

Smoke Management Review Committee Meeting
Oregon Department of Forestry
Santiam Conference Room, Operations Bldg, Salem
0830-1500 June 24, 2004

Attendance: Stephen Fitzgerald, Lee Miller, Stan Benson, Brian Jennison, Mike Dykzeul, Gregory McClarren, Jim Brown, Jim Russell, Brian Finneran, Erik Christiansen, Nick Yonker, Mike Ziolko and Cindy Smith.

1. Administrivia

Mike Ziolko

- Update on Plastic on Pile Issue – Mike is currently working with DEQ to develop an MOU addressing the issue in the interim until Administrative Rules have been developed using the recommendations of this committee. The MOU will also address the small amount of forestland outside protection district boundaries. The MOU will bridge the gap until the Rules have been developed. Jim Russell requested a short summary from Mike Ziolko.
- A handout on the Oregon Section 309 Regional Haze Plan was provided.
- Version 2 of the “Background” handout was provided and feedback should be sent via email to Mike Dykzeul and Greg McClarren. It will continue to be updated as each Matrix Question is completed. Brian Jennison will be assisting Greg and Mike in the development of this portion of the “white paper”.

2. Minutes

Corrections:

Lee Miller was present at the May 27, 2004, meeting.

“NAAQS” was corrected to “NAAQS”.

Page 1: Item 3, Bullet 3, “site” was changed to “cite”.

Page 2: Bullet 7, Last sentence should read “Jim Wolf replied that he was not aware that *they were*.”
Bullet 11. “loose” was corrected to “lose”.

Page 3: Item 4, Bullet 2, second paragraph, “fire protection program review” was replaced with “ODF website” and quotation marks added to “all forestland”.

Page 4: Bullet 1, insert “is” after particulate.
Item 5, Bullet 2, “prescribed” rather than “prescribe”.

Page 5: Item 6, Last paragraph, replace “emissions” with “acres burned”
Item 6, Last Bullet, include “Wildland Fire Use” with “WFU”.

The minutes were reviewed and approved as corrected.

3. Recent Intrusions

Nick Yonker

Nick Yonker, ODF meteorologist discussed recent smoke intrusions. He noted that everything had been burned within Smoke Management restrictions. All three intrusions had occurred at night or were very light and blew through quickly. The intrusions were:

- Intrusion 04-03, May 26 & 27, was caused by a private unit in West Oregon District. As the ridge transited inland, onshore marine wind flow started somewhat earlier than expected and brought smoke into the Monmouth area. Monmouth has no available nephelometer data, The intrusion was estimated to be light. The Salem nephelometer showed no rise. A District employee reported the intrusion.

- Intrusion 04-04, June 17, 2004, occurred when a Dallas Unit put smoke into Lincoln City. The burn was 20 miles away and with an offshore flow. The wind brought the main plume straight into Lincoln City. By noon, the intrusion had completely cleared out. It was the first intrusion into Lincoln City in five years. Nick received complaints from two individuals. The District received some calls including the Mayor of Lincoln City. Jack Dunaway checked and saw it as a light haze. There was no nephelometer and no visibility report from the Fire Marshall’s office.
 - The ODOT camera at Lincoln City was clear at 11:39.
 - The unit was 680 tons and 20 miles from the designated area (DA).
 - Mike Dykzeul asked if improved technology could have changed the outcome. Mike Ziolko responded that continuous upper air data (i.e. SODAR or LIDAR) would help.
- Intrusion 04-05, June 18, was an intrusion into Corvallis. At noon the smoke was going SW – offshore but by 1500 the smoke was going inland. The burn was started at 0930. It was scheduled in order to avoid smoke into Newport if started too early. A later start could affect the valley. Residual smoke hung around longer than expected and the wind direction in Corvallis switched about 1600, resulting in a light “whiff” of smoke through Corvallis. The report came from an OSU employee.
 - There was also a fire in Valsetz at that time. It may have contributed smoke into the Corvallis area.
 - It was recorded on the camera at the OSU Quad.

4. Third Draft

B. Jennison

"Are AQ Standards and Objectives Being Met" – Matrix Questions A and K

Brian Jennison and the committee reviewed the changes that were suggested at the last meeting to be certain that all were implemented as requested. See Attachment A to the minutes.

- In order to clean and combine those bullets on page 2, Brian redefined all the bullets under What are the options to deal with potential future problems? The committee reviewed the new bullets.
- Bullets were added or revised under Rule Changes, Directive Changes and Statute Changes (pages 3 & 4).
- Rule Changes: Will leave in the last bullet “The entire state becomes a regulated area”.
- Barriers and Opportunities – the language was changed for readability.

Discussion:

Would expansion of the SMP require statute change?

