CENTER for BIOLOGICAL DIVERSITY Because life is good.

February 13, 2014

CERTIFIED U.S. MAIL—RETURN RECEIPT REQUESTED

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Re: Sixty-Day Notice of Intent to Sue for Violations of Sections 4(d) and 9 and of the Endangered Species Act

Dear Gov. Kitzhaber, Mr. Decker, Mr. Goody, Mr. White, and Mr. Savage:

This letter is sent on behalf of the Center for Biological Diversity, (hereafter "the Center") a non-profit organization that through science, law, and media works to secure a future for all species, great and small, that are hovering on the brink of extinction. This letter provides you with 60 days notice of the Center's intent to sue you in U.S. District Court for your violations of sections 4(d) and 9 of the Endangered Species Act ("ESA" or "Act"), 16 U.S.C. §§ 1533(d), 1538(a)(1)(B).

As you are no doubt aware, the Endangered Species Act prohibits the unauthorized "take" of endangered and certain threatened species. The Act also authorizes citizen lawsuits to enjoin violations of the ESA. 16 U.S.C. § 1540(g). We are sending you this notice of intent to sue because the Center has concluded that Oregon Department of Forestry officials are planning, authorizing, and conducting logging, timber hauling, and road construction and maintenance activities in the Tillamook and Clatsop State Forests that significantly increase sediment delivery to coho streams, reduce input of large woody debris to streams, and cause "take" of threatened Oregon coast coho in violation of the ESA. The Center intends to sue you for these violations and intends to seek declaratory and injunctive relief to stop the imminent take of Oregon coast coho that is caused by your activities. If the Center is successful it will also seek recovery of its

litigation expenses including attorneys' feesand costs. Forest Conservation Council v. Rosboro Lumber Co., 50 F.3d 781, 784, 787-88 (9th Cir. 1995).

The listing of Oregon coastal coho under the ESA highlighted the need to modify forest practices so they do not degrade coho habitat and impair essential coho life functions. 63 Fed. Reg. 42,587 (1998) (listing Oregon coastal coho as threatened). It is undeniable that logging helped precipitate the decline of coho and that reforms are urgently needed to stop the downward spiral of the species. See, e.g., 60 Fed. Reg. 38,011, 38,024 (July 25, 1995) (proposed Oregon coastal coho listing). Despite extensive scientific reviews of forest practices generally, and Oregon forest practices in particular, all of which document the need for substantial improvements to protect salmon, you are continuing to plan, authorize, and conduct logging operations and road building activities in the Tillamook and Clatsop State Forests that degrade coho habitat and take coho salmon.

The Center would like to work with you to ensure that logging operations in the Tillamook and Clatsop State Forests are brought into compliance with the ESA. More specifically, the Center would like to assist you in developing a forest management and Habitat Conservation Plan that meets the requirements of Section 10 of the ESA and would justify the issuance of an Incidental Take Permit authorizing your activities. In the absence of an agreement to that effect, however, the Center is going to sue you in U.S. District Court for the ESA violations alleged herein.

I. The ESA Prohibits the "Take" of Oregon Coast Coho Unless Authorized by an Incidental Take Permit.

Section 9 of the ESA prohibits activities that "take" endangered species. 16 U.S.C. § 1538(a)(1)(B). Congress intended the term "take" to be defined in the "broadest possible manner to include every conceivable way" in which a person could harm or kill fish or wildlife. S. Rep. No. 307, 93rd Cong., 1st Sess. 1, reprinted in 1973 U.S. Code Cong. & Admin. News 2989, 2995. Accordingly, the ESA defines "take" as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." 16 U.S.C. § 1532(19).

By regulation, the National Marine Fisheries Service ("NMFS") has further defined the term "harm" to include "significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding or sheltering." 50 C.F.R. § 222.102; see Babbitt v. Sweet Home Chapter of Communities for a Great Oregon, 515 U.S. 687, 701 (1995) (upholding same Fish and Wildlife Service regulatory definition). Although NMFS has not promulgated a regulatory definition of "harass," U.S. Fish and Wildlife Service ("FWS") regulations define "harass" as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering." 50 C.F.R. § 17.3.

Pursuant to section 4(d) of the Act, 16 U.S.C. § 1533(d), NMFS has extended the ESA section 9 prohibitions to Oregon coast coho. Oregon coast coho (*Oncorhynchus kisutch*) have been listed as threatened under the ESA most recently since May 12, 2008. See 50 C.F.R. § 223.102(c)(24); 73 Fed. Reg. 7,816 (February 11, 2008) (designating as "threatened" all naturally spawned populations of coho salmon in Oregon coastal streams south of the Columbia River and north of Cape Blanco, including the Cow Creek coho hatchery program). Critical habitat for Oregon coast coho is designated throughout Oregon's coast range. Id.

ESA sections 9(a)(1)(B) and (G) prohibit any "take" of threatened Oregon coast coho that is not authorized by a permit issued by NMFS or FWS. *See* 16 U.S.C. § 1539; 50 C.F.R. Parts 13, 17, & 222. Activities that significantly degrade habitat in ways that impair the spawning, rearing, migrating, sheltering, and other essential behavioral patterns of listed coho are therefore illegal.[1]

The ESA take prohibition applies to all "persons" including state government officials. The ESA defines the term "person" to include any "officer, employee, agent, department, or instrumentality of the Federal Government, of any State," or of local governments. 16 U.S.C. § 1532(13). Furthermore, the ESA citizen suit provision authorizes suits against any person, including any governmental instrumentality or agency to the extent permitted by the Eleventh Amendment, to enforce the prohibition on take. Id. § 1540(g)(1); see also Ex Parte Young, 209 U.S. 123, 159-60 (1908) (authorizing lawsuits for prospective relief against state officials acting in violation of federal law); Cascadia Wildlands v. Kitzhaber, 911 F. Supp. 2d 1075, 1080-81, 1085-86 (D. Or. 2012). You are responsible for any ESA violations caused by logging and road building, maintenance and use activities in the Tillamook and Clatsop State Forests because you manage the forest lands owned by the State of Oregon.

