

Smoke Management Review Committee Meeting  
Oregon Department of Forestry  
Santiam Conference Room, Operations Bldg, Salem  
0830-1500 July 21, 2004

Attendance: Jim Brown, Jim Russell, Mike Dykzeul, Gary Stevens, Brian Finneran, Mike Ziolk, Gregory McClarren, Brian Jennison, Stan Benson, Erik Christiansen, Nick Yonker, Jim Trost and Cindy Beck

**1. Administrivia**

Mike Ziolk

Mike Ziolk noted that ODF is developing a Program Option Package (POP) for the next budget period. The package includes a grant funded position for a limited duration Biomass Resource Specialist starting in July 2005. The POP must be approved by the legislature. Mike explained that they are trying to combine activities in different sections of the department (i.e. renewable resources and biomass) as they work with the Department of Energy (DOE) on carbon sequestration etc.

**Discussion:**

- Gregory McClarren asked for more explanation about the legislature approving the application of the grant.
  - Mike Ziolk replied that the legislature would need to approve the budget and the position not just the grant. He added that a POP is not part of ODF's base budget but is a proposal.
- Gregory McClarren asked if anything was needed from the Committee or individual members of the Committee.
  - Mike Ziolk replied that nothing specific is needed right now but it might come up in future discussions of the alternatives to burning section.
  - Jim Russell added that one of the major recommendations from this Committee is to create a fuels or biomass management position. He noted that he will pass the position description through the USFS Coop Forestry Group and added that the marketing persons in Winema and in the regional office are very excited about the opportunity to interact with the state biomass person because everything they do is contingent on 'cross pollination' between federal and state. He added that he would like to push this forward by getting the support of this group or OFIC or another group. He noted that there is a major emphasis for the regional forester to look at biomass management. He suggested that one thing this group could possibly do would be to endorse the recommendation.
    - Mike Ziolk replied that a specific recommendation from the Smoke Management Review Committee, when the time comes, would be appropriate.
    - Mike Dykzeul stated that making sure that regional foresters, forest service, OFIC and others are aware of this Program Option Package as soon as possible would get people started talking about it.
- Gregory McClarren asked when ideas for grant or foundation sources would be needed?

- Mike Ziolkko replied “anytime.”
- Gregory McClarren suggested the EPA and possibly the Energy Trust of Oregon or the Climate Trust.
- Mike Ziolkko responded they are already working with those organizations through other programs and they would be included.

## 2. Minutes

Corrections:

Page 4: Will There be a Problem in the Future?

Bullet 3 – Replace “those Fire Managers” with “the Air Quality Regulators”.

Bullet 4 – Sentence three should read “As we go forward, is there a need to include the WFU in the SMP?”

Page 5: 6<sup>th</sup> bullet – First sentence should read “Only one National Forest, the Wallowa Whitman, and no BLM Districts in Oregon have approved plans at this time.” Delete the last sentence.

Page 9: Hyphen 4 – replace “large public” with “Federal”.

The minutes were approved as corrected.

## 3. Plastics Update

Mike Ziolkko

Committee members were referred to the email regarding the plastics update.

### Discussion:

- Erik Christiansen noted that the field had a couple of concerns about possible mitigating measures, and stressed that his position remains the same. He noted, for example that upper limit of the thickness of plastic possibly being increased to 4-mils would not be thick enough. He pointed out that 4-mil plastic is too flimsy and suggested avoiding plastic that thin in the negotiations.
- Jim Brown asked what would be the recommended thickness?
  - Erik Christiansen responded that 6 mils would be recommended
- Gregory McClarren asked how it came to be 4 mils?
  - Mike Ziolkko replied that it was part of the discussion that the group had
- Gregory McClarren asked if 4 mils was adequate 6 months ago, why is not adequate now?
  - Erik Christiansen disagreed and said he would check but he believed it was 6 mil.
  - Stan Benson agreed with Erik and added that he didn’t remember any decision being made before. He was concerned especially during severe weather conditions and noted that 4 mil is just too flimsy.
  - Jim Brown added that 4-mil plastic would certainly tear more easily when attempting to remove it and noted that it would be more feasible to remove 6-mil plastic.
  - Brian Finneran suggested language that recommends using 4-mil but would allow the use heavier plastic where appropriate.
  - Jim Russell would like to be able to utilize the minimum thickness of plastic needed depending on the job. It would allow maximum

flexibility if less than 4-mil or up to 6-mil could be used in an appropriate manner and let the local stations make the determination of what was needed. He would like the flexibility to determine what the mil requirements are, base on local conditions and what the task is, as opposed to establishing an upper limit that should not be exceeded.

- It was noted that 4-mil was the number that was thrown around about a year ago.
- Jim Brown suggested that there should be a local limit, and recommended 6-mil as the limit, adding that few people in the field would find the need to use a heavier product.
- Gregory McClarren indicated that he was inclined to support an upper limit. He noted that setting an upper limit reflects concern on the part of ODF and the Smoke Management Program. Failure to set an upper limit would send the wrong message. Greg asked that from a research standpoint, how much more contribution to the admissions does a 50% increase in milage really amount too? He stated that he doesn't think they can answer that question but intuitively felt it is not much when balanced against the benefits of burning a dry pile.
- Jim Russell asked why the Committee was even pursuing this task when, according to literature, the plastic was less toxic than what was being burned? He suggested that they identify what the requirements are in order to effectively meet the objective of burning dry piles - the product itself has not been shown to be toxic.
  - Gregory McClarren said it shows that State Forestry and the Smoke Management Program cares about burning plastics, burning man made, organic chemical material.
  - Jim Russell replied that we are burning piles of cellulose material that is aided by having a dry spot created by a minor amount of plastic
- Mike Ziolkko reminded Committee members that their recommendations have already been made. There will be a public hearing process and meanwhile the records can be checked regarding this issue.
  - Stan Benson said he did not know of anyone using plastic heavier than 6-mil.
  - Brian Finneran reminded members that the recommendation of the Committee was already focused on minimizing the thickness of the plastic.
  - Erik Christiansen noted that they should be accurate with the record as they proceed with negotiations.
- Gregory McClarren wanted to be certain that the negotiating team between DEQ and ODF paid attention to the spirit and intent with which this Committee wrote their recommendations.
- Jim Brown referred to the second bullet in the memo regarding a limit for pile size and said it would be important to know what minimum size is practical before going into negotiations.
  - Mike Ziolkko noted it is an explanatory memo that says there "may" be limits, not that there are or will be.

- Stan Benson said he was bothered by the size limitation and said it could have a greater affect on those who have a linear pile rather than a tall pile.
  - Gregory McClarren said that the bullet item says more than just 6x6 or 10x10, it talks about a percentage and what may be necessary to achieve the result.
- Brian Finneran noted that DEQ may have some comments later.
- Jim Russell noted that it is truly an emission reduction technique (ERT) and affords us the opportunity to burn three times a year when otherwise we could not burn or the emissions would be much greater. Jim cautioned the Committee not to lose site of the fact that we can burn when we would otherwise could not and truly are reducing the total emissions.
  - Gregory McClarren agreed with Jim Russell and stated that those thoughts are not captured in either of the two memos.
- Brian Finneran stated that calling it an ERT makes him a little nervous. He noted that he would have no problem saying it is an emission reduction *method*, but to classify it in the same category with ERTs currently used in forestry practices raised concern for him.
  - Brian was asked if he thought piling of material was an emission reduction technique?
    - Brian responded affirmatively, but explained that it is the idea that plastic is being put into the same category as ERTs that he disagreed with.
  - It was noted that if piling is an ERT, then the use of plastic is a part of that ERT.
- Brian added that a lot of this is a public perception issue.
- Gregory McClarren asked if the use of petroleum accelerants or some type of accelerant an ERT?
- Brian Finneran commented that he would not want to say no but he was still uneasy with the terminology. Brian noted that the ERT topic is something that is in the Regional Haze Rule. The use of ERTs is put into the SIPS, as much as possible and added that now is not the time to get into that discussion.
  - Gregory McClarren commented that this topic would come up in the section about alternatives to burning.
  - Stan Benson added that qualifiers like “where burning is required” are needed - then it is an emission reduction technique.
- Gregory McClarren stated that the two big items to note. First, we are using plastics and accelerants as a way to minimize total emissions. It is a way to reduce total emissions because we have a drier pile by using coverings and accelerants. Secondly, he stressed the importance of the spirit and intent of the Committee’s recommendations of several months ago on the plastics and accelerants topic.
  - Erik Christiansen agreed but pointed out that the use of accelerants is not necessarily an emission reduction technique. It is simply the method used to ignite cellulosic material.
  - Gregory McClarren agreed.

