

FINAL COST-BENEFIT ANALYSIS
Department of Natural Resources
Rule Making Affecting Silvicultural Burn Permit Fees
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OBJECTIVES

The Department of Natural Resources (DNR) is proposing a rule change to the forest protection rule WAC 332-24-221 which would increase silvicultural burn permit fees as authorized by the 2011 State Legislature in Second Engrossed Substitute House Bill 1087.

The objective is to comply to the maximum extent possible with the statutory direction in RCW 70.94.6534 to set permit fees at a level necessary to cover the costs of the silvicultural burning program. DNR's ability to comply fully with this direction is limited to the level authorized in Second Engrossed Substitute House Bill 1087.

CONTEXT

Existing Silvicultural Burn Program

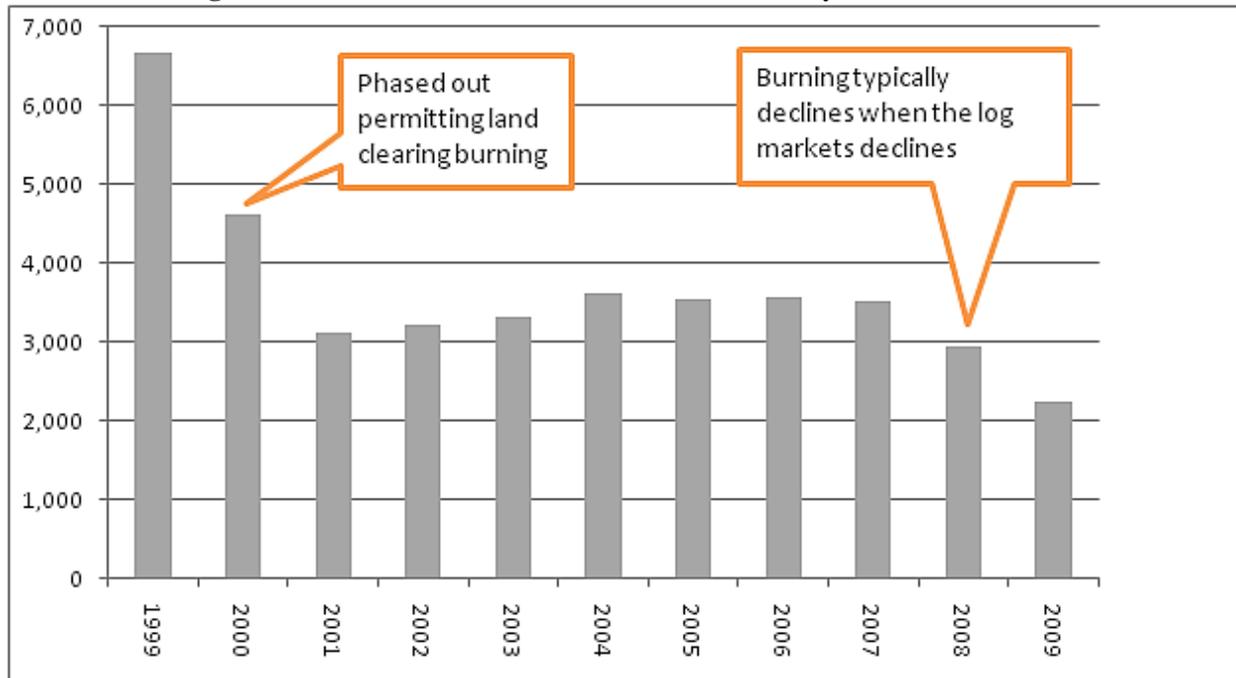
Through authority provided in Washington's forest protection laws (RCW 76.04.205) and Clean Air Act (RCW 70.94.6534), DNR is responsible for regulating burning of forest debris on forestlands where DNR provides fire protection. DNR accomplishes this through implementation of regulatory rules (WAC 332-24) and the Smoke Management Plan (SMP). The SMP was developed in collaboration with small forest landowners, large forest landowners, federal land managers, and the Department of Ecology and provides for a limited burning program that protects human health and safety from the effects of outdoor burning while allowing the use of fire under controlled conditions to maintain healthy forests and meet land management needs.