Additionally, you are liable for any actions that you authorize others to undertake on your behalf. Strahan v. Coxe, 127 F.3d 155, 163 (1st Cir. 1997), cert. denied, 525 U.S. 830 (1998) (holding state liable for take of endangered right whales by virtue of its licensing of private commercial fishing with equipment that caused whale entanglements and deaths); see also Loggerhead Turtle

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[1] NMFS previously promulgated 4(d) rules that craved out specific exceptions from the section 9(a)(1) prohibitions for certain conservation activities. 50 C.F.R. § 223.203; 70 Fed. Reg. 37,160 (June 28, 2005) (finalizing amendments to the ESA 4(d) protective regulations for threatened salmonid ESUs). When NMFS subsequently listed Oregon coast coho as threatened in 2008, it also applied the ESA section 9(a)(1) prohibitions to unmarked members of Oregon coast coho that have an intact adipose fin, subject to 13 previously established limits. 50 C.F.R. § 223.203(b); 73 Fed. Reg. at 7829. None of the 13 limits apply to the activities described in this notice letter or limit the applicability of the take prohibition to Oregon coast coho. Indeed, in conjunction with the 4(d) rule, NMFS issued take guidance identifying the types of activities "most likely to cause harm and thus violate this rule." 65 Fed. Reg. at 42,472. Among the activities that run a "high risk of resulting in take" are various logging activities, particularly in riparian areas. Id. at 42,472-73.

v. County Council of Volusia County, 148 F.3d 1231, 1251 (11th Cir. 1998), cert. denied, 526 U.S. 1081 (1999); Defenders of Wildlife v. Administrator, EPA, 882 F.2d 1294 (8th Cir. 1989); Cascadia Wildlands v. Kitzhaber, 911 F. Supp. 2d 1075 (D. Or. 2012).

In order to avoid liability for take of coho, the State of Oregon can obtain an incidental take permit ("ITP") under Section 10 of the ESA. 16 U.S.C. § 1539(a)(1)(B). In exchange for permission to "take" a listed species pursuant to an ITP, the permit applicant must commit to implement a plan that "conserv[es]" – i.e., facilitates the recovery of – the species. Id. §§ 1539(a)(1)(B), (a)(2)(A); see also Sierra Club v. U.S. Fish and Wildlife Serv., 245 F.3d 434, 441-42 (5th Cir. 2001) ("'[c]onservation' is a much broader concept than mere survival" because the "ESA's definition of 'conservation' speaks to the recovery of a threatened or endangered species" (emphasis added)). This plan is called a Habitat Conservation Plan ("HCP") and it must delineate "the impact which will likely result from such taking" and the "steps the applicant will take to minimize and mitigate such impacts . . . ." 16 U.S.C. § 1539(a)(2)(A).

II. Background on State Forest Practices and Oregon Coast Coho.

A. Overview of Management of the Tillamook and Clatsop State Forests.

The Tillamook and Clatsop State Forests are currently managed under the "Northwest State Forests Management Plan," (FMP) which was revised by the Oregon Department of Forestry in 2010. The State Forester implements the FMP through ten year implementation plans for each district on the Tillamook and Clatsop State Forests (Astoria, Forest Grove, and Tillamook). The Astoria and Forest Grove Implementation Plans are from 2011, and the Tillamook plan is from 2009. Each District is managed annually pursuant to an annual operations plan. Through these plans, ODF officials plan, authorize, and conduct logging, road construction and maintenance, and timber hauling activities that result in substantial harm to Oregon coast coho.

Under the current FMP the goal for old forest structure is 15-25% and for layered forest structure is 15-25% in each district. These goals allow clearcutting of roughly an additional 100,000 acres above the goal in the previous FMP (ODF FMP, 2010: S17).

The riparian management provisions of the FMP provide a no cut zone within 25 feet of any stream, and various limitations on cutting within inner (25-100 feet) and outer (100-170 feet) riparian zones depending on stream size and whether the stream is fish bearing (ODF FMP, 2010: J-8). These standards allow cutting in riparian zones that substantially limits recruitment of large woody debris to streams and increases the risk of sediment deposition, thereby harming coho salmon and their habitat.

The FMP recognizes the risk for landslides, debris flows, and other slope stability issues in the Tillamook and Clatsop forests. The plan calls for analysis of the risk of landslide and depending upon the classification – low, moderate, or high – provides for varying review and modification of the proposed activity (ODF FMP, 2010: 4-73). The FMP further calls for an inventory of

forest roads; improved design, construction, and maintenance; and road closures, as well as use of the Forest Roads Manual (ODF FMP, 2010: S-19). As discussed further below, these goals often are not attained and logging and road building continue in landslide prone areas and the road system continues to contribute sediment to fish bearing streams either through hydrological connections, mass wasting events, or both.[2] These contributions of sediment harm coho salmon and their habitat.

The current implementation plan for the Tillamook District calls for clearcutting of 800-3150 acres and partial cutting of 850-3450 acres per year until 2019 (ODF Tillamook IP, 2009: 61). The plan further specifies which basins are priorities for road work and the rate at which road construction and improvement is expected to occur.

The current implementation plan for the Forest Grove District calls for clearcutting of 300-1300 acres and partial cutting of 850-3,450 acres per year for ten years (ODF Forest Grove IP, 2011:69). The plan further specifies which basins are priorities for road work and the rate at which road construction and improvement is expected to occur.

