Elliott State Research Forest Q+A

The questions below were asked during the public forums and drop-in events held in October and November 2020, as well as via email. Answers were provided by OSU and/or DSL. *Please note – the page numbers provided in the answers are for the proposal draft dated 11.10.20 available here. Page numbers may change in future drafts; section and subheading details are provided as well to help readers locate information in future drafts.*

Question Topics

Topic: Commitments to Public Values

Transparency and Accountability to the Public

Will the public be able to review proposed projects and provide comments on something like an annual operation plan?
From the Governance Structure section, page 17:

"The ESRF remains in public ownership that provides access for recreational and educational purposes, among other allowable uses. Therefore, the public must be empowered to provide input and influence on the ESRF's overall operations in a transparent and meaningful way. The public is represented through membership on the ESRF Advisory Committee, its ability to access ESRF public records and to attend public meetings, and its elected representatives. The Executive Director regularly engages and informs the public. Formal processes and structures (yet to be defined) will be established to engage with and inform the public. Potential mechanisms include public notices, comment periods, a website that provides the management plans and updates, and annual local open public meetings. Individuals may also engage in forest activities that contribute to its overall goals and objectives, including volunteering in research (community science), recreation, education, and contractors in harvesting activities and vehicle/facilities maintenance."

Should the Elliott State Forest be conveyed to the University to be operated as a research forest, the university will then initiate the process of developing a forest management plan for the ESRF. This process will be conducted in cooperation with the stakeholder advisory board and the public will be given opportunities to engage in the planning process through listening sessions and public comment opportunities. While the public will be able to actively engage in and provide comment on the management of the ESRF, the public will not review individual research projects in order to preserve academic freedom and allow for efficient and flexible implementation of research.

What is the ongoing role of the public under this plan? Will there be an annual report and a mechanism for consequences of if OSU does not follow the plan?
See "Public" and "Accountability and Restrictions" in the Governance Structure section, starting on page 17. Language and mechanisms to ensure transparency and accountability are currently being developed collaboratively with DSL, OSU and the DSL Advisory Committee.

How will the public be notified of your annual timber sale proposals, and how will the public be able to submit feedback on those management proposals?
OSU will define a public notice and input process regarding major activities on the forest, including timber sales, temporary access restrictions, and other actions that directly impact the public.

Will there be any on-the-ground opportunities for members of the public, or members of other stake-holder groups as this process goes forward?
See Governance Structure on page. 17, specifically subsection "ESRF Advisory Committee" and "Public."

What will be the process for enforcement if the reserves are not in fact managed for habitat and conservation goals?
OSU is committed to ensuring accountability to the integrity and transparency of the ESRF's management and operations in several ways, including an established process for reviewing disputes brought forward by the public. This language is in development with the DSL Advisory Committee governance subcommittee and OSU.

Will you draw up a public plan to put the Elliott into a conservation easement, which is a legal contract attached to the Elliott property and will be legally enforceable?

This is something OSU has begun to investigate and is interested in pursuing in the next phase of planning after the Dec. 8th land board meeting. It was not something that could be addressed in a conceptual level research forest proposal, but so far, conversations with Pacific Forest Trust lead us to believe this is a good option.

Tribal Engagement

How proactive will OSU and DSL be in integrating indigenous practices into the conservation efforts? Will the State govt acknowledge that we have a lot to learn from Indigenous communities?

As noted in OSU's proposal: "These Tribes are sovereign nations and Oregon has recognized this relationship through various statutes, Executive Orders and policy statements. Thus, this unique status will require the establishment of formal Government-to-Government agreements that guide future partnerships and collaboration. Sustained involvement of

Tribes is essential to the future management and potential of a public forest. Therefore, the guiding principles for Tribal engagement will revolve around:

- Respect for Tribal sovereignty and Government-to-Government relationships.
- Develop sustainable partnerships with Tribes.
- Promote shared generation of knowledge from activities on and related to the ESRF.
- Understand and appreciate the unique values of individual Tribes and their respective connections to the ESRF.
- Honor Tribal Ecological Knowledge (TEK).
- Ensure accessibility by Tribes to OSU's educational programs, research, and information resources."

Recreation

What is OSU's position regarding the development of multi-use, non- motorized, professionally built recreational trails in the ESF?
See OSU commitments, specifically "Recreation" page 5.