- It was noted that, right now, burns are precluded by rule from technically using or burning petroleum based products. The rule needs to be changed in order to avoid being in violation of the rule when they go about normal business.
- Jim Russell said the only reason that it was placed in there was because it was a point of concern; the use of diesel and gas mixture to light forestry fuels is so wide spread everywhere it has become the tool of choice. What Mike is trying to do is cover that aspect of it in the MOU/agreement with DEQ so that we are not violating the intent.
- Gregory McClarren suggested that updating the Committee from time to time is a good idea.
- Jim Russell asked if there was a schedule set up to meet and start this process.
  - Brian Finneran replied that it is moving forward with Mike Ziolk having drafted this memo and now he (Brain Finneran) needs provide comment. No specific time period has been identified.
  - Mike Ziolk said the MOU should be in place to protect the fall burning. The rule has to be approved by the EQC as well and we have to meet some of DEQ's rule making process.
- Stan Benson asked if this would also go through the regional committees?
  - Mike Ziolk said it was not the specific intent to do so and added that this issue has not been talked through internally. Mike will discuss it internally).

#### 4. Program Enhancement Discussion

Mike Ziolk, Jim Russell

See Attachment A

Copies of the enhancement package developed in 2001 in response to the potential increase in burning on federal lands were distributed. Mike Ziolk explained that it had nothing to do with expanding the smoke management program to the east side or burning on private land. It identified what would be needed to support increased federal burning – both personnel and program needs. Mike pointed out how the items and costs were broken down. He discussed the need for more positions, such as forecasters, and equipment that would be useful such as portable weather stations and web cameras, SODAR, hardware and software, etc. Mike added that there was discussion of providing additional funding to support the MM5 and modeling center up at UW whose data is used and which provides data input to BLUESKY and similar programs. Mike mentioned that ODF had started to move on meeting the program's needs by adding an additional forecaster position on the books, however it is dependent on extra funding from the Forest Service and BLM so the position remains vacant.

Jim Russell noted the assumptions of the package: 1) It would spread the forecasting service needs over a statewide area and would bring those not currently covered through a voluntary agreement on the eastside or BLM under this process. 2) Potential Burning Revenue is associated with type of activity. Even though pile burning has been increased - it actually functioning more like 50% underburn and 50% piled now. The likelihood of doing all prescribed fire is limited because of a change in perspective of how to meet targets. Jim pointed out that the assumptions

used in the Revenue projection are much different now than they were three years ago but added that even though the figures are off and the assumptions with the projected revenues are off (outdated), these are still probably the recommendations that would be made.

**Discussion:**

- Gregory McClarren noted that a 150,000 acre increase in prescribed burning east of the Cascades in Oregon had been projected and asked what increase had occurred so far.
  - Nothing close to that, perhaps 50,000 acres, or less.
  - Jim Russell added that the revenues over the past two years to ODF for prescribed burning by the BLM and FS have been about \$65- \$70,000 per year.
- Gregory McClarren asked if they foresaw achieving, in a five-year period, a 150,000-acre increase on an annual basis.
  - Jim Russell responded that the expectation of the USFS and BLM management is that they will accelerate the vegetation treatment beyond current levels. Right now total treatment including both mechanical utilization as well as prescribed burning is 120,000+ acres. Jim added that it remains to be seen whether that happens or not, budgetarily, and based on accomplishment.
  - Gregory McClarren indicated he was trying to understand some context as we try to build the Smoke Management program. He noted that he did not want to build a program for a 150,000-acre increase when we should be building program for a 50,000-acre increase. He said that ODF has to go to the legislature with it.
  - Erik Christiansen said that realistically it's probably more like a 75,000 acres increase over the year 2000 level for the federal land management agencies on the east side only. He attributed the decrease in projected increases to not burning nearly as much anticipated due to air quality reasons. He added that they had been doing more mechanical treatment and increasing utilization for some time.
  - Jim Russell added that scheduling and staffing are part of the issue, as well as a narrow prescriptive window.
  - Mike Ziolko added that one of the benefits was the potential reduction of costs to west side burners and non-federal agencies.
- Brian Finneran asked if it was possible to indicate which items on page 7 of the handout had actually happened – such as web cameras, etc.
  - Mike Ziolko responded that the only things that had been done were the camera that the USFS has installed at Lava Butte and the upgrading of remote weather stations, which is being done through a grant.
- Brian Finneran asked what the intent of the document was and if it would be revised or updated to reflect more current thoughts.
  - Mike Ziolko said it was not the intent to update it right now but added that as recommendations are brought forward from this Committee for the Smoke Management Program, this type of work would be necessary in order to indicate what it will cost. That would be the time to update it.

- Gregory McClarren added that this is good data to have as the future of the Smoke Management program is built.
- Jim Russell pointed out the second paragraph reference to the agreement between ODF and Forest Service and BLM that the federal agencies provide funding of \$41,000 to support the Smoke Management in NE Oregon. He foresaw hurdles regarding the cost of smoke management services that the federal land managers are obligated to pay.
- Gregory McClarren asked if paying \$41,000 in the past has worked well and has the lump sum system worked well?
  - Mike Ziolkowski responded that the level of the funding has kept the program alive and kept the fees down on the west side. He added that there is not the same level of detail in the advisories or instructions for the east side and the forecasts are broader.
  - Greg McClarren asked if that had resulted in problems either on the forestry objective side or on the air quality side?
    - Jim Russell responded that if the forecast was more specific information to specific units and areas, the data would be useful and added that the question would be “ What level of information do we need to support the level of burning that is taking place on the three National Forest and BLM Districts in Eastern Oregon?”
    - Mike Ziolkowski added that it might have helped avoid the incident that put smoke into Burns last spring.
    - Erik Christiansen said it’s more efficient to pay on a lump sum basis.
- Gary Stevens pointed out that there are a variety of web cams with good resolution set around the valley and asked if that was something that could be utilized?
  - Mike said that the web cams around the state really look more at roadways, don’t have much viewing area and don’t have the resolution needed to be able to utilize them.
  - Nick Yonker added that ODF has been trying to find the funding to be able to put high-resolution web cams in strategic locations.
  - Gregory McClarren suggested that community based proposals for the funding may be a good place to look for help. I.e. Jackson County, the Clean Air Committee in Central Oregon, The Friends of the Eagle Cap or the Hell’s Canyon Preservation Council. Gregory suggested that those groups had a higher likelihood of getting funding than a government agency.
  - DEQ always has a long list of funding requests that have to be prioritized and these things always end up on the bottom compared to priorities that involve health standards, etc.
  - Mike Ziolkowski suggested that somehow DEQ had to be convinced to raise the priority in EPA grant proposals.
  - Gregory McClarren noted that many foundations would not even consider a government request, but would consider community-based proposals. He concluded that this may fit into Matrix Question B – under ‘gaps in technology’.
  - Mike Ziolkowski noted that it would be appropriate for the Committee to say that these are areas the Committee is concerned about, but let the department figure out where that need is.

- Jim Russell brought up the Lava Butte Project, which was started two years earlier. It came about because of a lack of good communications. Jim said he had co-operated with the Deschutes National Forest to set up a microwave and solar panels on top of Lava Butte to serve both as communication site and to transfer images from the camera. It started with fewer solar cells, but was increased to eight to handle the winter usage needs to power communications, microwave set up and the camera. This is all breaking technology and that is why it has taken two years. Upon completion, Jim noted that one should be able to sit at a desk and aim the camera.
  - Jim Brown asked if it was essentially a prototype?
    - Jim Russell responded that it was and that the only other one is in southern California.
    - It was pointed out that stringing a wire would be more expensive and have with increased maintenance problems.
- Brian Finneran suggested that it should be noted that it is a joint ODF/USFS application and requested the specs for the cameras as well as estimated costs.

## 5. Final Draft

E.

Christiansen, Lee Miller

**"Underburning/Forest Health" - Matrix C**

See Attachment B

The Committee reviewed the draft document with some of the changes that Erik made from suggestions at the last meeting. There were more suggestions and corrections to this copy (see attached Matrix C). Erik will incorporate them, and plans to have a final draft ready for the next meeting.