The 2014 Annual Operations Plan for the Tillamook District plans logging of 3,131 net acres. This includes 1,501 acres of clearcutting in aquatic anchors and 932 acres of partial cutting in aquatic anchors (ODF Tillamook AOP, 2014: 12).[3] The AOP "includes approximately 16.9 miles of new road construction and 11.3 miles of road improvement. In addition, 3.3 miles of road will be closed or vacated resulting in a net gain of 13.6 miles to the road system (ODF Tillamook AOP, 2014: 20).

The 2013 Annual Operations Plan for the Tillamook District plans logging of 1,234 acres of partial cutting and 2,071 acres of clearcutting (ODF Tillamook AOP, 2013: 5). The AOP calls for "18.75 miles of new road construction and 13.4 miles of road improvement" (ODF Tillamook AOP, 2013: 23).

The 2012 Annual Operations Plan for the Tillamook District plans logging of 1,030 acres of partial cutting and 2,513 acres of clearcutting (ODF Tillamook AOP, 2012: 5). The AOP calls

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[2] For example, in 2013 the Forest Grove district noted "[a]lmost all of the road work in this AOP is related to access for FY13 timber sales" and other work was minimized due to low timber sale prices (ODF Forest Grove AOP, 2013: 12).

Even if the goals set for these forests were being attained, attainment is still not sufficient to protect against take of coho salmon. For example, the Board of Forestry's 2008 performance measure #5 for the Clatsop only calls for the reduction of hydrologically connected roadways to 15% or less within ten years – not elimination of these sources of sediment to fish bearing streams.

[3] Previously, ODF designated Salmon Anchor Habitats on the landscape and now is designating Aquatic anchors with the goal of protecting fish habitat.

for "24.7 miles of new road construction and 6.9 miles of road improvement" (ODF Tillamook AOP, 2012: 21).

The 2014 Annual Operations Plan for the Forest Grove District plans logging of 1,322 acres of partial cutting and 1,144 acres of clearcutting. This includes 271 acres of clearcutting and 439 acres of partial cutting in aquatic anchors (ODF Forest Grove AOP, 2014: 11). Under the AOP "16.1 miles of road will be constructed, and 31 miles of road will be improved" (ODF Forest Grove AOP, 2014: 16).

The 2013 Annual Operations Plan for the Forest Grove District plans logging of 1,654 acres of partial cutting and 970 acres of clearcutting (ODF Forest Grove AOP, 2013: 5). Under the AOP, "17.8 miles of road will be constructed, and 11.4 miles of road will be improved" (ODF Forest Grove AOP, 2013: 12).

The 2012 Annual Operations Plan for the Forest Grove District plans logging of 1,225 acres of partial cutting and 942 acres of clearcutting (ODF Forest Grove AOP, 2012: 5). Under the AOP, "14.0 miles of road will be constructed, and 15.2 miles of road will be improved" (ODF Forest Grove AOP, 2012: 12).

The annual operations plans layout and authorize particular timber sales and road construction or maintenance activities. The timber sales and some related road work are then auctioned off by ODF officials.

B. Oregon Coast Coho and the Impacts from ODF's Forest Management Activities.

Coho spend the initial part of their life cycle rearing and feeding in streams and small freshwater tributaries and the rest of their life in estuarine and marine waters. Coho return to their natal streams to spawn at the end of their lives. As a result, coho require navigable passage back to their natal streams, stable gravel substrates for spawning and redd building, clear water for spawning and feeding, pools for sheltering and feeding, and cool water. Oregon coast coho salmon populations have declined precipitously over the past several decades and habitat degradation due to forestry and development has been a major factor in the decline. See, e.g., 60 Fed. Reg. at 38,011 (proposed Oregon coastal coho listing; 65 Fed. Reg. 42,422 (July 10, 2000) (identifying "past and ongoing destruction of freshwater and estuarine habitats" as key factors precipitating the decline of coho).

Forestry practices on state lands in Oregon are contributing to the decline of coho populations in Oregon. ODF officials are causing take by planning, authorizing, and conducting logging, hauling, and road construction and maintenance activities in the Tillamook and Clatsop State Forests that cause habitat degradation and actually injure, kill, and/or harass Oregon coast coho. In particular, ODF's plans, authorizations, and conduct increase sediment delivery and reduce input of large-woody debris to streams utilized by Oregon coast coho. In recent reviews of the

status of coho, NMFS has concluded that management of state forests is harming Oregon Coast coho:

> For purposes of this assessment, we are unable to conclude that the state forest management plans will provide for OC coho salmon habitat that is capable of supporting populations that are viable during both good and poor marine conditions. It is likely that some OC coho salmon habitat on state forests will be maintained in its current degraded state, some habitat will be further degraded, and habitat in areas that are not being harvested will recover.

75 Fed. Reg. at 29,500 (emphasis added). The impacts from the logging, hauling, and road related activities that ODF plans, authorizes, and carries out cause actual injury and death to, and/or harass Oregon coast coho by increasing sediment delivery to streams in at least three ways[4], and reducing input of large woody debris by logging in riparian areas, all of which ultimately and proximately cause the take of Oregon coast coho.

Through its forest management plans, timber sale authorizations and road construction and maintenance activities and authorizations, ODF officials plan, authorize, and conduct activities in specific watersheds that result in take of coho. The activities that cause take include timber hauling, road maintenance, road construction, logging of landslide prone areas, logging of riparian areas, and the synergistic effects of these activities within specific watersheds where Oregon coast coho are located. As discussed below, by authorizing these activities, you are liable for take of Oregon coast coho.