OSU is very interested in developing recreational trails in the ESRF. Trails allow for humans connection to the forest and natural world and have a myriad of benefits for local communities. OSU plans to develop a recreation plan and partner with existing local recreation organizations in the planning and implementation of recreational facilities.

The CRW is being compared to coastal wilderness areas. Does OSU intend to decommission roads and prohibit motor vehicles in large parts of the conservation area?
While the OSU proposal compares the Conservation Research Watersheds (CRW) to coastal parks and wilderness areas given the primary focus of these areas on conservation values, we do not mean to imply that the CRW will be the same as a federally designated Wilderness area. Roads serve as important connectors and provide access for research, education, recreation, and firefighting. We also recognize that roads fragment landscapes and can negatively impact ecosystems and ecological integrity. Our intent is to minimize the impacts of roads in the CRW, and consider decommissioning roads when the benefits of decommissioning outweigh any research or recreational benefits and assuming there are adequate financial resources for road removal and restoration. The prohibition of motorized vehicles in the CRW will be determined based on the need for access and the overall impacts on the goals and objectives of the CRW. This may mean that while public access may be granted to many parts of the CRW, motorized access in these areas may be restricted pending public input on this issue.

Topic: Research

Management Research Watersheds and Conservation Research Watersheds

What are Management Research Watersheds?
See "Summary of the Research Platform", pg. 11.

The research design uses sub-watersheds ranging from 400 to 2,000 acres in size as the experimental unit. The sub watersheds in the Elliott State Research Forest are designated to be in either the Conservation Research Watersheds (CRW) or Management Research Watersheds (MRW).

The MRW contains 40 sub-watersheds that receive the four Triad treatments (Extensive, Triad-E, Triad-I, Intensive) outlined on Figures 2, 3, and 4.

The purpose of the MRW in the experimental design is to test varying arrangements of intensive, extensive and reserve stand management. This experimental design, consisting of integrated intensively managed plantations, unlogged reserves, and dynamically managed forests in "extensive" management, will allow us to quantify combined effects and tradeoffs of different types and arrangements of land management. The stand level research treatments (intensive, extensive, and reserve) applied across the landscape will deliver the knowledge needed to support sustainable forest management and inform policy.

Intensive and Extensive Treatments

What are Extensive and Intensive Experimental Treatments?
See Appendix 1, p. 28. Full details on the experimental treatments are in Appendix 6.

Intensive experimental treatments will maximize wood productivity per acre. Research treatments in these forests will allow us to investigate management options that primarily emphasize the production of wood fiber at rotations of 60 years or longer. At the same time, we can assess methods to reduce the impact of this harvest regime on other attributes such as biodiversity, habitat, carbon cycling, recreation, and rural well-being. These treatments are explicitly applied in areas with younger, previously managed forest stands.

Extensive experimental treatments will explore the implementation of a new set of alternatives to intensive plantation management and unmanaged reserves. Research on "extensive" alternatives will aim to accomplish diverse forest characteristics to meet a broad set of ecological and economic objectives and provide for delivery of a diversity of ecosystem services. This will be done by retaining structural complexity and ecological function while ensuring conditions exist to obtain regeneration and sustain the complex forest structure through time. These treatments are applied across watersheds with mixed age classes (described in detail below).

Are there intensive treatments in the Conservation Research Watershed?
See "Reserves in the Management Research Watersheds (MRW) and Conservation Research Watersheds (CRW)" on page 49.
There are no intensive treatments in the CRW. The CRW is designated as a reserve. Thinnings will be done in the first 20 years in stands less than 65 years old and will be focused on restoration and enhancing conservation values in the prior plantation areas.

How do intensive treatments differ from the "regenerative" forestry that will happen in the CRW?
Protocols and goals for the types of land management that will be implemented across the landscape, including intensive and extensive management can be found in Appendix 6. The only 'forestry' or timber management practices to be conducted in CRW are thinning and restoration harvests aimed at placing forest structure and function on a trajectory to match those forests that have naturally regenerated following 19th Century wildfires. There will be no clear cut harvesting or regeneration harvesting in the CRW.