### Discussion:

- Erik noted that one of the changes had been to delete “and fuel loadings would generally be 5-20 tons per acre” from the second sentence of paragraph two.
  - Asked why, Erik responded that it was removed at the request of this Committee pursuant to the last discussion.
    - Gregory McClarren said it seemed like the 5-20 tons per acre was part of the qualifier and question the removal.
    - Mike Ziolko noted that part of the intent had been to identify the areas of the state that would be affected by the forest health burning – eastern and southwest Oregon.
    - Erik explained that the intent of the question was to address the increases in burning for forest health reasons and added that he was trying to make reference to where the burning would take place.
    - Gregory McClarren noted that the 5 to 20 tons per acre should be left in because it contrasts forest health burning with the old broadcast burning of the past. Removal of the phrase removes the contrast. Gregory added that leaving it out could be perceived as an attempt to whitewash forest health burning as a non-emissions issue.
    - Stan Benson said it looks like it belonged back in.
    - Jim Russell was reviewing the notes and said the Committee had agreed that tons to be burned rather than acres to be burned more accurately

reflected the emissions produced. The question goes back to the point to be made – did we want forest health burning to be exempt? It was a fee issue, not a descriptive issue relative to this objective. Jim did not want a discussion of emissions to result in a fee structure based on emissions because the Committee discarded acres in lieu of what we are trying to accomplish in terms taking away the exemption for forest health burning.

- Mike Dykzeul added that no matter what the burning, there is a subsequent level of emissions and there should be fees generated from it.
- Mike Ziolko noted that “what changes would be needed in the Smoke Management Program?” is part of the issue.
- Gregory McClarren agreed and said there need to be three parts of this “Is there a problem and Will there be a problem in the future” issue – 1. Acres and the context of acres, 2. The tonnage contrast between the burning that has been done in the past and the nature of the burning to be done in the future, and 3. The fee. Gregory suggested that the editing be left to the sub-committee.
  - Jim Russell said the 150,000 acres was three years ago and suggested that the federal land managers go back and structure something more inline with where they currently are.

#### **Will there be a Problem in the Future?**

- Erik noted that the Wallowa Whitman NF is the only forest in Oregon that currently has approval to initiate a Wildland Fire Use Fire. He has requested from the Coordination Center a count of WFU fires and the acres since the year 2000.
  - Mike Ziolko asked if the Strawberry Wilderness area and the Kalmiopsis had a WFU and Erik responded that the Malheur had approval for the Strawberry but procedures changed and they no longer have that approval. Kalmiopsis has never had approval.
  - It was suggested that a small statement be included that the trend is away from WFU.
  - Jim Russell said WFU is considered only because federal agencies get credit for the acres burned as accomplished at the end of the year – the other side is that there is still a suppression response to it.
  - Gary Stevens asked if there were WFU plans for the Crater Lake Area.
    - Gregory suggested that they look into that as well as wildland refuges.
- Brian Jennison noted an edit in the second paragraph – delete “with” so the sentence would read “It is anticipated that both planned and unplanned ignitions may potentially impact air quality (NAAQS, human health, and visibility).”

#### **What are the Options to Deal with the Current Problems?**

- No new changes.
- Gregory McClarren noted that it is pending Matrix Question I (as mentioned below the second paragraph).

### **Will These Options Require Changes in Statutes, Rules, or Directives?**

- No new changes.
- It also refers to Matrix Question I.

### **What are the Barriers and Opportunities?**

- There were numerous changes since the last meeting to reflect the comments/suggestions made at that time.
- Third paragraph should be edited to read “Improving forest health requires two fundamental steps – restoration and maintenance.
- Gregory McClarren asked if the third paragraph referred only to drier ponderosa pine stands or mixed conifer as well?
  - Erik explained that the term generally referred to nearly exclusively pine – otherwise it would be a fire regime that would not have low intensity frequent burning.
  - Gregory said he would prefer the terms “fire dependent” or “fire sustained” or “short term interval”.
  - Jim Brown suggested removing the term Ponderosa Pine and using drier stands instead.
  - Gary Stevens suggested inserting “for example” in front of the drier ponderosa pine stands.
  - Gregory suggested that Erik could make the necessary edits.
  - Jim Russell pointed out that it should cover all potential burning on the east side.
    - Erik replied that he was trying to concentrate on forest health to the exclusion of range health.
    - Jim Russell suggested that overall forest ecosystem health should be considered.
      - Gregory agreed that it was about 75% forest health but added that the other 25% was significant.
      - Erik said he had originally written it from that perspective but as a group this Committee had decided to go back to the charter and limit it to forest health.
      - Gregory said that if we were going to push ODF’s envelope in terms of rangelands, classical areas and large private ownerships that burn periodically, we need to substantiate that with a problem statement – whether it’s here or somewhere else.
      - Mike Ziolk said he would be talking with some of the rangeland representatives and was considering inviting them to the August meeting to discuss some of the issues. It pushes the envelope for ODF and input was needed from the range people. That could have a bearing on how this section was written.
      - Brian Jennison added that he (LRAPA) would be interested in a briefing.
      - Stan Benson asked if including rangeland burning would preclude rangeland burning? How would it be managed?

- Mike Dykzeul said it should stay specific to forest health as per our charge. Rangeland burning and our recommendations could appropriately be addressed in Matrix Question B as far as rangeland in concerned.
  - Gregory was willing to add it to Matrix Question B.
    - Jim Russell said it needed it's own Matrix Question – L?
- Mike Ziolko suggested working the word “restoration” into the paragraph beginning with “one or more preliminary.”
- Edit first sentence, paragraph three, page three to read “Once a stand has been restored to a more resilient condition, measures need to be taken to maintain it in that condition.”
- Erik will add a sentence/paragraph on increased coordination.

#### **How will success be measured in the future?**

- Delete the second paragraph “If fees are designed..”

#### **Do we have data or technology gaps?**

- First paragraph, third sentence – replace “models” with “tools” and provide clarification for the acronyms LIDAR and SODAR.
  - Gregory McClarren said he was hesitant to use examples because it may suggest that it is the only acceptable technology.
  - It still allows for choice while providing examples.

#### **Current Standards**

- No new changes.

#### **Committee Recommendations**

- Paragraph 1 – Mike Ziolko explained that it is an attempt to encourage blackened acres being reported, not just total acres.
  - Paragraph 1 will be moved to Matrix Question I.
- Paragraph 2 – Gregory McClarren said he did not believe the Committee had agreed that all landowners that burn would be assessed a flat fee.
- Need a buy-in for every body that burns.
- Jim Brown agreed that it should not say flat fee.
- Gregory suggested striking the entire sentence.
- Mike Ziolko asked why it was even in this section.
- Paragraph 2 will be moved to Question I and a new sentence “The fee exemption for forest health burning should be removed.” will be inserted in its place

#### **6. Public Comments**

There were no public comments at this time.

#### **7. First Draft**

**"How to Address Wildfire vs. Prescribed Fire" - Matrix D**  
See Attachment C

Jim Russell

The Committee suggested ways to work on the draft by removing bullets and numbers and creating a cluster of short paragraphs. They provided comments and suggestions regarding most of the questions (see attached Matrix D). Jim Russell will consider the Committee's suggestions and incorporate them into a second draft to be presented at the next meeting. He will find a designate to present the draft in case he will be gone at that time.

## **Discussion:**

### **Is there a problem?**

- Gregory McClarren suggested that the introductory paragraph would fit better in the background section.
- Gregory also noted that “exceedances” should be used rather than “violations”.
- Wildfires do not routinely cause exceedances or violations of NAAQS.
- The language will be changed to reflect that used in the background.
- Brian Jennison pointed out that the most current draft recognizes that wildfires can cause exceedances and that they do have public health impacts even the EPA may not recognize them as violations.
- Paragraph 2 – Brian Finneran noted that the paragraph seemed to indicate that the wildfire emissions data are double or more than those from prescribed fire and asked how that number would be derived.
  - Jim Russell explained that he would approach the forest service researchers and ask for assistance.
  - It was suggested that those same researchers be asked what the emissions would have been if that same geographical area had burned under a prescribed fire program. That would provide better comparison data.
- Gregory McClarren suggested that there is insufficient technology available to answer the question posed in #2.
  - Jim Russell said the mega fires like the Biscuit Fire, Cache Mountain or B & B fires – demonstrate the change over time. Part of the control on the south side last summer was because of the affect of prescribed burns that had been done there. The first step is tracking all emissions.
  - Jim Brown added that some of the points of prescribed fire are to reduce the hazardous fuels and enhance regrowth of the productive forest and the environment.
  - Brian Finneran said they were probably all in agreement in theory.
  - Jim Russell said he just wanted to set up a process that would at least collect the data.
    - Gregory McClarren agreed that the data collection was necessary to answer that Matrix question.
    - Mike Ziolko said it gets back to the basic question of how much smoke is the state willing to accept from prescribed fire (a managed situation) vs. wildfire situation? Smoke gets into Medford two days a year from prescribed burning – is that a big issue or not? Managing the smoke and accepting smoke two days a year versus a wildfire – would show that we are doing something about the situation and recognizes the trade-off.