- Mike Ziolko responded that Class 1 forestland is for fee purposes. ODF can regulate Class 2 forestland for smoke management, but couldn’t collect fees without statute change. Class 2 is Grazing/Timber.
- Jim Brown suggested using “all classes of forestland”.
- The fee/economics question was put in the “Bin” for future discussion
- It was suggested that Mike Ziolko obtain a legal opinion regarding the statutory authority of ODF to include rangeland in smoke management (not to collect fees).
 - Mike Ziolko said it’s a murky area – under the 477 burning laws ODF can’t require a burn permit because they apply only within protection district boundaries. But, under the separate statute for smoke management, there is no restriction.

What is the expansion being talked about on page three, besides rangeland?

- Mike Ziolko – Forestland outside of ODF’s protection districts.
 - Use the phrase “all classes of forestland”.

Do any of these bullets need to be removed because they are already being done?

- No – they could be worded slightly different so as not to infer that they are not being done – i.e. “continue to use”.

Jim Russell noted that NRCS reports that nationally a million acres of private rangeland is burned each year. It’s not covered by the SMP. They just notify the protection District. Need to look at - Where is burning not regulated in the state? Once this is known, is it a major source that affects visibility, health, or Regional Haze?

- Brian Finneran reminded the committee that ag burning is beyond the purview of this committee. It will be addressed by Oregon Department of Agriculture. It is not an Oregon Smoke Management Plan issue but the committee can make recommendation that ag burning is a problem.
 - Greg McClarren disagreed – said often times the source of the complaint is ag burning, not forestland burning.
 - Jim Russell noted that burning requires a coordinated effort.
- Jim Brown asked where backyard burning fits in – Brian Finneran said it is a DEQ issue.
- Jim Russell would like to see an integrated program.
- Stan Benson asked what is ag burning.
 - Brian Finneran replied that ag burning is defined as any burn associated with an agricultural operation.
 - Brian Jennison pointed out that burning a structure would not be ag related.
 - Mike Ziolk noted that meadow burning in forestlands comes under the SMP. Grass seed and grain production are exempt.
 - Brian Jennison - There is field burning as opposed to ag burning.
 - Mike Ziolk referred the committee to the Directive, page 14 – it addresses what types of burning are covered and which are not. Particularly the types of burning that are not covered.
 - Stephen Fitzgerald paraphrased it - Household, yard maintenance, agricultural practice including range improvement burning and grass or grain stubble burning are not included. Also burning related to home construction and home site prep and any burning done outside the ODF protection district and any burning done in conjunction with a land use change are not included. Stephen noted that if all forestland classifications were included, it would bring rangeland burning in as well as forestland outside an ODF district into the SMP.
 - Stan Benson pointed out that the direction we want to go is generally clear. ODF, ODA and DEQ should work out the details together.

Jim Russell asked if we have the latitude to change DA’s without changing the State Implementation Plan (SIP).

- The SIP is very specific and we would need to go through a SIP change to increase the smoke protection level.
- Brian Jennison – add “Develop a flexible protocol for revising DAs if necessary based on population changes and monitoring data.”
- Greg added that the wording in Question B would be changed to match.
- Brian asked where the committee would make recommendations for changing boundaries. It would be in Charter Question F.

How will success be measured in the future?

- Greg suggested that a number or range should be included in reference to the number of intrusions.
- Brian Jennison suggested it read “The number of intrusions will remain low and of light to moderate impact”.
- Stephen Fitzgerald said it should be left to the committee or ODF define “low”.
- Jim Russell cautioned not to lose track of other sources of smoke that contribute to non-attainment.
- Erik Christiansen said that by definition, an intrusion occurs when smoke enters a designated area or a smoke sensitive area (like Pendleton).

Brian Jennison will make the requested changes and send them to Cindy Smith for formatting and inclusion in the “white paper”.

5. Public Comments

There were no public comments at this time.

6. Second Draft

E. Christiansen, Lee Miller

"Underburning/Forest Health" - Matrix C

See Attachment B.

Discussion:

Is there a problem?

No changes were made since the last meeting.

Will there be a problem in the future?

- Gregory McClarren asked if the committee saw potential conflict only in the arena of Wildland Fire Use (WFU)? WFU is an unplanned ignition. Greg noted that there is potential conflict in the overall arena of prescribed burning for forest health reasons.
 - Stephen Fitzgerald pointed out that a WFU could occur at a time when it might be good to do a WFU from an ecosystem perspective but it may conflict with air quality.
 - Mike Ziolkko commented that WFU is really a subset of other prescribed burning.
 - Jim Russell noted that at a recent WRAP meeting half to three-quarters of those fire managers present were concerned that WFU was outside of the purview of their ability to meet the resource objective of the air quality protection objective. 12 of the 14 western states were represented. How do we approach this?
 - Mike Ziolkko said the SMP currently identifies WFU as *prescribed natural fire* (PNF). The PNF is excluded from the SMP. As go forward need to include the WFU in the SMP. How? To what degree? Could have WFUs occurring right now but there is nothing the SMP is involved with.
 - Erik Christiansen added that both WFU or unplanned ignitions as well as planned ignitions are normal prescribed fire programs and could have the potential to conflict with air quality.
 - Brian Jennison suggested changing “will” to “may” because no one plans for it to happen that way.
 - Erik would like it to address more than the WFU and suggested using “planned and unplanned ignitions”.
 - Jim Russell asked if the committee wanted to continue with the exemption.
 - Gregory McClarren asked the committee to consider two questions - Do we expect Forestland burning to increase and Do we expect WFU to present air quality problems?