The current silvicultural burn program involves the following:

- DNR region staff to issue and comply permits following on-site review of proposed burns, providing fire prevention and safety education and permit conditioning to mitigate fire escape and nuisance smoke
- DNR smoke management staff responsible for daily approval/denial of large burns based on SMP criteria and overview of SMP implementation
- Technology (meteorological models, burn permit database, web-based telephony system) used in evaluating daily burn approvals, tracking and reporting of smoke emissions, and burner notification of fire safety and air quality burn bans
- Program administration

The number of silvicultural burn permits issued has declined since 1999 due largely to the phasing out of DNR-issued land clearing burn permits and more recently due to reduced timber harvest as a result of declining log prices (see **Figure 1**). The number of burn permits fell to a new low in FY 2009. In FY 2010, 2,213 burn permits were issued, about the same number as in FY 2009.

Figure 1. Number of Silvicultural Burn Permits by Year, 1999-2009



Existing Silvicultural Burn Permit Fees

The state Clean Air Act directs DNR to set permit fees at a level necessary to cover the costs of the program after receiving comments from the public. Although federal land management agencies are not required to secure permits prior to silvicultural burns (federal land is not under DNR fire protection), the federal Clean Air Act requires that these agencies follow the SMP requirements related to smoke management and payment of fees.

At the time fees were first authorized in 1991, DNR and the Forest Fire Advisory Board determined that the cost of the program was approximately \$80 for a permit to burn 100 tons or less of forest debris (the minimum permit size). The decision was made to implement a sliding fee structure based on the tonnage permitted, with the minimum fee initially set at \$20 for a permit of 100 tons or less. The intent was to raise fees over time to eventually cover the full cost of the program.

This strategy was compromised in 1993, when Initiative 601 became law and limited any fee increases to a factor based on the rate of inflation and population growth. Each year from 1995 to 1999, fees were raised at the allowed rate without making significant progress toward the

statutory direction to recover the full costs of the program through fees. With inflation relatively low over the last several years (and therefore the amount that fees could be increased annually also being low), DNR has not increased permit fees since 1999. Under WAC 332-24-221, the current fee for a 100 ton or less burn permit is \$25.50 and as shown in **Figure 2** for amounts over

Figure 2. Current Silvicultural Burn Permit Fee Schedule (WAC 332-24-221)

<u>Tons</u>		<u>Current Fee</u>
0	100	\$25.50
101	500	127
501	1,000	391
1,001	1,500	651
1,501	2,000	914
2,001	2,500	1,175
2,501	3,000	1,438
3,001	3,500	1,697
3,501	4,000	1,959
4,001	4,500	2,222
4,501	5,000	2,483
5,001	5,500	2,746
5,501	6,000	3,007
6,001	6,500	3,271
6,501	7,000	3,532
7,001	7,500	3,794
7,501	8,000	4,056
8,001	8,500	4,318
8,501	9,000	4,580
9,001	9,500	4,843
9,501	10,000	5,102
>10,001		5,365 plus \$0.50/ton for tons over 10,000

100 tons. Although the schedule lists fees in 500 ton increments up to 10,000 tons, the largest permit issued to a non-federal landowner in Fiscal Year 2010 (FY 2010) was for 1,460 tons, at a fee of \$651.

Figure 3 shows burn permit fees collected in FY 2010 by landowner type. A total of \$127,891 was received under the program. Federal agencies paid \$31,064 of this total representing their share of the program’s smoke management implementation under the SMP. DNR does not provide fire protection to federal lands and therefore does not issue burn permits or regulate federal burning for fire protection and safety, all of which are additional costs incurred by DNR in permitting burns on DNR protected lands. To address this, the SMP provides for cost allocation among burner groups resulting in a lower fee for federal burning when compared to burning conducted on DNR protected lands. Since federal burners are not issued permits, the following description of FY 2010 fees will summarize the permits issued to non-federal landowners.

Landowner Type	# of Parties	# of Permits	Tons	Amount of Fees	Tons/Permit	Fees/Permit	Fees/Ton
Industrial	33	491	94,140	\$ 49,272.50	192	\$ 100.35	\$ 0.52
Other Private	67	77	4,757	\$ 2,978.50	62	\$ 38.68	\$ 0.63
Individuals	1,372	1,393	22,872	\$ 36,739.50	16	\$ 26.37	\$ 1.61
Non-Federal Public Agency	22	125	13,976	\$ 7,836.50	112	\$ 62.69	\$ 0.56
Non-Federal Total	1,494	2,086	135,745	\$ 96,827.00	65	\$ 46.42	\$ 0.71
Federal Public Agency	8	145		\$ 31,064.10			
TOTAL	1,502	2,231		\$ 127,891.10			

Of the non-federal landowners, 1,494 different parties were issued 2,086 permits to burn 135,745 tons of forest debris and paid \$96,827 in permit fees. The “average” permit was issued for 65 tons at a fee of \$46.42 per permit or \$0.71 per ton.