- Gregory McClarren added that the answer to the question – is there a problem is yes. Don't have the historical data set – especially for the wildfire.
  - Mike Ziolko said we do have coarse data – may be closer than we think – the information is there but may need the resources to do it and put a better tracking system in place.
  - Jim Brown asked why the gross emission data is needed.
    - Jim Russell explained that no other SMP in the West has chosen to do anything with wildfire because the EPA has directed each state that wildfire is a natural event at the end of the year the data is expunged – it means it's a non-entity. It has been partially changed by the Regional Haze Rule but this would be a multi- faceted approach and shows leadership on the part of the SMP.
    - Greg added that there is rationale to use prescribed burning and other mechanical treatments to reduce catastrophic wildfire events – need data to substantiate that.
    - It may take a long time to show the trade-off but if start tracking the emissions now you are headed in that direction.
- Jim Russell noted that #3 is an example of emission tracking.

#### **Will there be a problem in the future?**

- Gregory McClarren responded that the answer is yes because it needs to be treated as separate area, not lumped into other data, but asked if it really mattered.
  - Brian Finneran said it does have value in showing the trade-offs.
  - Jim Russell noted that it would also make it easier to forecast based on geographic areas based on limitations to tonnages and how to approach it.
  - Gregory noted that there are some areas of the state that have some future challenges.
  - Mike Ziolko said the current forecast zones are really geographic areas themselves. Large-scale geographic areas could make the forecasts less detailed.
  - The tracking of changes and the profiles should be the focus.
- Needs general language that says the problem in the future will be trying to show that the theory of reducing wildfire through increasing prescribed fire will be difficult to measure/monitor. The solution to that problem would be the tracking, changes in fuel profiles and maybe in specific areas, forest health issues.
- Gregory McClarren added that the challenge in the future is that the public accepts impacts from wildfire but not when they know it was initiated by humans for management purposes – as burning increases on the eastside and southwest, the potential for complaints increases logarithmically.
  - Mike Ziolko asked how the SMP is supposed to respond to the dilemma between prescribed fire and wildfire.
  - Brian Finneran responded said it would be through increased outreach efforts - public education. It won't get acceptance but it shows the theory behind the burning.
  - Jim Russell noted that better interagency communication is part of the solution.

- Gregory suggested that the problem needs to be stated first in answer to the question. The answers need to go below in the options section.

### **What are the options to deal with the current problems?**

- Forecasting is an 8-9 month program – what would a 12-month program provide?
  - Gary Stevens asked how that worked and Mike Ziolk clarified that the forecasts are not written year round but are available year round as needed. It's based on burning activity – if the burning was heavy year round, the forecasts would be written year round. If that happens it would affect staff work that is done in the off –season.
- Brian Jennison noted that Willamette Valley field burning occurs in July and August – all smoke has to be considered – it all has health impacts and impacts Regional Haze.
  - Mike Ziolk added that since there is a field-burning program, if wildfire emissions are reduced, it's to the benefit of air quality.
  - Jim Russell asked if a bullet needed to be added for the trade-offs between agricultural burning and wildfire.
- Gregory McClarren added that being able to manage smoke and estimate emissions on a 12-month basis regardless of source has an impact on various stakeholders' goals and objectives.
- The primary focus of the 12-month program appears to be for tracking.
- It was suggested that Item D seems to be focused on the trade-offs between wildfire vs. prescribed fire and should keep it that way rather than getting into field burning.
  - Jim Russell asked where the desire to coordinate emissions throughout the state.
    - Under Item J and/or E.

- 8. First Draft** Gregory McClarren, Gary Stevens, Erik Christiansen  
**"Are DAs and Sensitive Areas Adequately Defined" - Matrix F**  
 Gregory McClarren said this had been drafted today and requested input from the Committee. They will then prepare a draft for the next meeting.

### **Discussion:**

#### **Is there a problem?**

Erik Christiansen pointed out that the system is functioning, but it can be improved.  
**Problem:** Poorly defined designated areas with no protocol for change, except that non-attainment areas are automatic. Maps are inconsistent in scale and quality. Terms describing areas, i.e. designated areas, smoke sensitive areas and special protection zones, are vague and difficult to understand.

- Jim Russell asked if growth boundaries have anything to do with non-attainment area boundaries.
  - Brian Jennison said it would for particulate but not growth.
- Mike Dykzeul noted that the matrix question is not correctly stated. It should read identified rather than defined.

### **Will there be a problem in the future?**

Yes. Increased population may potentially increase the boundaries. The Regional Haze Rule, and revised PM 2.5 standard could have impacts.

- Brian Finneran added that geographically there are areas that could have increased burning, i.e. Bend and Redmond or Burns.
- Jim Russell asked what it would take to create a new non-attainment area.
  - A monitor, and being in the 98<sup>th</sup> percentile over a three-year period.
  - Brian Jennison added that Oakridge could become a non-attainment area at any time.
  - Gregory McClarren asked Brian Finneran what the likelihood of the state being in non-attainment? Brian F. did not know.
    - Greg suggested adding that there is an unknown aspect.
    - Brian Jennison said it was possible that certain areas of the state could violate it because they are marginal now – especially if they lower the standard.

### **Options:**

- Need to more clearly define boundaries.
- Aim for one designation for receptor areas as distinct from source areas.
  - Mike Ziolk noted that there are reasons for the differences.
- Develop a “safety net” protocol. (Sub-group will redraft proposal; look at geographics of increased prescribed burning programs; PSU population trend.)
- Some areas may need to be more intensely managed than others.
- Seasonal restrictions may no longer be valid. – Investigate dates to see if they’re relevant in regards to designated or smoke sensitive areas.
- Strengthen co-ordination with ODOT and public safety agencies.

### **Changes to Rules, Statues or Directives**

- Referred to ODF staff.

### **Recommendations**

- One or few designations to be named. (What basis for designation?)
- Update maps (GIS based).
- Adaptive to NAAQS:
- Regional Haze Rule changes. (Minimize intrusions)
- Year round – no seasonality (be clear on receptor vs. source)
- Consistent statewide regulations. No differences between AQMA, Special Protection Zones (revisit criteria; revisit whether the SPZs stay or go and where to), etc.
- Consider and discuss designating Class 1 visibility areas as DAs (future Committee discussion)

## **9. Public Comments**

There was no public comment at this time.

## **10. Adjourn**

Actions:

Final Draft Matrix C  
Matrix D - a second draft.  
Matrix E – first draft  
All - Review definitions.  
Mike Ziolko will have a map.  
(Matrix Question H will be scheduled for September)  
Mike Ziolko will invite representatives from rangeland burning.  
Tentative date for October meeting is October 21  
The SMRC meeting adjourned as scheduled.

Next Meeting August 26, 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](http://www.odf.state.or.us/DIVISIONS/protection/fire_protection/smp/SMR/SM_Review.asp)

### **Introduction**

The USDA Forest Service (USFS) and Bureau of Land Management (BLM) are planning a substantial increase in prescribed burning in Oregon on federal forest, range and grass lands as part of the National Fire Plan. Initial estimates are for an increase of 150,000 acres from current levels, with most of this increase occurring east of the Cascades. The federal agencies expect a greater need for smoke management services to support this increased burning. The burning is expected to be impacted by state and federal requirements to protect PM2.5 air quality standards and visibility. The Western Regional Air Partnership (WRAP) is in the process of developing recommendations for smoke management programs to meet visibility protection requirements in Class I wilderness and National Park airsheds.

ODF is the agency responsible for administering a smoke management program for burning in Oregon. Private and state landowners and federal land managers currently pay registration and burning fees to support the Smoke Management Program in Western Oregon, which for Smoke Management Plan requirements includes the Deschutes National Forest. There is a \$0.50/acre registration fee for all burns. Burn fees are \$2.50/acre for pile burns and \$5.00/acre for broadcast and underburns. ODF, the USFS and the BLM also have an agreement by which the federal agencies provide annual funding (\$41,000) to support smoke management services in Northeast Oregon. There is currently no funding supporting the smoke management services provided in south central and southeast Oregon.