Tom said, I believe, that the treatments for areas won't stay the same over time, but how will the reserves be protected if they are moved into intensive or extensive management?
This statement was made in reference to the fact that we do not have current on-the-ground forest inventory from which to actually lay out research plots at the ESRF. There is no intention to move reserves into intensive or extensive management. However, if forest inventory demonstrates that locations of reserve, extensive and intensive should be swapped prior to implementation of treatments to provide the best possible protection of mature forests, then such a decision could be made before any management is placed on the ground.

Can you explain why you need to perform intensive forest management research in the ESRF when OSU has over 15,000 acres of other forests with intensive forest management research under way?

One of the strengths of the Triad research design is the size of the ESF. The landscape level design allows for a large number of replicates, making it possible to study the effects of land management over large spatial and temporal scales. The research design proposed by OSU aims to utilize the size of the ESRF to explore the integration of intensive management with other types of land management in ways that is not possible in smaller research forests.

Protections for Older Trees

There is no logging in forests greater than 65 years old. Why 65?

We assessed the level of prior forest management in each sub watershed by looking at stand age. Since the first logging started circa 1955, we concluded any stand younger than 65 years old (based on the 2020 inventory) was a result of harvest including disturbance and salvage. We assume stands older than this are primarily a product of stands replacing fires and naturally regenerated.

Will all forests greater than 65 years old be protected on the Elliott, or only what's inside of designated reserve areas??

Yes, stands older than 65 will be protected. There is a small number of stands (~3,200 acres) of stands older than 65 in "extensive" forest management. The below steps, as stated in the proposal in Appendix 5, were used to allocate our treatments based on age:

> Assign sub-watersheds and stands within watersheds to the treatments by optimizing the following:
> Prohibit any harvesting in stands or trees that predate the 1868 fire. There are approximately several hundred acres that remain from the nearly 5,000 acres of forests that predated the 1868 fire, when the Elliott State Forest was established. They are the remaining link to the past, are culturally and socially significant, and serve as an essential control to scientific study.
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> Focus harvests in stands that have had prior clear-cut harvests and regenerated with a focus on wood production (primarily less than 65 years old in 2020 since harvests started in approx. 1955).

Limit harvesting of stands greater than 65 years in 2020 to extensive treatments. No forests older than 65 years in 2020 will be assigned to the intensive treatment. We will include only forests that were clear-cut, starting in approximately 1955, in the intensive treatments going forward.

Extensive harvests that are in stands greater than 65 years will be preferentially done in stands closest to 65 years in 2020, and the older stands (90-152 years), once identified, that have had a prior thinning. Thereby preserving the oldest unlogged forests in reserves to the greatest extent possible.

Any stand that we determine predates the 1868 fire will be placed in reserve. In the case of Extensive subwatershed (where there are no reserves) we will place in a special category called Extensive Reserve. Based on our current inventory, we have identified 164 acres in this category.

Will mature forests be exempted from intensive treatment? Surely there is sufficient evidence of what happens when mature forest is clearcut.
Yes. There are no stands over 65 years of age in intensive treatments.

At the December 2019 Land Board meeting, Norm Johnson and Jerry Franklin provided testimony stating that there is, "no ecological or environmental rationale for harvesting the older, natural forests on the ESF". Public testimony was also overwhelmingly against cutting older trees. The OSU research proposal apparently still includes cutting thousands of acres of older trees (up to 150 years of age) - though it is very difficult to know from the current plan. Almost all of the information relating to the cutting of older trees has been removed compared to the earlier (Oct. 2019) version of the Plan. How do you justify cutting thousands of acres of older trees when world-renowned experts AND the public are opposed to this? Why was the information about the age of trees to be cut removed from the plan - when this is one of the most important details for the public and conservation groups?

There are roughly 40,933 acres of forests in Elliott that are primarily between 100 and 160 years old (Table 5 a). There are several hundred acres between the ages of 66 and 100 years and older than 160 years but these are relatively rare (Figure 5a). As of 11.18.20, there are ~3,500 (or less) acres of forest older than 65 years allocated for harvest in the extensive management (or ecological forestry) allocation. We expect this number to decrease by an additional 5-10% as we finalize the riparian conservation plan. To put it into context,

roughly 8% of the older forests would be considered for partial harvest and 92% placed in reserves with no harvests planned.