ODF manages the Tillamook and Clatsop State Forests to generate revenue for the Department and for the counties in which the forest lands are located. These lands are managed to provide the greatest permanent value as specified under state law. However, ODF is also obligated to ensure compliance with other laws, including the federal Endangered Species Act, in managing state forests. To date, ODF does not have a permit issued under Section 10 of the Act or any other take liability coverage for planning, authorizing, or carrying out of logging, hauling, and roading activities on the Tillamook and Clatsop State Forests.

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[4] Sediment impacts increase as a greater proportion of a watershed is clearcut or roaded. Elevated sediment concentrations can result from forest practices due to increased soil disturbance and altered hydrologic regimes within harvested watersheds (Gomi et al. 2005). Logging-generated sedimentation is compounded by roads, which generate additional sediment and serve as conduits for sediment to flow into streams. The removal of large wood diminishes the stream's capacity to trap, store and regulate the transport of sediment downstream. In these ways, the removal of riparian and upslope vegetation and disturbance of soils elevates sediment loads.

III. State Logging Activities in the Tillamook and Clatsop State Forests Significantly Increase the Amount of Sediment Delivered to Streams and Cause "Take" of Oregon Coast Coho.

By planning, approving, authorizing, and conducting activities that increase sediment loads in Oregon coast coho bearing streams, you are causing take of the species. Increased erosion and corresponding increases in sediment delivery and sedimentation contribute to channel simplification, including losses in the depth, frequency, and quality of pools and off-channel habitat critical for fish rearing. Increased sedimentation also contributes to increased levels of fine sediment, which greatly reduces salmonid survival from egg-to-fry life stages. Elevated sediment delivery also increases turbidity that can impair salmonid sight-feeding and cause gill damage—both factors that can contribute to indirect mortality (Rhodes et al., 1994; Lloyd et al., 1987; Newcombe and Jensen, 1996; Wood, 1997).

As noted in the Kilchis Watershed Analysis:

> The negative effects of increased sediment generation include: fine sediment deposition in spawning gravels that can smother salmonid eggs, reduce[d] intergravel oxygen, increased turbidity in the water column that can interfere with sight-feeding by salmonids, direct burial of macroinvertebrate insects and their habitat, and bed aggradation throughout the stream network including accumulation of sediment in low gradient channels causing bank erosion and impairing navigation (TBNEP, 1998b).

Increases in sediment delivery can further harm coho by contributing to increases in width/depth ratios in sensitive streams (Richards, 1982; Rhodes et al., 1994), which inevitably increases summer water temperatures even in the absence of the loss of shade (Beschta et al., 1987; McCullough, 1999).

Overall, sedimentation often fills rearing pools, silts spawning beds, and decreases channel stability. Accelerated sedimentation increases fine sediments in spawning gravels, which reduces the survival rates of emerging salmon fry. Sedimentation also reduces the available rearing space for juvenile salmon due to increased cobble embeddedness. Increased turbidity impairs salmon sight feeding and damages gills. When sediment fills pools and creates broader, shallower channels, salmon feeding and rearing can be disrupted, vital over-wintering habitat can be lost, and stream temperature problems can be exacerbated.

A. Landslides from Logging and Road Work at High-Risk Sites Increases Sediment Delivery to Streams.

As previously discussed, ODF officials plan, authorize, and conduct logging and road building and maintenance activities on high-risk sites that result in sediment deposition in coho-bearing streams. Logging high-risk sites significantly increases the risk of landslides and debris flows.

Clearcut areas are more prone to slope failure than forested areas (Gresswell *et al*. 1979, Pentec 1991, Benda *et al*. 1998, Robison *et al*. 1999, Montgomery *et al*. 2000, Guthrie 2002, May 2002). For example, the frequency of debris torrents in clearcuts increased 4-9 times relative to the frequency in forested areas (Swanson & Lienkaemper 1978). Relative to intact forests, debris flows in cleared forests are more frequent after a 20 percent increase in rainfall intensity (Franklin *et al*. 2000). Slumps and slump-earthflows can be reactivated or accelerated after being harvested (Swanston 1981, Ziemer 1984, Benda *et al*. 1988, Swanston *et al*. 1988).

Mass wasting events often deliver sediment to streams. Landslides in clearcuts are more likely to deliver to streams, and to impair water quality with episodic and chronic sedimentation, than landslides in forested areas (Johnson *et al*. 2000); (Guthrie 2002); (Benda *et al*. 1998). Debris flows in clearcuts travel farther than debris flows in forested environments (Ketcheson and Froelich 1978), which increases the likelihood of delivery to streams.

Sediment delivery to streams via mass wasting events drastically alters aquatic habitat. Where landslides reach coho streams, they can cause mortalities and/or impaired behavioral functioning of coho salmon. The delivery of sediment to salmon-bearing reaches can smother salmon eggs, affect salmon migration, and severely degrade spawning and rearing habitat (ManTech: 98). Turbidity can affect foraging by juvenile coho by reducing the distance within which they can detect prey. Id. at 102. Debris flows elevate turbidity downstream (FPB 2004) and negatively affect aquatic species (Cederholm & Lestelle, 1974: xiii).

By planning, authorizing, and conducting logging, road building, and maintenance activities on high-risk or slide prone sites you are causing take of coho salmon from the resulting sediment deposition in coho-bearing streams.

B. Timber Hauling on Roads Hydrologically Connected to Streams Increases Sediment Delivery to those Streams.

As previously discussed, ODF officials plan, authorize, and conduct road maintenance and construction activities and authorize the use of forest roads for timber hauling. The construction, use, maintenance, and existence of logging roads detrimentally affects stream health and aquatic habitat by increasing sediment delivery and stream turbidity (Furniss et al., 1992; Trombulak and Frissell, 2000; Gucinski et al., 2001).