- Jim Brown asked if WFU were spontaneous – like a lightning caused fire?
 - Mike Dykzeul explained that for a WFU/PNF, the ignition is not necessarily planned or known specifically when it will take place, but when it does occur, the results are essentially planned for.
 - Erik Christiansen added that it's a preplanned area with a management plan objective already established that says if, within this area, a start occurs from either a human cause or lightning or any cause, it will be a go/ no go decision based on current conditions, resource availability, atmospheric conditions, etc. It would be in an area that it has already been established that has a plan in place.
 - WFU would not be human caused. Federal policy states that if a human starts a wildfire, it must be suppressed. Arson fires would not be included in WFU.
 - Jim Brown asked if the question was whether to put it out or not, and would that fall under the purview of the SMP?
 - It is a question of putting it out or not and does not fall within the current SMP.
 - Stephen Fitzgerald added that the difficulty is that a WFU fire could burn for a long time and could impact air quality.
 - Gregory McClarren commented that this committee does not have the experience to know the scope or degree of the affects of WFU.
 - Only two National Forests and no BLM Districts in Oregon have approved plans at this time. Those WFU plans are for the Strawberry Wilderness and the Eagle Cap.
 - Gregory McClarren noted that WFU should be addressed in the “background” portion of the “white paper” and WFU should be further defined in this matrix portion.
- The sentence will be changed to read “It is anticipated that both planned and unplanned ignitions **may** potentially impact air quality...” Paragraphs about unplanned and planned ignitions will be added. Unplanned – “Impacts from unplanned ignitions (WFU) can be potentially long lasting and variable over their lifespan.” There would also be mention of the current numbers of WFU plans, how many WFU fires there have been in recent history and some mention of their impacts. Gregory McClarren and Mike Dykzeul will then add information regarding WFU to the “background”.
 - “Smoke will remain a consideration in the decision to implement WFU fires.” will be in the paragraph about WFU.
 - Greg asked if problems from burning for forest health reasons were anticipated?
 - Mike Dykzeul noted that he could agree with an exemption for WFU in an area that has been treated and the naturally occurring event is being used to maintain the fire frequency, because the emissions have been reduced and they should be able to control the fire more quickly if the need arose.
 - Stephen Fitzgerald said it could be a natural state for its ecosystem and it will put up smoke.
 - Jim Brown asked if in the past there has been an attempt in advance to create a perimeter or does it burn until the fuels are gone.
 - Erik responded that some fires in the eastern part of the state got so large they burned out of the management area. Manmade boundaries are not generally created – typically natural barriers are relied upon.
 - Brian Finneran stated that in terms of WFUs being exempt – the decision to let the fire go initially should include consideration for potential smoke impacts, especially if there are already wildfires smoking up the region. It would be absurd for it to be totally exempt from that consideration if an event occurs.
 - Part of the decision criteria is potential smoke impacts. They rely on ODF and federal meteorologists.
 - Smoke management program has the tools.

- Jim Russell noted that they (federal agencies) have been using Blue Sky.
- Stephen Fitzgerald expressed his concern that, from an ecosystem perspective, if WFU were brought under the SMP, it would ratchet down use of WFU. In a situation when there are not a lot of fires going, and a naturally ignited fire occurs with a forecast that is favorable, there would be a greater likelihood of “no goes”. There is an implication from an ecosystem perspective and a human health perspective that there is a possibility of smoke impacts.
- Jim Brown said the exemption makes sense.
- Gregory McClarren suggested that WFU has been identified as an emerging issue that so little is known about. The recommendation may be that it needs to be tracked, monitored and assessed.
- Has it been decided as a group to recommend that WFU fires be considered under the auspices of the SMP?
 - No – at this point just acknowledging that the concept exists – that there could be impacts.
 - Gregory McClarren added that there is a need to separate prescribed burning for forest health and wildfire risk reduction and its exemption from the SMP and WFU.
- Mike Ziolkowski asked what action would be taken on a WFU fire if the need arose – threatening private land, structures, etc. or other fires under suppression.
 - Erik Christiansen responded that for each fire, the federal manager has the option to change his/her mind.
 - Jim Russell added that the decision to burn/not burn is a resource management decision on federal land. The first decision is – is it meeting the resource management objective?
- Erik will craft some new paragraphs and email them to Cindy.

What are the Options to Deal with the Current Problem?