Thirty-three large industrial forestland owners were issued 24 percent of the permits, accounting for 69 percent of the tonnage and 51 percent of the total fees paid. Sixty-seven other private parties (small forestry-related businesses, land holding companies, outdoor recreation organizations, etc.) were issued four percent of the permits, accounting for four percent of the tonnage and three percent of the total fees. A total of 1,372 individuals (individual persons, couples, or family trusts) were issued 67 percent of the permits, accounting for 17 percent of the tonnage and 38 percent of the total fees. Finally, 22 non-federal public agencies were issued six percent of permits, accounting for ten percent of the tonnage and eight percent of the total fees.

In FY 2010, the \$127,891 collected in burn permit fees funded approximately 18 percent of the program’s annual \$700,000 cost. To meet the direction in the state Clean Air Act to set permit fees at a level necessary to cover the costs of the program, the Legislature authorized DNR in Second Engrossed Substitute House Bill 1087 to increase current permit fees by up to \$80.00 plus \$0.50 per ton for each ton of material burned in excess of 100 tons. The increase authorized by the Legislature is anticipated to generate \$364,500 in fees, which is 87% of the \$420,000 funding level considered to be needed to deliver a minimal burn program.

PROPOSED RULE

The proposed rule change would increase burn permit fees by the Legislatively authorized amount of up to \$80.00 plus \$0.50 per ton for each ton of material burned in excess of 100 tons, as shown in **Figure 4**.

Figure 4. Proposed Revision to Burn Permit Fee Schedule (WAC 332-24-221)

Tons		Current Fee	New Fee
0	100	\$25.50	\$105.50
101	500	127	357
501	1,000	391	846
1,001	1,500	651	1,356
1,501	2,000	914	1,869
2,001	2,500	1,175	2,380
2,501	3,000	1,438	2,893
3,001	3,500	1,697	3,402
3,501	4,000	1,959	3,914
4,001	4,500	2,222	4,427
4,501	5,000	2,483	4,938
5,001	5,500	2,746	5,451
5,501	6,000	3,007	5,962
6,001	6,500	3,271	6,476
6,501	7,000	3,532	6,987
7,001	7,500	3,794	7,499
7,501	8,000	4,056	8,011
8,001	8,500	4,318	8,523
8,501	9,000	4,580	9,035
9,001	9,500	4,843	9,548
9,501	10,000	5,102	10,057
>10,001		5,365	10,395 plus \$0.50/ton for tons over 10,000

COST-BENEFIT ANALYSIS

The Administrative Procedure Act (RCW 34.05.328) requires agencies to complete a cost-benefit analysis before adopting a significant legislative rule. An agency cannot adopt a significant legislative rule unless it:

- Determines 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; and
- Determines, after considering alternative versions of the rule, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives of the statute that the rule implements.

This section is to identify and analyze the positive and negative changes and impacts of the proposed rule change. This is done by comparing the existing or “before” situation under the existing rule with the new or “after” situation under the proposed changed rule. In this case, the “before” situation is somewhat tricky to conceptualize because funding for the program is being reduced at the same time the Legislature is authorizing DNR to increase burn permit fees. Therefore, the “before” situation is defined as a silvicultural burn program funded at a level of \$700,000 per year which has been reduced to a funding level of \$127,900 (rounded) per year.

The proposed rule change will comply to the maximum extent possible with the statutory direction in RCW 70.94.6534 to set permit fees at a level necessary to cover the costs of the silvicultural burning program, by providing additional funding through the collection of

increased burn permit fees. The program would operate with funding coming mostly from permit fee revenue estimated at approximately \$364,500 per year, versus \$127,900 under the current fee structure. To deliver a permit program at a \$127,900 annual funding level DNR would need to develop a process to prioritize permit requests, resulting in the reduced availability of burning as a management tool to address fire hazard abatement, silvicultural, and forest health needs. The statutory framework that DNR could apply to prioritize permit applications is RCW 70.94.6534(1), which states that:

The department of natural resources shall have the responsibility for issuing and regulating burning permits required by it relating to the following activities for the protection of life or property and/or for the public health, safety, and welfare:

- (a) Abating a forest fire hazard;
- (b) Prevention of a fire hazard;
- (c) Instruction of public officials in methods of forest firefighting;
- (d) Any silvicultural operation to improve the forest lands of the state; and
- (e) Silvicultural burning used to improve or maintain fire dependent ecosystems for rare plants or animals within state, federal, and private natural area preserves, natural resource conservation areas, parks, and other wildlife areas.