In the western United States, roads are the primary source of sediment from forest management activities (Megahan and Ketcheson, 1996). Much forestry-related sediment is delivered episodically via stormwater runoff or road-related landslides. Roads, road construction and logging all cumulatively elevate peak flows, erosion, sediment delivery, turbidity, and sedimentation (Meehan, 1991; Rhodes et al., 1994; UFSF and USBLM, 1997a; Beschta et al., 2004).

Much of the road system in the Tillamook and Clatsop State Forests was constructed decades ago (ODF, Forest Grove AOP, 2013: 12) ("The district's primary road network is an established system that has been in place for about twenty years."). These logging roads were intentionally designed to discharge stormwater directly into streams – utilizing ditches, channels, and culverts to move stormwater off the road and into the existing stream network. Consequently, a significant amount of the road network in most watersheds remains hydrologically connected to streams (Wemple et al., 1996; Rhodes and Huntington, 2000).[5] Roads located on steep slopes or next to streams pose the greatest risk of sediment delivery and adverse impacts to stream habitats. Moreover, "the single greatest factor affecting generation of sediment from road surfaces is the amount of traffic" (Reid and Dunne, 1984). The greater the disturbance area and the closer to streams, the greater the risk of sediment delivery.

By authorizing or participating in the construction of forest roads, by maintaining a road system with hydrologically connected roads that are delivering sediment to coho-bearing streams, and by authorizing timber hauling on these same roads, you are causing take of Oregon coast coho. Sediment can cover redds killing eggs and/ or juvenile fish. The addition of sediment to coho-bearing streams further reduces the utility of the habitat for feeding, breeding, and sheltering causing injury or even death to the fish.

C. Inadequate Riparian Buffers Allow Increased Sediment Delivery to Streams.

By planning and authorizing logging in small and medium fish-bearing streams and small perennial and seasonal nonfish-bearing streams ODF officials are causing take of Oregon coast coho salmon. Logging in these areas destabilizes soils and hillslopes, generating accelerated sediment delivery and increased sedimentation. Statistically significant increases in suspended sediment occur following the clearcut harvest of stream side areas (Keim and Schoenholtz 1999, Jackson et al. 2001, Zegre et al. 2008). Clearcut streams also show chronic sediment delivery and deposition with depths of fine sediment several centimeters thick (Jackson et al. 2001, Rashin et al. 2006). In fact, the length of the unbuffered riparian zone in otherwise clearcut basins is a good predictor of sediment yield that is independent of road area (Lewis et al. 2001).

Riparian buffers function as filters of surface water flow from upland areas and provide effective limits on ground disturbance, both of which are important processes that prevent chronic sediment delivery to streams (Gomi et al. 2005). Riparian buffers are generally effective at

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5 More recent design standards acknowledge that direct discharges are ecologically undesirable and seek to direct drainage onto porous forest soils for infiltration. However, most forest roads in Oregon were constructed prior to the new state rules (ODF Issue Paper, 2000). As the Forest Grove district has acknowledged: "Many of the district's main roads (collectors) were originally built as railroads and then converted to truck roads in the 1940s and 1950s to standards considerably less stringent than those applied today. These roads were originally often constructed with inadequate drainage systems, poor surfacing, and little regard for slope stability and fish passage" (ODF, Forest Grove AOP, 2013:12).

preventing direct physical disturbance and sediment and slash delivery to streams if they include limits on yarding practices (Keim and Schoenholtz 1999, Rashin et al. 1999, 2006, Jackson et al. 2001). If riparian buffers are not required for non-fish bearing streams, they become a source of excess sediment to perennial, fish-bearing channel networks as sediment is transported downstream (Rashin et al. 1999, Gomi et al. 2005). Thus, the effectiveness of the overall system of riparian management zones in maintaining sufficiently low turbidity is diminished at a watershed scale due to inadequate buffers in headwater basins (Rashin et al. 2006). Rhodes (2005: 23) summarized, "it has long been recognized that full protection of the area of vegetation within 200 to >300 ft of the edge of all stream types is one of the most important and effective ways to limit sediment delivery from upslope disturbances, as numerous independent assessments have repeatedly concluded, Anderson et al. (1993), USFS et al. (1993), Henjum et al. (1994), Rhodes et al. (1994), Erman et al. (1996), Moyle et al., 1996; USFS and USBLM (1997), Beschta et al. (2004), Karr et al. (2004)"(emphasis in original).

Clearcutting riparian areas around streams also increases the probability of debris flows and sediment delivery to streams due to the accumulation of slash debris. In western Washington, Jackson et al. (2001) showed that 94% of the length of headwater streams was covered or buried by up to 2.3 m of slash debris after being clearcut. Many landslides in clearcut units occur adjacent to streams and incipient drainages loaded with slash debris (Gresswell et al. 1979). Small, mobile slash debris introduced into stream channels creates jams that are more susceptible to catastrophic failure than larger debris accumulations (MacDonald & Ritland 1989).

By planning and authorizing logging of riparian areas you are causing take of coho salmon.

IV. State Logging Activities in the Tillamook and Clatsop State Forests Significantly Reduce Delivery of Large Woody Debris to Streams and Cause "Take" of Oregon Coast Coho.

By planning and authorizing logging in riparian areas and areas near streams, ODF officials are diminishing the abundance of large woody debris in coho bearing streams and causing take. Loss of large woody debris is widely recognized as one of the primary factors in the loss and degradation of coho habitat and listing of the species under the Endangered Species Act. See 60 Fed. Reg. at 38,024; 69 Fed. Reg. 33,142; 69 Fed. Reg. at 74,597.