- The last paragraph is about fee collection. It has been alluded to in other matrix questions as well and that discussion will need to be included here also. There will be further discussion of the fee collection issue at a later date.
- Erik will add the footnotes referring to the OARs for prescribed burning and forest health burning.
 - Mike Ziolkowski noted that the OAR numbers have been changed in the latest version of the OAR. He and Erik will update the OAR numbers.
- Jim Russell asked about the underlined section “The two main reasons to collect loading and consumption data are to determine program fees and to assess potential smoke impacts to communities downwind.” Erik referred committee members to page six of last month’s minutes and Stephen’s comment.
 - Stephen Fitzgerald added that acre tracking was for fees whereas the tonnage or the loading was for emissions.
- Jim Brown asked if “determine program fees” referred to the overall rate or the fees for a given unit?
 - Erik Christiansen referred the committee to the discussion of “Is there a problem?” The problems previously identified included determining how exactly to describe the amount to be burned and secondly how to pay for the SMP. It’s more program than individual unit.
- On a given day the amount of material that can go into the air depends upon the how much material is to be burned, not on acres. Would it not be better to base the fees on what gets consumed?
 - Mike Ziolkowski explained that everyone could agree on what an acre is. If tonnages are estimated, an equity issue may arise again regarding the accuracy of the numbers. Washington had been collecting on an emissions basis but has gone to acres because it’s more quantifiable.
- Jim Russell noted that emissions should be associated with consumption and air quality impacts, while acres should be associated with fees.

Will these options require changes in statutes, rules or directives?

- Nothing has been changed since last month except for the notation regarding fees, need to wait for the discussion of Matrix question I.
- Mike Ziolko clarified that some of the information that is currently in Directives will be taken out of Directive as the SMP is re-developed. He added that Directive should be policy as opposed to procedure.

What are the barriers and opportunities?

- Just minor word smithing was done.
- Jim Russell asked if the objective of the third paragraph was to define forest health maintenance?
 - o Erik Christiansen explained that the concept came from the matrix.
 - o Stephen Fitzgerald added that under C on the Matrix, there is reference to “evaluate the SMP as it relates to under burning increases and forest health burning.” This appears to be an attempt to put it in perspective.
 - o Jim Brown suggested that if cost is the barrier, it should be clear earlier in the paragraph.
 - o Jim Russell noted that there are two concepts - restoration or hazardous fuel burning and maintenance burning.
 - o Gregory McClarren suggested a short paragraph about restoration burning and a second on maintenance burning.
 - o Stan Benson added that the initial burn in a maintenance program would have more fuel – putting it all in that term makes it more realistic.
 - o Mike Ziolko noted that the initial burn in a maintenance burn is really restoration while the following burns are maintenance burns.
 - o Stan suggested combining the restoration and maintenance burns - the goal is to restore and maintain.
 - o Stephen Fitzgerald disagreed. He noted that with the paragraph starting out with forest health maintenance and the last sentence talking about costs associated with mechanical treatments to reduce biomass – that is a forest restoration treatment. The terms don’t jive, as a minimum that paragraph has to be changed. A mechanical treatment with or without a prescribed burn is associated with a restoration treatment.
 - There is a two-step process in restoration. The first step is restoration which may involve an initial burn but would likely also include a preparatory mechanical treatment with a quick burn within a year or two. That sets it into a maintenance trajectory thereafter and would be step two.
 - o Erik Christiansen will re-write portions of this section.
- Mike Ziolko suggested that the last paragraph include wording that an opportunity might be providing impetus or momentum towards biomass subsidies – green power, renewable resources, etc.
 - o There is a separate question on alternatives to burning but could add a statement here to reference that Matrix Item.
- Jim Russell commented that this entire discussion started with the exemption being taken away from forest health burning and started talking about fees and how to characterize the difference with no exemption given for forest health burning. Jim asked “Where we were initially going to write about underburning and forest health as a separate entity – are we seizing on what we wanted to do with this section based on the original objective for establishing this part of the matrix?”

- It goes back to the exemption for forest health – the discussion was that the underburns were for forest health. Industrial sites were burning for forest health also, so the Committee eliminated exemption for forest health. Program costs would be shared.
- Gregory McClarren suggested rewording the Charter Question to say for Forest Health purposes.
 - Stephen Fitzgerald noted that the Charter question couldn't be changed.
 - Mike Ziolk explained that the Committee could add to the Charter question but must address the original question.
- Gregory McClarren noted that 'for forest health reasons' encompasses wildfire risk reduction or hazardous fuel risk reduction.
 - Mike Ziolk added that hazard risk reduction is also in the section "Are Burning Objectives Being Met?"

How will success be measured in the future?

Same as Matrix items A, B & H

Do we have data or technology gaps?