The federal agencies will provide funding for improved smoke management support that their burning will require. A per/acre fee registration and burning fee would be applied to federal land east of the Cascades. Enhancement needs are identified below, along with a proposed schedule to phase-in the improvements. An immediate implementation of all of the enhancements would not occur until burning levels actually do increase and full funding is available. Integration with the fee program in western Oregon would also occur once the federal activity has been established. This integration may result in a decrease in per acre fees paid by western Oregon landowners as well as lower fees on federal land east of the Cascades.

It should be noted that none of these fees apply to private land east of the Cascades. Fees cannot be charged on most private land east of the Cascades without statutory changes occurring. Nothing in this proposal, though, would prevent private landowners from reaping the benefits of the improved services that the federally funded enhancements would provide.

Currently, 50,000 to 90,000 acres are burned annually on federal land east of the Cascades. Yearly variations occur because of weather, wildfire, logistical and other factors that must be considered for successful prescribed burning. The only funding that is directly tied to this burning is the \$41,000 that the federal agencies provide as described above. Potential available funding if the existing fee structure were applied to the current burning would range from \$250,000 to \$495,000 annually. The projected additional 150,000 acres of burning would result in additional potential annual revenue ranging from \$750,000 to \$825,000. If half of this projected increase in burning were to occur then the range would be \$375,000 to \$425,000. The ranges result from assumptions of : 1) all the burning being broadcast/underburning or 2) the burning being a combination of 80%broadcast/underburning and 20% piled burning under the existing fee structure. Table 1 shows a range of options.

Table 1  
Potential Burning Revenue

Acres Burned	80% underburn & 20% piled	All underburning
50000	\$250,000	\$275,000
75000	\$375,000	\$412,500
90000	\$450,000	\$495,000
150000	\$750,000	\$825,000

Logistical and personnel enhancements are included in this plan that would result from revenue received from burning east of the Cascades but are also needed to support western Oregon burning. The current fee system in western Oregon is insufficient in itself to provide the needed enhancements.

## Program Needs

Service improvements would result from increased funding for personnel and logistical needs. Some of the identified costs are one-time events (i.e. purchases) and others are recurring events (i.e. salaries). Other needs may be phased in (i.e. personnel) or met (i.e. aerial monitoring) as burning scenarios warrant.

### 1. Personnel

#### Forecasters

Additional meteorological forecasting support is needed for improved services. A much greater level of detail in forecasts and products is expected for future prescribed burning operations. Currently, three meteorologists operate in the program. An additional one to three forecasters would be used depending upon the level of service that is eventually needed to support the burning program. Key elements that federal agencies have identified for improved services are: 1) seven-day-a-week forecasting on a year around basis, 2) increased level of forecast detail, and 3) increased smoke management training. The current staffing level does not allow for these service needs to be met.

- One additional forecaster

One additional forecaster would provide for the capability to furnish some additional services and better manage personnel time for other necessary duties and time-off. Capabilities include:

- ⇒ Increased work in meteorological forecasting improvement
- ⇒ Increased monitoring activities
- ⇒ Exploration of alternatives to burning
- ⇒ Further work in nfdrs developing relationships between weather parameters and successful burning that meets air quality objectives
- ⇒ Provide additional training in smoke management operations to the field

This staffing scenario would provide workload relief and a continuation of the forecast services. That means there would be one forecaster per day on shift, providing one forecast for each of three broad areas. These forecasts would cover northeast Oregon, western Oregon and southeast Oregon. Maximum office operation hours would be from 6:30 a.m. to 5:00 p.m. The non-duty forecaster(s) would be either on a day off or working on the other duties, including those identified above.

**COST:      \$66,605 Personnel and OPE, Annually**  
**\$ 5,000 Capital Outlay**

- Three additional forecasters

A total of three additional forecasters would allow the program to provide a high level of forecast service. A total of six meteorologists would be on staff in this scenario. The services provided would be two forecasts/day for each of three forecast areas (same as above, or modified if necessary). However, two forecasters would be on shift per day providing more detailed forecasts for each of the areas. Forecasts would be provided seven days a week on a year-around basis with potential extended office hours from 5 a.m. to 5 p.m. During fire season, staff would support smoke management functions pertaining to forecasting and public notification of wildfire smoke impacts per emergency action plan requirements. Deployment to fires for this purpose may also occur.

The level of service in this scenario would increase so that all areas of the state would reap the benefits of increased level of forecast detail; more training provided to field practitioners; increased training for the forecasters; increased forecast application development work; and greater monitoring and feedback capabilities.

**COST:      \$199,814 Personnel and OPE, Annually**  
**\$ 15,000 Capital Outlay**

A proposed position description for the (NRS3) meteorologist is shown in Attachment 1. All meteorologists would be under the supervision of the Meteorology Manager.

### Support Staff

Another expectation of the federal agencies in an enhanced smoke management program is the ability to more accurately share information with other burners and the public and to accurately track data that is part of the requirements of the Smoke Management Plan. ODF has the responsibility to coordinate all of the burning in the state as well as tracking emissions and providing information to the public.

Currently, one Office Specialist works in the program five days a week. Other staff assists when this person is not available during the week. There are routine tasks that need to be performed daily to gather, collect and transmit information about burning. In addition, data management and contact with field offices is required to ensure timely and accurate data is entered into the database. An increase in burning and the need for seven day a week services would require additional support staff. Duties would include:

- ⇒ Providing fuel moisture information
- ⇒ Daily planned and accomplishment reporting, including posting information to the web
- ⇒ Data Correction
- ⇒ Weather forecast recordings
- ⇒ Responding to field questions about data input/data systems

Additional staffing to support this need would not likely exceed 0.5 FTE. Combining work with non-smoke management activities may allow cost sharing of a position with other programs.

**COST:       \$17,624 Personnel and OPE, Annually**  
**\$ 5,000 Capital Outlay**

## 2. Equipment

There are several logistical needs that would be required in an enhanced program that would also benefit the existing program. Needs include:

### a) Weather data supplied to the Salem Weather Center

Observational and model forecast data is currently received through several supply channels, including the Internet, a data link to the National Weather Service, an ODF-owned satellite system and dial-in capabilities for radar. NWS technology (AWIPS) is now available that integrates such data through a NOAAPORT data and display system. A dual workstation configuration would be purchased to support operations in the Salem Forestry Weather Center.

**COST:       \$ 1,000 Service and Supply, Annually**  
**\$207,000 Capital Outlay**

### b) Upper air data

Upper air data is collected twice a day at two locations in Oregon (Medford and Salem) via balloon releases (RAOB). The enhanced level of detail that would be required for forecasting for smoke management and air pollution dispersion modeling requires much better data sets than what the RAOBs provide.

Remote sensing SODAR technology is available on a continuous readout, real-time basis that would provide an additional level of detail required in the smoke management program. A SODAR unit was tested in northeast Oregon and the forecasters found the information beneficial to the analyses and forecasts that they provided. An initial network of two units would be purchased and placed into service. If possible, data would be placed on the Internet.

Data is especially lacking east of the Cascades. The initial two units would be located in northeast Oregon (LaGrande area) and in southeast or south-central Oregon (Klamath Falls or Lakeview areas). An additional unit would be brought online each year, with the locations determined by the trend in burning. Potential sites for a complete network would be areas near the Ochoco N.F., Burns, Southwest Oregon, the southern end of the Deschutes N.F., Warm Springs Indian Reservation, the north and south Coast Range and the north and south Cascades.

**COST:     \$ 1,000 Service and Supply, Annually (\$1,000/yr for each additional site)**  
**\$ 74,264 Capital Outlay (\$74,264 for each additional site)**

c) Portable FTS weather station

Remote weather station data is used to provide information for burn decision-making and fire danger rating purposes. A backbone network of stations is being developed in the Pacific Northwest. One portable station would be purchased and used to identify areas for which additional weather information is needed. Data would be correlated with existing stations to determine the uniqueness of data collected at the temporary site. The portable station would be located in areas of high density and high frequency burning to realize the greatest benefit to smoke management forecasting and evaluation of smoke drift.

**COST:     \$ 1,000 Service and Supply, Annually**  
**\$ 15,850 Capital Outlay**

d) Existing FTS station upgrades

Existing ODF FTS weather stations need to be upgraded to be compliant with new reporting standards. This upgrade would benefit both fire danger and smoke management activities. The upgrades would allow for wider access to the data provided by the weather stations. Forecasters would have better access to the weather data with which they make smoke management burn decisions. Sixteen stations would be upgraded and one station would be installed (Walluski).