Large woody debris serves a number of critical roles in the formation and maintenance of coho habitat. It is considered a "primary determinant" of channel form in streams, creating cover and pools that provide essential winter rearing habitat for juvenile coho (Bilby and Bisson 1998, Sedell et al. 1988). By slowing flow, creating stair steps and waterfalls, and stabilizing banks, large wood creates abundant pool habitat where juvenile coho can maintain position, feed and find cover from predators while expending minimal energy (Bilby and Bisson 1998). Large woody debris also stores sediment and organic matter which improves water quality and is an important food source for macro-invertebrates, which are in turn a source of food for juvenile coho (Bilby and Bisson 1998).

Likely because of poor winter survival, fish abundance, including coho, is significantly lower in streams where woody debris has been removed by clearing or logging (Lastelle 1978, Elliott 1986, Dolloff 1986, House and Boehne 1986, Fausch and Northcote 1992, Bilby and Bisson 1998). House and Boehne (1986), for example, compared two sections of Tobe Creek, which is just south of the Tillamook State Forest and similarly flows from the Oregon Coast Range to the Pacific, one of which was a "young-alder stream section logged and cleared of large debris 20 years ago" and the other was a "mature mixed-conifer section unlogged and containing large amounts of large woody debris," finding that "three times as many coho salmon and trout fry were living in the mature-conifer stream section" and that "there was a positive correlation between coho salmon numbers and the presence of large woody debris."

The primary limitation to input of large woody debris to streams is logging, particularly in riparian areas. Logging in riparian areas decreases large woody debris in streams by removing the future source of wood input, reducing the size of pieces of large woody debris and therefore their longevity in streams, and increasing the frequency of debris flows, which can remove large woody debris from streams (Swanson and Lienkaemper 1978, Ralph et al. 1994, Bilby and Bisson 1998).

Accordingly, a number of studies have found a negative association between logging and the amount and size of large wood in Pacific northwestern streams (Bisson et al. 1987, Murphy and Koski 1989, Bilby and Ward 1991, Ralph et al. 1994, Bilby and Bisson 1998, Burnett et al. 2006). Swanson and Lienkaemper (1978), for example, determined that "management activities also reduce stream debris loading by thinning and harvest operations which remove standing trees, the future source of large debris for streams." In particular, they point to logging in headwater streams as problematic.

Ralph et al. (1994) found that large woody debris had a smaller average diameter and that it was more often found along channel margins above the water level in summer in watersheds with moderate to intensive logging compared to watersheds with old-growth. This resulted in a reduction in pool frequency and depth and an increase in fast water habitats, which is harmful to salmonids (Ralph et al. 1994).

According to an "Independent Multidisciplinary Science Team" ("IMST") appointed by the Governor of Oregon, levels of large woody debris on non-federal lands in Oregon, including the Tillamook and Clatsop State Forests, were below those considered necessary for adequate salmon habitat and current management is not sufficient to correct this situation.[6]

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[6] Specifically, IMST found that "[s]urveys of about 2,000 stream miles on non-Federal lands show there are fewer pieces of large wood in the stream channels than specified in the current Oregon benchmarks. About 40 percent of the stream-miles surveyed are considered adequate or good with regard to the presence of large wood, but 60 percent are considered poor. Probably more important to the long-term recovery of wild salmonids is the finding that 94

IMST (1999) concluded that existing riparian buffers are not adequate for wood recruitment because too much cutting of large trees is allowed within buffers, buffers are not consistently applied to all streams, namely non-fish bearing and intermittent streams, and because upland areas with unstable slopes are not provided sufficient protection.

Lack of large woody debris and management that limits input of additional woody debris by the Oregon Department of Forestry are harming coho by limiting winter survival on the Tillamook and Clatsop State Forests. Future logging on the Tillamook State Forest in riparian areas and unstable upslope areas will harm coho salmon in clear violation of the Endangered Species Act.

V. Oregon Department of Forestry Officials Plan, Authorize, and Conduct Logging, Hauling, and Road Construction and Maintenance Activities on the Tillamook and Clatsop State Forests that Take Coho salmon.

By creating and adopting your various forest plans and by offering specific timber sales, building roads, maintaining roads, and allowing travel and hauling on hydrologically connected roads, you are causing take of coho. Specifically, you have planned, continue to plan, and/or offer recent timber sales in landslide prone areas in the Tillamook and Clatsop State Forests where coho are present. You also plan logging roads in landslide prone areas and/or authorize or conduct road maintenance in landslide prone areas where coho are present. These logging and roading activities result in various mass wasting events throughout the forests. These events deposit sediment in coho bearing streams with deleterious consequences for coho redds and juveniles, as well as the habitat upon which coho depend for spawning, rearing, and sheltering. For example, the upper Cook Creek Road, above Tin Shack Road, in the Tillamook District "was severely damaged during a significant rain event in November 2012" (ODF Tillamook AOP, 2014: 21). The Forest Grove district is still repairing damage that resulted from 2007 storm events (ODF Forest Grove AOP, 2013:12). Furthermore, your logging authorizations and road construction in riparian areas are causing and contributing to loss of large woody debris in coho bearing streams.

Additionally, ODF officials have planned and continue to plan timber sales that require the use of hydrologically connected roads. Use of these segments of the road system also results in the deposition of sediment and other pollutants to coho bearing streams.