With \$364,500 in permit fees contributing to a \$420,000 reduced program, DNR will be able to meet its statutory requirements under the Clean Air Act and will be able to meet the demand for issuing permits at the projected level of permit requests. A funding level of \$420,000 is considered to be at or near the minimum level necessary to operate a viable silvicultural burn program in the state. A major cutback from the prior program which was funded at \$700,000 annually is that DNR will be required to significantly reduce on-site inspections and fire prevention and safety education. In addition, landowners will now be required to submit sufficient information on the permit application, including a calculation of permit tonnage, for DNR to be able to condition and issue the permit.¹

In this analysis, it is assumed that the number of permits to be issued annually in the future will be the same as the number issued in FY 2010 (2,086 to non-Federal parties) and therefore the FY 2010 data will be used as representative of future years. On one hand, the number of burn permits should increase when cyclical timber markets recover and the volume of timber harvest increases. On the other hand, it is expected that increased utilization of forest debris for biomass will limit increases in numbers of burn permits issued when log markets improve. Also the higher burn permit fees will likely act to reduce the number of permits requested.

Costs

The primary cost impact is to parties who pay for burn permits which allow them to burn silvicultural debris. Under the proposed rule change, the total amount of fees collected will

¹ Permits conditioned without an on-site inspection and issued without an opportunity for fire prevention and safety education will likely result in more fire escapes and nuisance smoke complaints than experienced under the prior program funded at the \$700,000 level, but this analysis is limited to comparisons with a \$127,900 funding level.

increase from \$127,891 per year to \$441,458, a 245 percent increase (see **Figure 5**). Over 85 percent of the non-federal permits (1,778 out of 2,086) are for burning 100 tons or less and fees on these smaller volume permits will increase from \$25.50 to \$105.50, an \$80 or 314 percent increase per permit, as shown in **Figure 5**. The cost of the 101-500 ton permit will increase from \$127 to \$357, an increase of \$230 or 181 percent per permit. For the 501-1,000 and 1,001-1,500 ton permits, the fees would be a little more than double the existing fees, going from \$391 to \$846 and from \$651 to \$1,365, respectively. So while the amount of increased fees is greater on the larger volume permits, the percentage increase is by far the greatest on the smallest volume (0-100 ton) permit.

Figure 5. Comparison of Current and Proposed Burn Permit Fees by Size of Permit (number of tons)

Size of Permit (# of Tons)	# of Permits	Current Fees per Permit	Proposed Fees per Permit	Total Current Fees	Total Proposed Fees	% Increase	Increase per Permit
0-100	1,778	\$ 25.50	\$ 105.50	\$ 45,339.00	\$ 187,579.00	314%	\$ 80.00
101-500	270	\$ 127.00	\$ 357.00	\$ 34,290.00	\$ 96,390.00	181%	\$ 230.00
501-1000	29	\$ 391.00	\$ 846.00	\$ 11,339.00	\$ 24,534.00	116%	\$ 455.00
1001-1500	9	\$ 651.00	\$ 1,356.00	\$ 5,859.00	\$ 12,204.00	108%	\$ 705.00
Non-Federal Total	2,086			\$ 96,827.00	\$ 320,707.00	231%	\$ 107.33
Federal Public Agency	145			\$ 31,064.10	\$ 120,751.00	289%	\$ 618.53
TOTAL	2,231			\$ 127,891.10	\$ 441,458.00	245%	\$ 140.55

Figure 6 shows the impact of increased costs in burn permit fees by different landowner types. The average permit for a larger industrial forestland owner increases in cost by \$176, a 176 percent increase. The average permit for an individual landowner increases in cost by \$81, a 308 percent increase. The average permit for all non-federal landowners increases in cost by \$107, a 231 percent increase.