**COST:     \$ 143,953 Capital Outlay**

e) Web camera

Two web cameras would be purchased and located in areas that provide broad panoramic views where burning is occurring. Existing web cameras too often are sited with a viewing perspective of roadways and do not provide significant value to large-scale weather features. Also, changes in National Weather Service instrumentation and observing procedures no longer provide adequate representation of visibility conditions or source impacts. Two cameras would be sited in areas of proposed increased burning and where other information is lacking. Cameras would be located in the LaGrande and Klamath Falls areas. No further expansion of the camera network would be expected.

**COST:     \$ 2,160 Service and Supply, Annually**  
**\$ 5,610 Capital Outlay**

### 3. Miscellaneous

Miscellaneous program improvements not associated with any particular personnel or equipment configuration would also be implemented. Training/travel and aerial monitoring elements are related to an increase in personnel, but are not necessarily dependent upon the number of people working in the program.

a) Training/travel

Training and travel costs to meet with field personnel would increase with additional meteorologists on staff. Costs would cover professional training for meteorologists as well as the costs for travel that would be incurred to provide smoke management training to field personnel.

**COST: \$ 3,000 Service and Supply, Annually**

b) Aerial monitoring

Aerial monitoring of burning activity would be especially beneficial during the initial years of increased burning east of the Cascades. Determining smoke impacts and dispersion characteristics from underburning or other low intensity burning combined with the varied terrain of central and eastern Oregon provide some difficult forecasting challenges. Direct aerial observation of burning will help improve forecast services.

**COST: \$ 16,500 Service and supply, Annually**

c) Data system upgrade

A redesign and upgrade of the smoke management data collection system would improve the functionality of the system. Improved data exchange capabilities between federal agencies and ODF would allow for greater use of data for internal evaluation of burning needs, tracking of emissions and emission reduction efforts, Internet and GIS applications and finance systems.

**COST: \$ 80,000 Personnel and OPE**

d) Programming support

Ongoing data systems support would provide for periodic maintenance and upkeep of the data system and support for specialized services and preparation of products on a user requested basis.

**COST: \$ 2,500 Personnel and OPE, Annually**

e) MM5 and modeling support

The MM5 is a meteorological forecasting model developed specifically for the Pacific Northwest through the University of Washington and a consortium of contributing public agencies in Oregon and Washington that rely on weather forecasts in their operations. ODF is the only associate (non-paying) member of the consortium. Model output products and services requested by ODF have been met by the UW staff, but continued support for specific needs is uncertain without funding. Increased forecast accuracy and resolution of data in forecasts will require better model output. Support to this regional modeling effort will enable better forecasts to be provided to the field user. Funding could also be used to support smoke management model development using alternative techniques such as neural networks.

**COST: \$10,000 Service and Supply, Annually**

#### 4. Cost and Revenue Summary

A cost summary of all elements is shown below. Not all of the elements would be implemented immediately, so costs would be spread out over time. The NRS3 meteorologist cost that is shown reflects a full staffing configuration. Immediate personnel costs would be less and based on a phased approach towards hiring. The annual costs are those which would need to be budgeted for and sustained over time.

Revenue received from burning is expected to be sufficient to meet the program expenses. Including existing federal burning east of the Cascades in the fee program will provide an estimated \$250,000 to \$275,000 in revenue annually. Assuming only half of the planned increase in burning would occur soon, that additional burning would provide a minimum of \$375,000 annually. Total annual revenue from central and eastern Oregon federal burning would thus be a minimum of \$625,000. Total annual expenses for an immediate full program enhancement would be \$264,598 with startup costs (primarily equipment purchases) of \$1,289,317.

Once the increase in burning has been realized and stabilizes at a reasonably consistent level the existing fee structure would be reviewed and modified as necessary. It would be reasonable to expect that burn fees for the entire state would be decreased after the startup costs have been paid.

**Total Proposed Enhanced Smoke Management Program Expenditures**

		Annual Costs		Total Annual	One-time Costs		Total One-time
		Unit Cost	Quantity	Costs	Unit Cost	Quantity	Costs
<b>Equipment</b>							
SODAR (PA2)					\$74,264	11	\$816,904
	Phone, power	\$1,000	11	\$11,000			
<b>Web Camera</b>							
	Purchase				\$1,805	2	\$3,610
	ISP, phone, power	\$1,080	2	\$2,160			
	misc/installation				\$1,000	2	\$2,000
<b>Portable FTS RAWs (w/GOES)</b>							
	Installation				\$14,850	1	\$14,850
	Power	\$1,000	1	\$1,000	\$1,000	1	\$1,000
<b>FTS RAWs Upgrades</b>							
					\$4,694	2	\$9,388
					\$8,971	15	\$134,565
<b>NOAAPORT</b>							
	Workstations				\$200,000	1	\$200,000
					\$3,500	2	\$7,000
<b>Equipment Sub-total</b>				<b>\$14,160</b>			<b>\$1,189,317</b>
<b>Personnel</b>							
			FTE				
OS1	Salary	\$21,228	0.50	\$10,614			
	OPE	\$10,784		\$5,392			
	SS				\$5,000	1	\$5,000
	Ongoing SS (30% of OPE)/yr	\$3,235		\$1,618	\$17,624		
NRS3	Salary	\$43,080	3.00	\$129,240			
	OPE	\$18,096		\$54,288			
	SS				\$5,000	3.00	\$15,000
	Ongoing SS (30% of OPE)/yr	\$5,429		\$16,286	\$199,814		
<b>Personnel Sub-total</b>				<b>\$217,438</b>			<b>\$20,000</b>
<b>Miscellaneous</b>							
	Training/travel	\$3,000		\$3,000			
	Aerial Monitoring (50 hours/yr @ \$330/hour)	\$16,500		\$16,500			
	Data System Upgrade				\$80,000	1	\$80,000
	Programming Support	\$2,500		\$2,500			
	ODF Support to MM5/UW	\$10,000		\$10,000			
<b>Miscellaneous Sub-total</b>				<b>\$32,000</b>			<b>\$80,000</b>
<b>TOTAL COST OF FULL IMPLEMENTATION</b>				<b>\$263,598</b>			<b>\$1,289,317</b>

## **Implementation Schedule**

The most immediate needs for improvement of service are the hiring of an additional meteorologist and the purchase of the NOAAPORT data system. SODAR purchases would be the next priority in an enhanced program. Hiring additional meteorologists and office support personnel would occur as the increase in burning has been demonstrated to have started.

Spending lists, in priority order, for each fiscal year are shown below. The statewide fee structure would be reviewed for modification in fiscal year 2003 based on actual stabilized burning levels and program funding needs. If revenue far exceeds expenses prior to FY2003 then fees could be adjusted earlier.

### Fiscal Year 2001



### Fiscal Year 2002



### Fiscal Year 2003



### Fiscal Year 2004 and beyond



## **Summary and Recommendation**

Federal agencies are planning a substantial increase in burning. Enhancements in smoke management support would be needed to ensure that state and federal air quality standards are met. Federal agencies are willing to support program enhancements through a per acre registration and burn fee. Estimated revenue for an enhanced program would be sufficient to support an increase in Smoke Management Program funding. The revenue and enhancements would also benefit western Oregon landowners who burn by increasing the level of service they receive and possibly reducing the burn fee rates that are charged.

Personnel and equipment changes would occur. Additional meteorologists would be hired. Weather information systems and data gathering hardware would be purchased. Minimum additional annual revenue is estimated to be \$625,000. Initial annual expenses would be approximately \$574,686 before stabilizing at a lower level. The fee structure would be adjusted in future years to reflect the lower expense requirements.

It is recommended that the Department should present this program enhancement proposal to the affected federal agencies for concurrence with the plan and then request a supplemental budget from the Legislature as soon as possible.

Attachment 1

\*\* PLEASE READ INSTRUCTIONS BEFORE COMPLETING THIS FORM \*\*

**STATE OF OREGON  
EXECUTIVE DEPARTMENT  
Personnel and Labor Relations Division  
POSITION DESCRIPTION**

This position is:

- Mgmt Service-Supv
- Mgmt Service-Conf
- Classified
- Unclassified
- Executive Service
- New  Revised

**SECTION 1. POSITION INFORMATION**

- a. Class Title: Natural Resource Specialist 3 (NRS 3)
- b. Class No.: C8503
- c. Effective Date: 10/1/01
- d. Position No.:
- e. Working Title: Meteorologist
- f. Work Unit: Protection Division
- g. Agency No.: 629
- h. Agency Name: Department of Forestry
- i. Employee Name:
- j. Work Location (City-County): Salem-Marion

- 
- k. Position:     Permanent     Seasonal     Limited Duration     Academic Year  
                   Full Time     Part Time     Intermittent     Job Share

- 
- l. FLSA:     Exempt     Non-Exempt                    m. Eligible for Overtime:     Yes     No

**SECTION 2.**

**PROGRAM/POSITION INFORMATION**

- a. Describe the program in which this job exists. Include program purpose, who's effected, size, and scope. Include relationship to agency mission.