Together, logging and road building/maintenance in slide prone areas along with use of hydrologically connected roads modifies coho habitat to such an extent that it causes injuries or death and otherwise results in take of coho in particular watersheds. These timber sales, road

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percent of the riparian areas (a potential source of future large wood in streams) are themselves ranked as poor with regard to the presence of large conifers (ODF 1999). We conclude that Oregon streams and adjacent forests currently contain much lower levels of larger wood than they did historically, and under the current management practices, the potential for recruitment will not result in its replenishment" IMST (1999).

work activities, and resulting haul of timber are permitted by ODF officials and will cause substantial harm to coho salmon by contributing sediments to streams, increasing risk of landslides, and removing large woody debris, which is a key component of coho salmon habitat.

A. Take of Coho in the Wilson Management Basin.

In the Wilson Management Basin, there are at least seven sub-basin watersheds in which you are causing take of Oregon coast coho salmon. The Wilson basin is the largest in the Tillamook District covering 65,998 acres of state forest (Tillamook IP, 2009). Hydrologic connectivity for the Wilson watershed was measured to be 16 percent by ODF (Tillamook IP, 2009).[7] Salmon Anchor Habitats "[SAHs] have been designated in the Little North Fork Wilson, Cedar Creek, and Ben Smith sub-basins" in the Wilson basin (Tillamook IP, 2009). Additionally, "[t]he Wilson River basin and the Trask River Basin have the heaviest OHV use and the majority of the designated OHV trails (180 miles) on the district" (Tillamook IP, 2009). The Upper Wilson, Middle Wilson, Lower Wilson River, North Fork Wilson River, and Jordan Creek watersheds contain designated critical habitat for Oregon coast coho, ODFW mapped coho habitat, and Oregon coast coho.

In the Upper Wilson River watershed, during the last three years you have planned at least three timber sales or units of timber sales in landslide prone areas these include but are not limited to: Deer Fence, Lehman Heights, and Runyon Ex. We provide notice regarding these and any other similar past, present, or future similarly situated sales.

In the Middle Wilson River watershed, during the last three years you have planned timber sales or units of timber sales in landslide prone areas. These sales or sale units include but are not limited to: Jolly Roger and Lehman Heights. We provide notice regarding these and any other similar past, present, or future similarly situated sales. Additionally, units of the Codey Canyon and Jolly Roger sales and any other sales using a similar route, including segments of the Fox Creek Ridge Road, require travel and hauling on hydrologically connected road segments.

In the Lower Wilson River watershed, the Kan Samson sale and any others using a similar route, including segments of the Samson Ridge road and the Kansas Creek road, require travel and hauling on hydrologically connected road segments.

In the North Fork Wilson River watershed, during the last three years you have planned at least two timber sales or units of timber sales in landslide prone areas these include but are not limited to: Diamond Point and West Mill. We provide notice regarding these and any other similar past, present, or future similarly situated sales.

In the Jordon Creek watershed, the Jolly Roger sale and any other using a similar route, including segments of the Fox Creek Ridge road, require travel and hauling on hydrologically

[7] Only two watersheds have been measured or had results published.

connected road segments. Additionally, the Jolly Roger sale also includes logging and/or road building on landslide prone areas of the forest.

B. Take of Coho in the Trask Management Basin.

In the Trask Management Basin, there are at least three sub-basin watersheds in which you are causing take of Oregon coast coho salmon. The Trask basin is the third largest in the Tillamook District encompassing 56,380 acres of state forest (Tillamook IP, 2009). Additionally, "[t]he Wilson River basin and the Trask River Basin have the heaviest OHV use and the majority of the designated OHV trails (180 miles) on the district" (Tillamook IP, 2009). Salmon Anchor Habitat "[SAHs] are designated in the Elkhorn and East Fork of the South Fork Trask River" in the Trask basin (Tillamook IP, 2009). "Coho salmon core areas are located in the North Fork, South Fork, and East Fork of the Trask River" (Tillamook IP, 2009). The Upper Trask River, East Fork of the South Fork Trask, and South Fork Trask River watersheds contain designated critical habitat for Oregon coast coho, ODFW mapped coho habitat, and Oregon coast coho.

In the Upper Trask River watershed, during the last three years you have planned at least three timber sales or units of timber sales in landslide prone areas. These sales or units include but are not limited to: Sheri's Gold, Bob Quarry/Eagle Hill, and Jolly Roger. We provide notice regarding these and any other similar past, present, or future similarly situated sales. Additionally, units of the Jolly Roger and Kan Samson sales and any other sales using a similar route, Samson Ridge road, Kansas Creek road and/or the Hembre Ridge road, require travel and hauling on hydrologically connected road segments.

In the East Fork of the South Fork Trask watershed, during the last three years you have planned at least five timber sales or units of timber sales in landslide prone areas. These sales or units include but are not limited to: Mill Bound, Easy Money, Holly Bush, Power Bales, and Wasabi. We provide notice regarding these and any other similar past, present, or future similarly situated sales. Additionally, units of the Mill Bound, Wasabi, and Holly Bush sales and any other sales using a similar route, including Boundary road, Miller road, East Fork Trask road, Toll road, Mesabi road, and S. Fork Trask road require travel and hauling on hydrologically connected road segments.

In the South Fork Trask River watershed, during the last three years you have planned at least six timber sales or units of timber sales in landslide prone areas. These sales or units include but are not limited to: Haulin Wood, Sheri's Gold, Easy Money, Holly Bush, Power Bales, and Coast Moon Tie. We provide notice regarding these and any other similar past, present, or future similarly situated sales. Additionally, units of the Holly Bush sale and any other sales using a similar route, including the East Fork Trask River road require travel and hauling on hydrologically connected road segments.

C. Take of Coho in Other Trask Management Basins.

The North Fork Trask basin contains designated critical habitat for Oregon coast coho and contains coho habitat as mapped by ODFW. In the North Fork Trask Management Basin, in the North Fork Trask sub-basin watershed, you have planned the Bob Quarry timber sale, which includes logging in landslide prone areas. We provide notice regarding this and any other similar past, present, or future similarly situated sales.