Figure 6. Comparison of Current and Proposed Burn Permit Fees by Landowner Type

Landowner Type	# of Parties	# of Permits	Tons	Current Fees	Proposed Fees	% Increase	Increase per Permit
Industrial	33	491	94,140	\$ 49,272.50	\$ 135,877.50	176%	\$ 176.38
Other Private	67	77	4,757	\$ 2,978.50	\$ 10,638.50	257%	\$ 99.48
Individuals	1,372	1,393	22,872	\$ 36,739.50	\$ 149,979.50	308%	\$ 81.29
Non-Federal Public Agency	22	125	13,976	\$ 7,836.50	\$ 24,211.50	209%	\$ 131.00
Non-Federal Total	1,494	2,086	135,745	\$ 96,827.00	\$ 320,707.00	231%	\$ 107.33
Federal Public Agency	8	145		\$ 31,064.10	\$ 120,751.00		
TOTAL	1,502	2,231		\$ 127,891.10	\$ 441,458.00		

The cost impacts shown in **Figures 5 and 6** assume the silvicultural burn permit program would operate the same as it has in the past, with one permit required per burn unit (site or location). Some parties, especially large industrial forest landowners, have many burn units each year and therefore needed to acquire several permits each year. As the proposal to increase the fee schedule was working its way through the legislative process, DNR agreed with large industrial

forest landowners to implement a new multi-unit permit under which all proposed burn units within a DNR region during the year could be placed under one permit.²

Figure 7 shows the impact of DNR administratively implementing a new multi-unit permit procedure. Total fees collected would be \$364,476.50 as compared with \$127,891 under the current fee schedule (\$236,585.50 more) and as opposed to the \$441,458 which would be collected under the proposed new fee schedule using a single-unit permit procedure (\$76,981.50 less). Fees collected from non-federal parties would be \$275,707.50 rather than \$320,707.00 under a single-unit permit procedure, or \$44,999.50 less. Federal agencies³ would also benefit under the multi-unit permit scenario, paying \$88,769.00 rather than \$120,751.00, a cost savings of \$31,982. Large industrial forest landowners, DNR, and the U.S. Forest Service would realize most all the cost savings under the multi-unit permit procedure because they have multiple burn units within a DNR region within any given year.

Figure 7. Comparison of Current Burn Permit Fees and Proposed Burn Permit Fees Under Single-Unit and Multi-Unit Permit Scenarios							
Landowner Type	# of Parties	# of Permits	Single-Unit Permit		Multi-Unit Permit		
			Current Fees	Proposed Fees	Proposed Fees	% Increase	Increase per Permit
Non-Federal Total	1,494	1,527	\$ 96,827.00	\$ 320,707.00	\$ 275,707.50	185%	\$ 117.15
Federal Public Agency	8		\$ 31,064.10	\$ 120,751.00	\$ 88,769.00		
TOTAL	1502		\$ 127,891.10	\$ 441,458.00	\$ 364,476.50		

A secondary cost impact of the proposed rule change is associated with the probability that illegal burning would increase if landowners are not able or willing to pay a higher burn permit fee because it would cost roughly two to four times what it does now. The incidence of burning without permits will likely increase, although it is not possible to quantify by how much. Burning without permits would increase the chance of fires escaping because the parties burning may not follow safety conditions that would be included on a permit, they may burn on unsafe days which would not be approved for burning under the permit system, and they would not be as aware of fire prevention and safety matters. Escaped fires increase the risk of loss of life, loss of property, reduced air quality (smoke pollution), and negative public health impacts. They also create the need for a fire suppression response, increasing the need to spend public funds. The costs from one escaped fire which would not have occurred under a burn permit could exceed the total additional cost of fees using the new fee schedule under the proposed rule change.

² In addition to reducing the cost impact on large industrial forestland owners, the new multi-unit permit was asserted to be more efficient and less costly for DNR to administer.

³ It is not straightforward to compare permits to Federal agencies with the permits issued to other parties in this analysis for various reasons including the fact that permits for federal agencies have been treated differently in the past and because the majority of the federal burns (mostly in the Wenatchee-Okanogan and Colville National Forests) are larger and more complex than most non-federal burns.