- Mike Ziolk previously sent Erik Christiansen an email regarding inclusion of upper air monitoring being incorporated (i.e. SODAR, PIBALS, etc.) Erik will make that addition.
- Gregory McClarren asked how well existing models help with prescribed burning scenarios?
 - Erik Christiansen said the purpose of the CONSUME model is to predict emissions from the burning of wood fuels. The inputs to it are basic weather information – temperature, relative humidity and it's surrogates - fuel moistures, by size class and fuel. It's used to predict emissions and consumption. It's downloadable from the web.
 - Mike Ziolk said the equations from CONSUME are utilized in ODF's ACOST program. They will need to be revised to match the new version of CONSUME coming out which has additional fuel types and burning conditions.
 - Mike Ziolk said might want to reference it as an example – other programs may come out.

Current Standards

- The paragraph is a direct quote.
- Mike Dykzeul noted that the paragraph addresses the history of the SMP – rather than the current standards for this Matrix item.
- Gregory McClarren said it doesn't specifically say that forest health burns are exempt from fees under smoke management. He suggested stating that it has been in the current standard since 1969 when forest health burning was exempt from fees.
 - Mike Ziolk said it's been in the statute since 1990(?) – Mike will get the exact date.
- Mike Ziolk suggested deleting the last sentence "Some exist within the purview of ODF, while others are in the DEQ and ODA."

Committee Recommendations

- Gregory McClarren suggested moving the first paragraph to "Is there a problem?"
- Jim Brown added that it could be shortened considerably – rather than putting in specific number data, just point out that there might be burning more acres but there would be less material.
- Mike Ziolk noted that the next paragraph is already being done and need to emphasize "consumable tons of fuels".
- Stephen Fitzgerald noted that the Committee recommends that it be emphasized that consumable tons of fuels to be burned more accurately reflects the amount of emissions and it will continue to be inventoried.

- A recommendation would be for better estimates.
- Jim Brown said it would not be a good idea to exempt small landowners from fees. That sentence will be deleted.
- Lee Miller noted that the small landowner should pay as much as anyone else because they take up a lot of the stewardship forester's time.
- Jim Russell suggested rewording the sentence to read "Large public land management agencies, such as the BLM and forest service, could pay for a fixed negotiated portion of the program costs. All other landowners will pay on a per acre basis."
- In the next paragraph regarding WFU fires, the second sentence should be reworded to "WFU fires may occur in any given year, ranging from the size of a single tree to several thousand acres."
- Stephen Fitzgerald said it needs to be rephrased into a committee recommendation. Mike Ziolkko said the recommendation was the last sentence – "Smoke impacts are currently, and will continue to be considered in the decision to permit WFU fires to burn."
- Greg McClarren suggested adding "WFU fires will be coordinated with the Oregon SMP. It will be reviewed annually." He further added that the recommendation could include a five-year pilot program be tested where WFU fires will be managed by the state SMP for the purpose of air quality objectives and assess it at the end of the five-year period to determine whether it has been broken or not.
- Jim Russell said there is no basis for thinking that the WFU program is going to affect air quality – excluding escapes.
- Brian Jennison said it should be part of the annual evaluation of the program as part of the on-going process. Then, if the decisions aren't coming out with the desired goals, then something needs to be changed.
 - o Gregory McClarren suggested "WFU fires will be coordinated with the Oregon SMP. The annual review and assessment will include ..."
 - o Stephen Fitzgerald said it still needs to explain what "coordinated" means.
 - o Brian Jennison suggested expanding that sentence to "...with final decision resting with the federal agency,"
 - o Stan Benson suggested "The annual review of the SMP will include a review of the effectiveness of the WFU with respect to the SMP and the ..." (*Statement becomes inaudible*)
 - o Jim Russell suggested "Prior to the declaration of a WFU fire by the responsible federal land management agency, they will consult with the Oregon Smoke Management program on potential air quality impacts."
 - o The Committee agreed.
- Stan Benson asked if the intent was to provide two committee documents?
 - o Stephen Fitzgerald responded – yes – the first part would be an executive summary as well as a full report with the background, a copy of the Matrix, and the full sub-reports.

7. "Economics/Program Funding" - Matrix I – First Draft

Not discussed.

8. Next Section Assignment

Status	Who	When
A. Draft/Complete	Brian J/ Gary	Done
B Draft/Complete	Greg / Mike	Done
C 3 rd Draft	Erik/ Lee	July – final draft
D Nothing	Jim Russell	July – 1 st draft
E Nothing	Brian F/ Brian J	August – 1 st draft
F Nothing	Gregory /Erik/ Gary	July – 1 st draft

G	Less than Nothing	Staff	?
H	Nothing	Jim Brown/ Brian F/ Stephen F	August – 1 st draft
I	Less than Nothing	Jim R/ Mike D/ Lee Miller/ Mike Z	September – 1 st draft
J	Nothing	Brian Jennison	September – 1 st draft

Additional agenda items for July:

- Plastics Update
- Program Budget needs paper from Mike Ziolkko and Jim Russell – an informational discussion.

9. Public Comments

There were no public comments at this time.