That said, we recognize that any harvest in this older age class is controversial and not everyone agrees it should be harvested at all. In recognition of this, we designed a research plan that did not involve any conversion of older naturally regenerated stands into Douglas-fir plantations. We reduced an initial estimated extensive harvest of 9,600 acres by almost 2/3rds over that past year using a collaborative approach and reviewing input from many stakeholders including representatives from the environmental community, timber operators, forest managers, recreation and others.

The reasons given by us and by many stakeholders for including some older forests as part of the extensive harvest is multifaceted. Some want to know if it is possible to manage older forests sustainably using selective logging techniques. Some want to know if there is a viable alternative to relying solely on young Douglas-fir plantations for wood production and if these new practices will increase the residual large diameter snag, down wood and living large trees on the landscape. We are often asked if there are alternatives to reserves to protect endangered species since disturbances such as fire in forested ecosystems can rapidly reset a "protected" reserve to a younger forest. We are asked how old-forest associated species respond to low-intensity partial harvest treatments in old forest over the long term. In the end, we are asking a fundamental research question: How to satisfy the demand for wood and wood products with the least harm to other ecological processes? What are some options that provide forest complexity and wood output? There is currently insufficient data on this topic.

The information on stand age is in the proposal and will continue to be.

Timber Production and Management Research

What specific research questions regarding timber production can be answered in the Elliott that cannot be answered with other research forests?

There is currently little or no large-scale ecological or alternative forest management research being conducted within the coastal range of Oregon. While the Olympic State Research Forest in Washington was established over two decades ago, to date there is very timber management related research on the forest and no operational scale research as of yet (may start this next year).

Will clear-cutting be utilized in the Elliott? If so, what is there to learn about its impact on steep ground and sensitive watersheds that we don't already know about, especially in the coastal forests?

There is still much to learn about the role of conventional timber management in mass wasting events. The ESRF will also contrast differences between conventional clear cut or regeneration harvesting with alternative forest management practices aimed at achieving structural complexity and ecological function. These will all inform best management practices for steep slopes and guide future forest management decision making.

Is there or will there be some level of mapping potential productivity of soils to help decide layout of stand treatments?

Soil productivity is high on the Elliott. There are a few very steep sites with cliffs and shallow soil, but the majority of the Elliott is site class 1 and 2. In our initial allocations we used stand age and did not optimize by productivity. However, when we looked for bias in watershed treatments for site productivity we did not find one.

About thinning that will be done in reserves, a one-time thinning. Is there a lower level of trees-per-acre that will be required to be left? Will the thinning in reserves also be done for research?

See Appendix 6, heading "Reserves in the Management Research Watersheds (MRW) and Conservation Research Watersheds (CRW). Also "goal of the reserves" from Appendix 1, under "Approach":

"The goal of reserve research treatments being very limited intervention and management with initial treatments focused on restoration and enhancing conservation values in the prior plantation areas then transitioning towards no further harvests. In cultivating natural forest successional processes, one-time thinning would be done for ecological purposes on stands that have regenerated following logging. Natural processes would be unmanaged and allowed to create disturbances and seral stages (with the exception of fire). The forests receiving this treatment are located in the western and northern watersheds and the older forests in the remainder of the Elliott."

Use of Herbicides

Can you briefly describe under what conditions herbicide spraying, both aerial and otherwise would be used and to what end?

See Appendix 6:

"Post-harvest application of site preparation and vegetation control practices to ensure seedling establishment and initial growth. This can include a variety of experimental methods to increase our knowledge about the role of vegetation control on seedling establishment and growth. This may consist of the aerial application of herbicides if in compliance with OFPA. Aerial spraying will be used only when necessary and other types of herbicide application are operationally impractical. Over a 60 year period, an intensively treated stand could potentially receive 1-2 applications of herbicide. We need to conduct research using broadly applicable practices so our work can extend beyond the borders of the ESRF. In addition, we are committed to transparency in our herbicide applications and monitoring of them. OSU will engage in monitoring water quality in areas where aerial spraying takes place. Should any evidence be found that herbicide applications in specific target areas are adversely affecting nearby aquatic areas, the practice will be changed in that area."

Climate and Carbon Considerations

The Elliott is one of Oregon's largest, old-growth ecosystems and an important source of carbon storage. Will the Plan include an understanding of climate science, and the urgent need to act and the immense value of the forest for storing carbon? Can this be listed in the vision for the forest?