This position is in the smoke management program. The smoke management program's purpose is to prevent smoke, resulting from burning of forest lands, from being carried to, or accumulating in, designated areas sensitive to smoke; to provide maximum opportunity for essential forest land burning while minimizing emissions; to coordinate with other state smoke management programs; to conform with state and federal air quality and visibility requirements; to protect public health; and to encourage the reduction of emissions. The program applies to prescribed burning on federal, state, private, and public forestland in Oregon.

- b. Describe the purpose of this position, and how it functions within this program, by completing this statement:  
**The purpose of this job/position is to . . .**

Originate forecasts of various atmospheric conditions (dispersion, transport winds, and airshed particulate loading), which are essential in meeting the objectives of the smoke management program. The position then originates smoke management instructions and advisories based upon an analysis of projected atmospheric conditions and proposed burns and selects the locations and the amount of burning which can take place and still meet the objective of the smoke management plan. Meteorological service is provided to other department and interagency programs and projects including fire protection, open burning and wood stove smoke control, land management, and emergency management.

Because the Department's highest priority work is a forest fire emergency, this position may be utilized during those emergencies to provide assistance in a variety of ways. That assistance may be directly aiding the emergency effort in the field or at the Salem headquarters. It also may be in providing backup to fill in for another position that is being used in direct aid to the emergency, or it may be in performing an essential function in some capacity either within this Program or elsewhere in Salem or in the field.

**SECTION 3. DESCRIPTION OF DUTIES**

List major duties. Note percentage of time duties are performed. If this is an existing position, mark "N" for new duties or "R" for revised duties.

% of Time	N/R	DUTIES
*50%	R	Originates smoke management forecasts, instructions, and advisories for all areas under the smoke management program to ensure compliance with statutes, rules, and objectives. Originates weather forecasts and provides meteorological services for other department and interagency programs.
*10%	R	Consults with and instructs, state and federal agencies, as well as other public and private landowners on the general and specific burning conditions in the state; pinpoints those locations which are and are not favorable for burning under the smoke management plan.
15%	R	Instructs department and other agency personnel in weather-related subjects such as fire behavior, weather observations, smoke transport, and climatology.
15%	R	Assists field units in developing and refining localized strategies or operational procedures to allow maximum burning in compliance with air quality standards. Conducts forecast studies and analyzes historical weather data to improve the quality of forecasts, instructions and services to field offices.
10%		Coordinates monitoring, fuels auditing and similar activities. Prepares smoke advisories for major wildfires.
100%	* Essential Duties	

#### SECTION 4. WORKING CONDITIONS

Describe special working conditions, if any, that are a regular part of this job. Include frequency of exposure to these conditions.

Most work is performed in an office; however, routine aerial flights of smoke movements are made occasionally during the year. Also, 10-hour day work shifts and weekend work may be required. Work shifts may vary during emergency events. A special working condition is handling as many as 25-35 telephone calls during a 10-hour shift. Exposure to high concentrations of smoke may occur.

---

#### SECTION 5. GUIDELINES

- a. List any established guidelines used to do this job, such as state or federal laws or regulations, policies, manuals or desk procedures.

The Oregon Smoke Management Plan  
State and Federal Air Quality Statutes and Regulations

- b. How are these guidelines used to perform the job?

The Oregon Smoke Management Plan provides program direction. The air quality statutes and regulations provide air quality standards which must be maintained through the implementation of the smoke management plan.

---

#### SECTION 6. WORK CONTACTS

With whom outside of co-workers in this work unit must this position regularly come in contact?

<u>Who Contacted</u>	<u>How</u>	<u>Purpose</u>	<u>How Often?</u>
All landowners & administrators involved in prescribed burning	Phone/In person	Consultation/Advice	Daily
Public	Phone	Respond to questions & Daily complaints about smoke	

---

**SECTION 7. JOB-RELATED DECISION MAKING**

Describe the kinds of decisions likely to be made by this position. Indicate effect of these decisions where possible.

Daily decisions are made on the location of burning; the tonnage amount of units to be burned; as well as the specific spacing of units for the entire state of Oregon under the smoke management plan. These decisions directly affect the daily success or failure of the Oregon Smoke Management Plan which ultimately could impact the public's health and welfare, and the state's liability to comply with air quality standards. These decisions affect the ability of the forest landowners to prepare their land for reforestation and/or to reduce the fire hazard.

**SECTION 8. REVIEW OF WORK**

Who reviews the work of this position? (List classification title and position number.) How? How often? Purpose of the review?

Meteorology Manager. Principal Executive Manager C. Position number X3431M. Informal reviews on spot check basis to determine adequacy and quality of work accomplished. Special projects are reviewed during the progress of the project.

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**SECTION 9. SUPERVISORY DUTIES TO BE COMPLETED ONLY FOR POSITIONS IN MANAGEMENT SERVICE**

a. How many employees are directly supervised by this position? \_\_\_\_\_  
Through Subordinate Supervisors? \_\_\_\_\_

b. Which of the following supervisory/management activities does this job perform?

- Plans Work
  - Responds to Grievances
  - Hires/Fires (or Effectively Recommends)
  - Assigns Work
  - Disciplines/Rewards
  - Prepares and Signs Performance Appraisals
  - Approves Work
-

**SECTION 10. ADDITIONAL JOB-RELATED INFORMATION**

Any other comments that would add to an understanding of this position:

This position requires a thorough knowledge of: 1) topographical effects of wind flow throughout the state, and 2) micro-meteorology and analysis. This position deals with the public and daily high stress decision making during burning operational periods. There are occasional phone or in-person contacts with hostile people or dealing with people in an adverse situation.

SPECIAL REQUIREMENTS: List any special mandatory recruiting requirements for this position:

At least a bachelor's degree in meteorology or equivalent meteorology forecasting experience is required for this position.

BUDGET AUTHORITY: If this position has authority to commit agency operating money, indicate in what area, how much (biennially) and type of funds:

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**SECTION 11. ORGANIZATIONAL CHART**

Attach a current organizational chart. See instructions for detail to be included on the chart.

=====

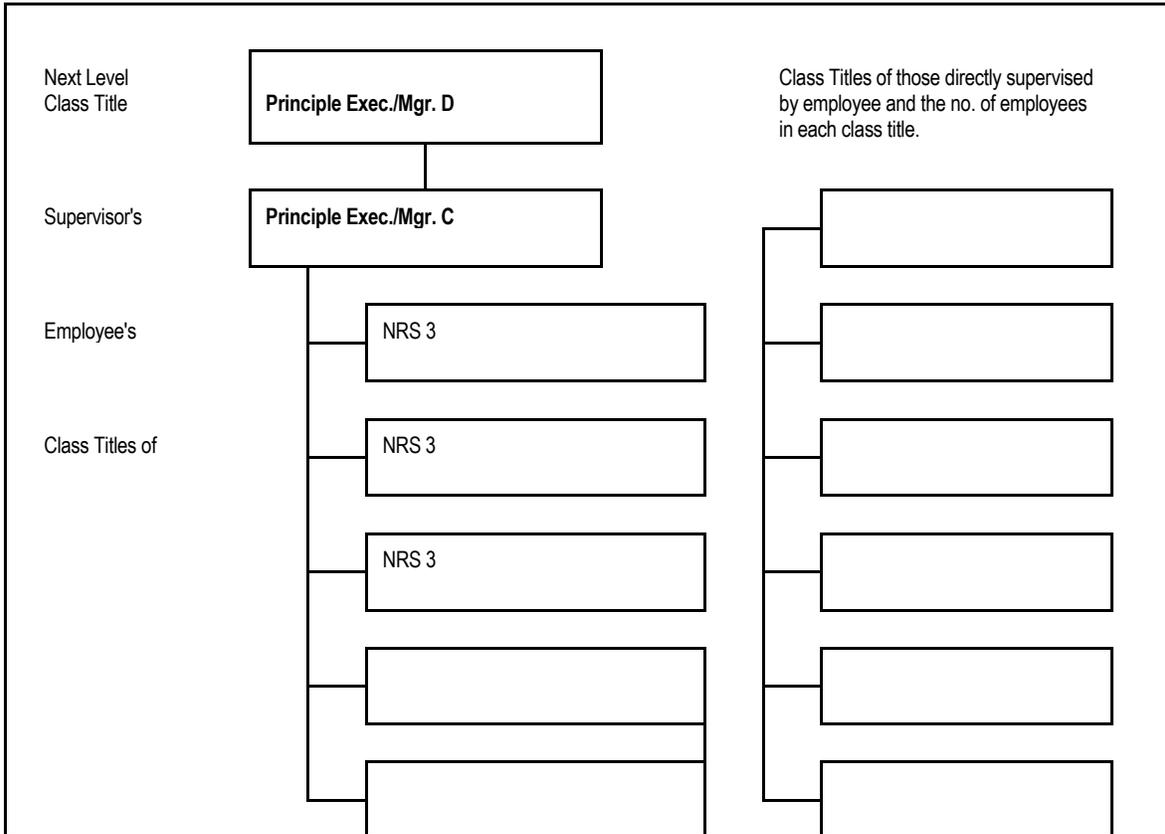
\_\_\_\_\_  
Employee Signature    Date

\_\_\_\_\_  
Supervisor Signature    Date

\_\_\_\_\_  
Appointing Authority Signature    Date

0383njy.pd

## ORGANIZATIONAL CHART PROTECTION



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.