10. Adjourn

Bin Ideas:

- Fees on Class I and II Forestland (Matrix Question I)
- Does ODF have legal latitude to regulate burning on rangelands?
- Where is burning not regulated in the state? Once this is known, is it a major source that affects visibility, health, or Regional Haze? (Matrix Question A, K). What piece of the pie have we covered in our report?
- Coordination concept between ODF, ODA & ODEQ is important and may need to be included in Background.
- Question F – need to consider whether we have the latitude to change DAs without changing the SIP. What are the implications of SIP to changing DAs?
- Whole state is “Managed” versus “Regulated” for smoke?

Stephen will be putting together a PowerPoint presentation for the Board of Forestry meeting on September 8, 2004.

The committee adjourned as scheduled.

Next Meeting July 21, 2004

Committee information may be found on the web at:

http://www.odf.state.or.us/DIVISIONS/protection/fire_protection/smp/SMR/SM_Review.asp

Charter Question A: Are Air Quality Standards Being Met? This includes the Committee's Subset K: Intrusions, Visibility and Citizen Complaints of Nuisance Smoke

Matrix Questions: Narrative Description

Is there a problem?

Presently the federal health-based National Ambient Air Quality Standards (NAAQS) are being met in Oregon. All areas of the state that were out of attainment with the federal particulate (PM10) standards now have, or are developing, maintenance plans as required by the federal clean air act, meaning that they all have at least three consecutive years' worth of "clean" air monitoring data, ~~and there is no evidence of~~ Although a NAAQS exceedance may very rarely be caused by a prescribed burning in Oregon, having caused an exceedance of a federal air quality standard in Oregon, such exceedances are much more often caused by wildfires (e.g. Klamath Falls and Bend in 2002).

Will there be a problem in the future?

~~Possibly:~~ As Oregon's population grows and the Wildland-Urban Interface is expanding, and more and more people will be are living in rural, forested situations, and thus may be inadvertently impacted by diff smoke from prescribed burns. The potential for such impacts on sensitive individuals as defined by the US EPA (the very young, the aged, and people with pre-existing health conditions such as asthma, emphysema, chronic obstructive pulmonary disease or heart conditions) will increase. Enhanced management of prescribed fires, even for impacts outside of designated areas, will be necessary to reduce these potential impacts.

~~Further,~~ Although we have not yet seen an increase in the number of acres being burned, there is a general sense that this number will in fact increase. The potential increase in smoke may occur, in part, due to projected increases in prescribed burning on federal lands in eastern and southwestern Oregon, as a result of the recent Healthy Forests federal legislation.

~~Further,~~ The federal government EPA recently adopted new standards for fine particulates (PM2.5), and most smoke particles are in this size fraction or smaller (EPA criteria document). Even areas that presently meet the PM10 standards may have difficulty meeting the PM2.5 standards, and prescribed burning may impact such areas (examples would be e.g. Oakridge and Grants Pass). To compound matters, the EPA is considering setting the PM2.5 standards at lower, more protective levels.

Also, although the NAAQS are presently being met, the smoke management plan needs to consider three other air quality-related factors: intrusions, visibility and citizen complaints of nuisance smoke. ~~(Let's define these 3 terms here in the document)~~ Finally, those areas that have recently come into attainment for PM10 and have submitted maintenance plans to stay in attainment may be negatively impacted by increased levels of background particulate due to prescribed burning (examples would be e.g. Medford, Klamath Falls and LaGrande).

A number of the same factors that were discussed in Charter Question B "Are Burning Objectives Being Met?" must also be considered here:

- ~~more~~ expanding WUI areas state-wide
- more burning, especially on federal lands both in and out of "restricted area"
- greater number of (or growing and expanding) populated areas and urban centers
- need for more accurate tonnage estimation, and better spot or micro-forecasting, as well as improved emissions tracking
- the new federal standards for PM2.5 mentioned above, and the new regional haze rules: the impacts of a possible increase in prescribed burning on these new rules can't be predicted but will need to be considered
- the real possibility of an increased number of citizen complaints as a subset of the WUI issue; the possibility that new areas will ask to be given "designated area" status

What are the options to deal with potential future problems?

~~further refine forecasting and emissions tracking; invest in improved technology~~

- ~~• Further refine forecasting and emissions tracking; invest in improved technology; use state of the art models (such as the federal Blue Sky model) to predict emissions~~
- ~~• Continue to use Use ODEQ's existing nephelometer network, currently being supported by the federal land managers, to fill data gaps.~~
- ~~• Use conversion factors from nephelometer data (expressed as Beta scattering) to gravimetric data (in ug/m3) to accurately assess the real time impacts of smoke on a DA or smoke sensitive area~~
- ~~• Use IMPROVE network in Class 1 areas to determine impacts of smoke~~
- ~~• Achieve a better idea of fuel loading and consumption for individual burns~~
- ~~• Coordinate with ODA on Willamette Valley field burning~~

