-52 (2003); E. Dallegrave, *et al.*, *Pre- and postnatal toxicity of the commercial glyphosate formulation in Wistar rats*, Arch Toxicol, 81(9), 665-673 (2007).

[38] R. Relyea, *The lethal impact of Roundup on aquatic and terrestrial amphibians*, Ecological Applications, 15(4), 1118–1124 (2005).

[39] RB Bringolf, *et al.*, *Acute and chronic toxicity of glyphosate compounds to glochidia and juveniles of Lampsilis siliquoidea (Unionidae)*, Environ Toxicol Chem., 26(10), 2094-2100 (2007).

[40] U.S. Envt'l Prot. Agency, Office of Prevention, Pesticides and Toxic Substances, *Reregistration Eligibility Decision (RED) Glyphosate* (1993).

While glyphosate and its inert ingredients have received the most scientific attention because of its large-scale and increasing presence in the environment, concerns over inert ingredients' health and environmental effects are not be limited to glyphosate products, especially with regard to Oregon Coastal Zone species. This is why in its Biological Opinion concerning Chlorpyrifos, Diazinon, and Malathion, the National Marine Fisheries Service(NMFS) went one step further than the usual assessment protocols and examined risks associated with the adjuvant, nonylphenol. NMFS made the following observation:

> These results show that nonylphenol is of concern to aquatic life, particularly salmonid endocrine systems involved in reproduction and smoltification. We summarized data for one of the more than 4,000 inerts/other ingredients and adjuvants currently registered for use in pesticide formulations. Unfortunately we received minimal information on the constituents found in chlorpyrifos-, diazinon-, and malathion-containing formulations. Consequently, the effects that these ingredients may have on listed salmonids and designated critical habitat remain an uncertainty and are a recognized data gap of EPA's action under this consultation.[41]

Thus, when scientists do have access to information concerning inert ingredients and can conduct risk assessments of the impacts of these chemicals, the findings do not bode well for humans or other species.

b. Endocrine Disruptors

As noted in the NMFS Biological Opinion, endocrine system impacts can pose serious threats. Yet, evaluations of endocrine disrupting effects in both active and inert ingredients of pesticides are rarely conducted or included in risk assessments. Most pesticides are not evaluated for these hazards because traditional risk assessment protocols and standards do not require it. Risk assessments justify use patterns for widely used pesticides based on assumptions about toxicity and exposure. Yet, these traditional risk assessments are skewed in favor of the continued use of hazardous chemicals because they fail to capture data on non-traditional risks and effects.

Endocrine disruption occurs when chemicals interfere with human or other species' hormones and hormone-receptors. In humans, adverse effects from endocrine disruption are far ranging and include reproductive abnormalities, neurological effects, and diseases such as diabetes, ADHD, and cancer.[42] In fish and other aquatic species, similar problems with reproductive systems and neurological development have been documented.

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[41] National Marine Fisheries Service (NMFS), *National Marine Fisheries Service Endangered Species Act Section 7 Consultation Biological Opinion Environmental Protection Agency Registration of Pesticides Containing Chlorpyrifos, Diazinon, and Malathion* at 296 http://www.nmfs.noaa.gov/pr/pdfs/pesticide_biop.pdf; *see also* NMFS, *Pesticide Consultations with EPA,* http://www.nmfs.noaa.gov/pr/consultation/pesticides.htm.

[42] N Harriott and J. Feldman, Beyond Pesticides, *Pesticides That Disrupt Endocrine System Still Unregulated by EPA*, http://www.beyondpesticides.org/gateway/health%20effects/endocrine%20cited.pdf.

In the case of Oregon's Coastal Zone, where designated uses are interconnected with highly sensitive species and reproductive life cycles, like salmon spawning, nonpoint source water quality measures cannot afford to rely on outdated and incomplete assessments that fail to address endocrine disrupting effects.

E. Conclusion

Too often federal agencies ignore their role as the enforcer—against violators of environmental laws, but also as administrators and evaluators of state-level programs. [redacted] applauds EPA and NOAA's willingness to lead by example and enforce the standards they are entrusted with applying in their approval of state coastal nonpoint pollution programs. For all the reasons discussed within these comments, however, we also encourage EPA and NOAA to raise the bar on pesticide management measures and require not only better implementation of existing state programs in order to receive approval, but significant improvement of those programs.

Sincerely,

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