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. 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.

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 both planned and unplanned ignitions may potentially impact air quality (NAAQS, human health, and visibility). Smoke will remain a consideration in the decision to implement wildland fire use fires.

Impacts from WFU fires can be potentially long lasting and variable over their lifespan. Currently, only the Wallowa Whitman National Forest, and no BLM units, has the approval to implement a WFU fire. On average since 2000, XXX WFU fires for YYY acres per year burn on BLM and Forest Service managed lands in Oregon.

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.

Improving forest health requires at least two fundamental steps - restoration and maintenance.

The stands currently most in need of restoration are generally the drier ponderosa pine stands of eastern and southwest Oregon that would typically support a small number of large trees per acre. Many of these stands now contain hundreds of stems per acre, but igniting a prescribed burn in them in their current condition would kill those trees that it is desirable to save. Such a burn would be very difficult to manage, and an escape would be likely.

One or more preliminary mechanical entries are required to remove the small, undesirable stems (also called thinning from below) to allow the remaining stems to grow and flourish, and allow them to withstand either a wildfire or a maintenance burn.

Once a stand has been restored to a more fire resilient condition, measures need to be taken to maintain it in that condition. Typically, maintenance burns (or underburns) are employed, as this practice is relatively easy to implement, is reasonably cost effective.

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 desirable and better program management is also likely to result.

An opportunity for increased biomass utilization would likely result from the thinnings mentioned above. This concept will be more fully explored in Matrix Question H. Eric will add an increased coordination sentence.

#### How will success be measured in the future?

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

#### 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. Some newer upper air monitoring tools such as LIDAR and SODAR are now available, and will likely aid in improving forecasts.

Sufficient models exist to accurately predict and calculate emissions and consumption (such as 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. Forest health burns are currently exempted from fees, and have been since 1990.

#### Committee Recommendations

Note: These two paragraphs move to Question I. 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 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. That portion would be based upon negotiations with the affected agencies. All other landowners that burn would be assessed a flat fee.

The exemption for Forest Health burning should pay a fee.

Wildland Fire Use (WFU) fires are deemed to be of ecological importance to lands managed by the federal agencies. WFU fires may 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. Prior to the decision to declare a WFU fire, the responsible federal land management agency will consult with the Oregon Smoke Management Program regarding potential air quality impacts.

**Smoke Management Program Review**  
**Matrix Item D**

**Charter Question D: How should wildfire vs. prescribed fire impacts be addressed?**

Is there a problem? – Yes, there is. We have the information but not the people to analyze the data and the data is really coarse.

**(Does the committee agree that the concept of “trade-off” exists in reducing fuels by the use of prescribed fire, which will ultimately reduce the potential for the occurrence of uncontrolled wildfires that routinely cause violations of the NAAQS for particulate matter during the summer months? Should a statement be developed to include in the Relevant Facts and Trends of Charter B, et. al.) – Brian J. will email a suggested paragraph to the Committee for this reference.**

- The current smoke management plan is silent on the issue.
  1. The contribution that wildfire emission play each summer affecting public health and visibility is not readily recognizes by the SMP.
- Concepts and related issues are “new.”
  2. Keeping a running total of all emissions from fire (wildfire, prescribed, and Wildland Fire Use) as a way to demonstrate potential trade-offs derived from using prescribed fire and apply emission reduction options to that of wildfire that burns under the worst conditions for consumption of all available fuel producing emission level \_\_\_\_\_ times that of prescribed burning.  
Need to track all fire emissions on an annual basis and state an objective to show reduction of emissions from wildfire.  
Need to address what is the trade-off of prescribed burn over wildfire.  
The technology is not there to be able to find this.
- No mechanism to allow for Prescribed Fire Impacts in lieu of Wild Fire Impacts.
  3. Current tracking of prescribed fire emissions has been demonstrated through the NE Area Agreement in which ODF tracks acres burned and emission produced as a way to cap emissions compared against “natural wildland fire emission levels.” The same methodology can be applied to statewide levels of particulate matter emissions which will be included in a State-wide Emission Inventory that has application to the Regional Haze Fuel, Natural Event Policy, and documenting changes by fire regime and vegetation condition class as a way to track reductions (trade-offs) in total emissions tied to specific geographic around the state. (This is an example.)

Will there be a problem in the future? Yes, because it’s all treated as one big area. Jim R. proposed to break data out in geographic areas. See effects of the trade-off quicker based on fuel type, weather conditions, etc. The committee agrees with this approach, but move the research to different areas.

Brian F. suggested tracking changes in problem areas, and to accelerate public education programs.  
Gregory suggested moving the solution to the end of the list.

- Current smoke management plan does not allow for logical trade-off analysis.
  1. Tracking long-term changes in the fuel profiles (emission potentials) through the modification made to the various vegetative fire regimes/conditions classes throughout the state (Geographic Area – NW Coastal, SW Oak Shrub/Mixed Conifer, Westside Cascade Interior Douglas Fir, Eastside Pine, and Rangeland Shrub and Brush) from fuels management treatments (i.e. mechanical, prescribed fire, and utilization) will allow for a scientifically based assessment on potential impacts and long-term trends in emission management over the entire state.

What are the options to deal with the current problems?

- 12 month Smoke Management Plan
  1. Currently in place, but the best data quality for tracking emission is during the established prescribed fire season.

There is a written forecasting for an eight-month period. After that it's case by case for the other months. The plan is in effect for a 12-month period.

- Improve site specific analysis – forecast
- Need to look at the Wildland Urban Interface (WUI) Treatment
- Alternatives to burning
- Improve Science, emission estimations, & forecasting
- Develop protocol for complaints/nuisances and track it
- Tool/process to allow for a cost/benefit analysis from emissions perspective with a long term versus short-term outcomes
- Education – why we prescribe burn or do other fuels treatments

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

- 12 month Smoke Management Plan- **No already in place**
- Improve site specific analysis – forecast - **No**
- Need to look at the Wildland Urban Interface (WUI) treatment – **Maybe (Rule)**
- Alternatives to burning - **Maybe**
- Improve Science, emission estimations, & forecasting - **No**
- Develop protocol for complaints/nuisances and track it - **Directive**
- Tool/process to allow for a cost/benefit analysis from emissions perspective with a long term versus short-term - **No**
- Education – why we prescribe burn or do other fuels treatments – **Maybe (Directive/Rule).**

What are the barriers and opportunities? – Hold off discussing this until more is done on the first sections.

- Funding needed
- Balancing priorities (this) needs to be determined in local area
- Research/funding/legal appeals
- Tech development & funding
- Protocol for tracking complaints. Not currently very well coordinated – need to modify existing system - Opportunity to educate the public
- Opportunity – existing tools – FETM or equivalent. Barrier – require more staff time & what will be done w/info
- Barriers- Additional funding would be needed. Might need a third party to do it.
- Can't change NAAQS (– and don't want to).

Coordinated common system for all sources of emissions (agriculture, forest, backyard)

How will success be measured in the future? – Hold off discussing this until more is done on the first sections.

- More fuel reduction, less wildfire w/ equal or less emissions
- How did 3 year pilot work? Violations of NAAQS? Acres at what cost?
- Are planned burns completed? Can we measure this?
- Need to have entire state report.
- Fewer complaints.
- More burns done.
- Better, more informed decision making – “this could include using more alternatives
- SMP acknowledges trade off between PF and wildfire
- Better coordination/less competition for burn days between landowners and agencies.