~~Develop a restricted area or designated area protocol that can be revised as needed, based on annual review and monitoring (i.e. adaptive management); (see charter question F)~~

- ~~• Develop a flexible protocol for revising designated areas, if necessary, based on population changes and monitoring data.~~
- ~~• Expand SMP to encompass prescribed burning on all classes of forestlands in the state, as well as wildlife/rangeland burning done by federal and state agencies. Track burning activities by large industrial-private landowners (range/ranch operations)~~
- ~~• Develop system to accurately track citizen complaints; improve communications among agencies concerning complaints; improve response to citizen complaints~~
- ~~• Put additional resources into public education and communications, including website with real time data~~
- ~~• Continue to encourage alternatives to burning where feasible~~

~~• achieve a better idea of fuel loading and consumption for individual burns~~

~~use the federal Blue Sky model for tracking emissions~~

~~develop a restricted area or designated area protocol that can be revised as needed, based on annual review and monitoring (that is, increase operational flexibility)~~

~~expand SMP to encompass all forestlands in the state, as well as wildlife/range land burning done by federal and state agencies. Consider large industrial (I think this should say "non industrial" rather than "industrial") private landowners (range/ranch operations)~~

~~include Willamette Valley field burning in the considerations~~

~~develop accurate conversion factors from nephelometer data (expressed as Beta scattering) to gravimetric data (in ug/m3) to accurately assess impact of drift smoke on NAAQS~~

~~increase monitoring effort in Class 1 areas to determine impact of drift smoke~~

~~develop system to accurately track citizen complaints; improve communications among agencies concerning complaints; improve response to citizen complaints~~

~~consider changes to boundaries of designated areas; consider establishing new designated areas~~

~~• encourage alternatives to burning where feasible~~

~~put additional resources into public education and communications~~

Will these options require changes in statutes, rules or directives?

~~Certainly some of the options would require such changes. As was discussed under Charter Question B, any expansion of the responsibilities of the Smoke Management Plan will require legislative review. Specifically, the following changes would probably be necessary:~~

Statute Changes:

- ~~Expand SMP~~
- ~~include field burning~~
- Consider new DAs or boundary changes to existing DAs (move to rule change)
- Any change of the SMP would require statutory change.

Rule Changes:

- Increased operational flexibility to allow more burning opportunities
- ~~To reduce potential adverse health impacts on affected communities, promote~~ encourage Promote alternatives to burning where feasible to reduce potential adverse health impacts on affected communities
- Consider new DAs or boundary changes to existing DAs (see charter question F)
- Consider making the ~~The entire state becomes~~ a regulated area

Directive Changes:

- Achieve a better idea more accurate assessments of fuel loadings,
- Use of state of the art federal Blue Sky models
- Beta Scattering conversions
- Better complaint tracking

What are the barriers and opportunities?

In general, the barriers are political, institutional and financial. Any changes in statutes needed to expand the SMP would might meet with resistance from ~~entrenched interests various stakeholders, and would require~~ the coordination of the responsibilities of several state agencies departments (i.e. ODF, DEQ, ODOA) ~~would meet with at least some bureaucratic inertia. Most of the improvements called for would cost money.~~ New work in public education, coordination with other agencies, improved forecasting, etc. would all require additional staff resources, and the implementation of new technology will cost additional money, at least initially.

The opportunities, however, would include first and foremost, the ability to accomplish more prescribed burning without adversely impacting ~~the air quality, human health, in populated areas~~ or contributing significantly to regional haze. Improved forecasting and the use of state of the art models Blue Sky model should also allow additional burning. Increased public awareness might allow acceptance of additional treatment burns in the WUI, as citizens came to understand the alternatives.

How will success be measured in the future?

- ~~No~~ the National Ambient Air Quality Standards for PM10 and PM2.5 will not be exceeded due to prescribed burning
- ~~inter-agency~~ Coordination among ODF, ODEQ, ODA, federal and county agencies will be achieved and will function smoothly effectively (Can we offer some method of actually measuring or documenting this?)(this may include an annual coordination meeting, regular contact among staff, and a commitment to resolving issues)
- ~~The~~ number of intrusions will remain low (fewer than five per year) and of light to moderate impact.
- ~~the state's regional haze objectives will not be negatively impacted (that is, no loss in visibility days) due to prescribed burning~~
- Citizen complaints of nuisance smoke will be few; citizens who do call in will receive accurate information about the prescribed burns that may be impacting them
- New designated areas will be established, if necessary; boundaries of existing areas will be modified as if needed (consider with charter question F)

Charter Question C: What changes may be needed to address projected increases in prescribed burning for forest health reasons?

Is there a problem?

There are currently problems in determining how exactly to describe the amount (either acres or tons of fuel) to be burned, how best to pay the fees for the SMP (a blanket fee, per ton fee, or per acre fee), how smoke from some unplanned ignitions (e.g. Wildland Fire Use (WFU) fires) should be managed, how to more accurately forecast smoke dispersion, and adequacy of the smoke impacts monitoring network.