In the Sunday Creek Management Basin, in the Middle Fork of the North Fork of the Trask River sub-basin watershed, you have planned the Chilly Willy timber sale, which includes logging in landslide prone areas. We provide notice regarding this and any other similar past, present, or future similarly situated sales.

D. Take of Coho in the Rogers Management Basin.

In the Rogers Management Basin, there are two sub-basin watersheds in which you are causing take of Oregon coast coho salmon. The Rogers basin is heavily used for recreation and encompasses 20,834 acres of state forest (Forest Grove IP, 2011). "There are four important salmonid streams" in this basin: "Devils Lake Fork, Elliot Creek, Deyoe Creek, and South Fork of the Wilson" and "[a]pproximately 6,000 acres of the Devils Lake Fork Wilson River Aquatic Anchor is located in the eastern portion of this basin" (Forest Grove IP, 2011). This basin is a medium priority for transportation planning. The Lower Devils Lake Fork of the Wilson River and South Fork Wilson River watersheds contain designated critical habitat for Oregon coast coho, ODFW mapped coho habitat, and Oregon coast coho.

In the Lower Devils Lake Fork Wilson River watershed, during the last three years you have planned timber sales or units of timber sales including: Parallel Universe, Side Saddle, Elliot Ness, Rutherford Road and any other sales using a similar route, including Beaverdamn road, University Falls road, and Rutherford road, that require travel and hauling on hydrologically connected road segments.

In the South Fork Wilson River watershed, during the last three years you have planned timber sales or units of timber sales including: Blackjack, Elliot Ness, and any other sales using a similar route, including University Falls road and Beaverdamn road, that require travel and hauling on hydrologically connected road segments.

E. Take of Coho in the Kilchis Management Basin.

In the Kilchis Management Basin, there are two sub-basin watersheds in which you are causing take of Oregon coast coho salmon. The Kilchis basin encompasses 33,695 acres of state forest in the Tillamook District. "[T]here is a designated SAH in the Middle Kilchis River sub-basin" and "[c]ore coho salmon areas are located within this basin" (Tillamook IP, 2009). This basin is a low priority for transportation planning. The Middle Kilchis basin and the North Fork Kichis

watersheds contain designated critical habitat for Oregon coast coho, ODFW mapped coho habitat, and Oregon coast coho.

In the North Fork of the Kilchis River watershed, during the last three years you have planned timber sales or units of timber sales including the Two's Company sale in landslide prone areas. We provide notice regarding this and any other similar past, present, or future similarly situated sales. Additionally, units of the Star White sale and any other sales using a similar route, including the Kilchis Forest road, require travel and hauling on hydrologically connected road segments.

In the Kilchis River watershed, during the last three years you have planned timber sales or units of timber sales including the Star White sale and any other sales using a similar route, including the Kilchis Forest road, that require travel and hauling on hydrologically connected road segments.

F. Take of Coho in the Miami Management Basin.

The Miami Management Basin contains designated critical habitat for Oregon coast coho, ODFW mapped coho habitat, and Oregon coast coho. In the Miami Management Basin, sale units, including from the Miami Fire sale, were planned in the Anderson Creek and Upper Miami River watersheds in landslide prone areas. We provide notice regarding these and any other similar past, present, or future similarly situated sales. The Miami basin is 13,784 acres of state forest in the Tillamook District. Hydrologic connectivity for the Miami watershed is measured to be 20 percent by ODF (Tillamook IP). "All of the Miami Basin is a designated SAH" and "[c]ore coho salmon areas are located within this basin" (Tillamook IP, 2009). This basin is a medium priority for transportation planning.

G. Take of Coho in the Lower Nehalem Management Basin.

The Lower Nehalem Management Basin contains designated critical habitat for Oregon coast coho, ODFW mapped coho habitat, and Oregon coast coho. In the Lower Nehalem Management Basin, sale units, including from the Thin McKenn sale, were planned in the Cook Creek and North Fork of the Kilchis watersheds in landslide prone areas. We provide notice regarding these and any other similar past, present, or future similarly situated sales. The Lower Nehalem basin is the second largest in the Tillamook district totaling 59,634 acres of state forest. "Salmon Anchor Habitat Areas have been designated in the Foley Creek, Cook Creek and the South Fork Salmonberry River Sub-Basins" and "[c]ore coho salmon areas are located within this basin, and the Salmonberry is managed as an important wild fish stream" (Tillamook IP, 2009). The basin is a high priority for transportation planning.

H. Take of Coho in the Nestucca Management Basin.

The Nestucca Management Basis contains designated critical habitat for Oregon coast coho, ODFW mapped coho habitat, and Oregon coast coho. In the Nestucca Management Basin, sales, including from the Coast Moon Tie and Power Bales sales, were planned in the Moon Creek and Upper Nestucca watersheds in landslide prone areas. We provide notice regarding these and any other similar past, present, or future similarly situated sales. The Nestucca basin is in the Tillamook District and totals 7,547 acres of state forest. "Core coho salmon areas are located within this basin" (Tillamook IP, 2009).

CONCLUSION

This notice provides the grounds upon which the Center may file suit. The Center intends, at the close of the 60-day notice period, to file a citizen suit against you under Section 11 of the Endangered Species Act for these and any and all similar violations seeking declaratory and injunctive relief, as well as fees and costs.

The Center is willing to discuss settlement terms and effective remedies for the violations in this letter during the 60-day notice period. If you wish to pursue such discussions in the absence of litigation, please contact me or my counsel (cc'd below).

Sincerely,

David Noah Greenwald
Endangered Species Program Director
Center for Biological Diversity

cc:

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