Benefits

The primary benefit is that landowners would still be able to obtain permits upon request to burn silvicultural debris on their land because the state's silvicultural burn program would be continued under the proposed rule change, although at a reduced level, without the need to institute a prioritization process. State law encourages landowners to use practical alternative means to reduce the need for burning. These include minimizing the production of slash, slash utilization, and non-burning disposal options. As mentioned previously, it is expected that increased utilization of forest debris for biomass will tend to reduce the numbers of burn permits in the future. Nevertheless, burning is a valuable land management tool to address fire hazard abatement, silvicultural, and forest health needs. If a permit prioritization process was instituted, some landowners would not be able to obtain a permit when needed and would incur increased costs to use alternative methods in meeting land management goals. These may include hauling away the material, leaving it lie in place, or piling it up on the property. Removing the debris would be very costly and often impractical. Leaving it in place or piling it up increases the fire hazard on the property, may degrade forest health through increased forest pest infestation, and may interfere with the landowner's use and enjoyment of the property, even to the extent of lowering the property's market value. The need and demand for silvicultural burning is demonstrated in the 2,231 permits issued to 1,502 different landowners throughout the state in FY 2010.

A secondary benefit is avoiding the negative impacts and costs associated with additional escaped fires which are expected to occur if landowners cannot obtain permits in a timely manner under a permit prioritization process. The secondary cost impact discussed above covers the increased probability of escaped fires under a reduced program. But the reduced program provides a benefit compared with a prioritized permit program where there would be a higher probability of escaped fires because lower priority burning would be more likely to occur illegally, often under unsafe conditions and/or on unsafe days. So the situation is the opposite—avoiding the incremental increased risk of loss of life, loss of property, reduced air quality, and negative public health impacts and also the incremental increased cost of fire suppression response. The costs from one escaped fire which would have occurred under a prioritized silvicultural burn permit program could exceed the total additional cost of fees using the new fee schedule under the proposed rule change.

Comparison of Benefits and Costs

Under the proposed rule change, landowners would pay \$105.50 rather than \$25.50 for the smallest burn permit, an increase of \$80 per permit or a 314 percent cost increase. For the largest tonnage permit purchased in FY 2010, the fee would go up to \$1,356 from \$651, an increase of \$705 per permit or a 108 percent increase. Total fees paid by all parties would go up from \$127,891 under the current fee schedule to \$441,458 under the proposed fee schedule (a 245 percent increase), however, under a multi-unit permit procedure which DNR has agreed to implement, the total fees would only go up to \$364,476.50 (a 185 percent increase).

On one hand are the costs associated with the increased probability that some landowners will burn illegally under the reduced program because of the increased permit fees, increasing the risk of escaped fires and associated loss of life, loss of property, reduced air quality, and negative public health impacts as well as increased costs of fire suppression.

On the other hand, there is the benefit of avoiding the increased risk of loss of life, loss of property, reduced air quality, and negative public health impacts and also the increased costs of fire suppression which would result from increased illegal burning under a prioritized silvicultural burn permit program. This benefit very likely outweighs the cost impact of some landowners burning illegally under the reduced program.

Landowners also benefit under the proposed rule change because it allows the state's silvicultural burn permit program to continue to issue burn permits on demand, maintaining the landowners' option to use burning as a land management tool to address fire hazard abatement, silvicultural, and forest health needs and avoiding costs associated with alternatives.

The increased permit fees under the proposed rule change are intended to comply to the maximum extent possible with the statutory direction in RCW 70.94.6534 to set permit fees at a level necessary to cover the costs of the silvicultural burning program. This proposal is expected to generate \$364,500, contributing a majority of the \$420,000 considered to be needed to maintain a reduced program. The landowner retains the ability to obtain burn permits on demand and can elect to pay or not pay the higher fees for a burn permit. Therefore, it is reasonable to conclude that the probable benefits of the proposal are greater than its probable costs.

Alternatives to Rule Making and Consequences of Not Adopting the Rule

The alternative of proposing a rule change that increases fees by less than the maximum amounts allowed by the Legislature is not viable as the DNR is obligated to comply to the maximum extent possible with the statutory direction in RCW 70.94.6534 to set permit fees at a level necessary to cover the costs of the silvicultural burning program. The consequence of not adopting the rule would be that DNR would find it necessary to institute a process to prioritize burn permit requests. Landowners would have reduced ability to use burning as a valuable land management tool and escaped fires from illegal burning would increase the risk of loss of life, loss of property, reduced air quality, and negative public health impacts and increase the risk of increased public costs for fire suppression.

Least Burdensome Alternative

The Administrative Procedure Act states that an agency cannot adopt a significant legislative rule unless it determines after considering alternative versions of the rule that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives of the statute that the rule implements.

The rule being proposed is the least burdensome alternative for those required to comply with it because without the level of funding provided by the increased permit fees DNR would be

obligated to institute a program to prioritize permit requests and landowners would have reduced ability to burn legally and would therefore lose opportunities to use fire as a land management tool.