Will there be a problem in the future?

All the currently identified problems will continue to exist as time continues, unless they are resolved now.

It is anticipated that objectives for WFU will potentially conflict with air quality (NAAQS, human health, and visibility). Smoke will remain a consideration in the decision to implement wildland fire use.

What are the options to deal with the current problems?

Fuel loading and consumption issues can be resolved by agreement among all parties concerned as to what the data will be used for, then how to collect them. The two main reasons to collect loading and consumption data are to determine program fees and to assess potential smoke impacts to communities downwind. If loading and consumption data are to be used to determine program fees, then one data set and system may be required. If loading and consumption data are to be used to determine potential smoke impacts to downwind communities, then perhaps other sets and systems may be required.

New smoke dispersion models are now available, and forecasters are beginning to use them operationally. These models will get better with time and validation, and should become more effective in the future.

Fee collection will be more thoroughly discussed in Matrix Question I, Economics/Funding. Currently, a prescribed burn undertaken for Forest Health reasons is exempt from SMP fees. As more Forest Health burns are anticipated in the future, smoke management services will still be required, but will not generate any program fees. Thus, a change in the SMP fee structure to include these burns is advocated.

(This paragraph will be revised pending the final report on Matrix Question I).

1. Defined in OAR 340-20-047, section 5.2 pages 5.
2. Defined in OAR 629-43-041, section 3(d) A-E.

Will these options require changes in statutes, rules, or directives?

Changing the manner in which fuels loading and consumption data are collected may result in a change in the current directives.

No changes in statutes or rules are anticipated with the adoption of more sophisticated smoke prediction models; however, changes in directives may be needed.

Changing the way the SMP fees are generated and collected may require both statute and rule changes. See Matrix Question I.

What are the barriers and opportunities?

Should the need for additional services from the ODF smoke management program be required as forest health burning increases; then funding, necessary technology, and enough staffing to provide those services may be limited. As forest health burning accelerates, healthier landscapes and more acres less prone to stand-replacing wildfires will likely result.

Improved and changing smoke modeling technologies will require time and effort to train people in their use, which would require additional resources. However, it is anticipated that the use of new models would enable more forest health burning to be undertaken, which is generally considered to be a desirable outcome.

Forest health maintenance burns assume that sufficient biomass has first been removed to preclude fire from entering the tree crowns. As that biomass is no longer on site, it is assumed that it will be used in some way to benefit society, such as improved utilization. Less smoke would be generated, as less material would be burned. Costs of the mechanical treatments necessary to reduce biomass to a more burnable level may prove to be a barrier to implementation.

An effort to change the fee structure of the existing program may engender some opposition. However, it is expected that a streamlined and strengthened fee collection system is a desirable thing, and better program management is also likely to result.

How will success be measured in the future?

Successes as described in questions A and B are likely to result if more forest health burning is accomplished.

If fees are designed to match the services required to run the program, the program can be described as self-sustaining, and any increases in fees would be born by the respective users.

Do we have data or technology gaps?

No data gaps are currently believed to exist. Whatever data that ODF needs can likely be supplied by most, if not all, users of the Smoke Management Plan.

Sufficient models exist to accurately predict and calculate emissions and consumption (the CONSUME program).

New smoke dispersion models are now available, and forecasters are beginning to use them operationally. These models will get better with time and validation, and should become more effective in the future.

Current Standards

There are a variety of OARs, Department Directives, and or Rules governing the Program. The parent Statute was enacted in 1969 with current program directives and rules last updated in 1992. Some exist within the purview of ODF, while others are in DEQ and ODA.

Committee Recommendations

The committee recognizes that more acres may be burned in the future for forest health reasons. However, it must be recognized that most of this burning will take place in the drier forest types in eastern and southwestern Oregon, and fuel loadings to be burned will generally be 5-20 tons per acre. This increase in forest health burning must be contrasted with the substantial reduction in the broadcast burn acres of the mid-1980s, where typically 30 or more tons of material per acre was to be burned.

The committee suggests that tons of fuel to be burned, rather than the acres to be burned, more accurately reflects the amount of emissions that will be produced.

The committee suggests that a two-tiered or three-tiered fee structure be adopted for the program. Large public land management agencies, such as the BLM and Forest Service, could pay for a fixed portion of the program. Landowners that burn in order to grow commercial crops, such as timber companies and some ranches, could pay on a tons burned basis. Small, private landowners could be assessed a nominal flat fee, or perhaps be exempt from fees.

Wildland Fire Use (WFU) fires are deemed to be of ecological importance to lands managed by the federal agencies. Dozens of WFU fires many occur in any given year, ranging from the size of a single tree to several thousand acres. Smoke impacts are currently, and will continue to be considered in the decisions to permit WFU fires to burn.