From the current Section 1, Introduction to an Elliott State Research Forest, page 3:

"In seeking to create an Elliott State Research Forest, we are reflecting on the immense capacity that exists for forests of Oregon, and beyond, to provide the values we need to sustain ecosystems and economies. We believe that carefully crafted research and scientific inquiry in a dedicated area can inform the conservation and management decisions required to protect endangered species that ultimately lead to their delisting; **to sequester carbon in above-ground and below-ground systems for mitigating climate change;** and to engage the public in science, recreation, and education that supports an informed democracy. With broad engagement in designing such a process, economic growth in a

genuinely sustainable manner could stabilize and revitalize communities that have been flailing for decades and are always at risk to the boom and bust of policy changes."

Wildfire Considerations and Research

What is your plan to study the best way to achieve fire resilience?
Most evaluations of resilience to fire will have to be conducted using fuel loading models and fire ignition and spread models. Studying fire resiliency on the ground is challenging in a forest with a low frequency, high severity fire regime; however, natural fire starts will provide the forest with opportunities to study fire behavior in different treatment watersheds.

Are there plans to increase the focus on wildfire risk in how the intensive zones will be managed? If so, what specific requirements or changes will be implemented in the intensive zones to minimize wildfire potential?
The fire history of Elliott shows evidence of major stand replacing fires that predate the presence of clearcuts and dense Douglas-fir plantations. Fire may not be frequent in the Coast Range, but when they do burn it tends to be intense. A fire in 1868 was the initiating event of almost all of the stands on the Elliott present when it was acquired in the 1930s. There have been studies of fires that demonstrate plantations do burn with greater intensity due to contiguous fuels. To the extent that fuels are equally contiguous in the older forests and a lack of fuel breaks, you can expect them to burn intensively as well during a major fire event.

One of our goals is to maintain forest productivity in intensive treatments by increasing resilience and resistance. For example, we have discussed increasing species diversity in intensive treatments by not relying solely on Douglas-fir but to also include hardwoods such as Alder and big leaf maple both of which could influence fire behavior. However, it must be kept in mind that fire is one of many disturbances to consider when managing forests for resilience and resistance. Climate change, introduced and native pathogens, and wind will all test our ability to conduct research on the Elliott. It is in everyone's best interest to integrate disturbance into the design of research treatments.

Recent fires have covered areas larger than the entire area of the ESF. does the proposed plan consider catastrophic wildfire?

All forestry related plans should consider the potential for catastrophic wildfires. However, given their unpredictable nature, we can't explicitly plan for them. We have said we will maintain a sufficient road access to facilitate fire suppression and we will actively suppress wildfires even in the reserves. We include firefighting costs in our budget and have accounted for the post-harvest fuel treatments costs. We have discussed having a large-scale endowment to bridge the research if the income from harvests is curtailed due to a catastrophic loss from wildfires or other disturbance.

Additional Questions Regarding Research

When will we see a report from the Science Advisory Panel?
See appendix 15 of the final proposal for a summary of the Science Advisory Panel feedback to the proposal or OSU's website for SAP meeting summaries and agendas: https://www.forestry.oregonstate.edu/elliott-state-forest

What is the connection in the ongoing research and its outcomes between the draft plan for the Elliott and the years of research and study at the Andrews Experimental Forest? What is the comparison of the overall goals of each?
There is no forest management research currently conducted at the HJ Andrews that is aimed at informing industrial land management practice. The HJ Andrews provides an ideal venue to understand ecological forest function, it is not suited to contrasting types of forest management activities that are geared toward wood or fiber production at scale. The ESRF provides a great compliment to activities at the HJ Andrews. It should be noted that currently more than 50% of the Elliott has been previously under intensive plantation management, so the starting point for the HJ Andrews and the ESRF are highly different. The ESRF will provide both large blocks of reserve quality forests as well as active research on alternative forest practices aimed at advancing forestry to meet multiple values.

Under the Oregon Forest Practices Act, won't management always be for the highest economic return, in spite of your research? Or could research lead to a change in the OFPA?
Yes, the research conducted on the ESRF will be highly useful in providing evidence based considerations for modifications to the OFPA.

What do you mean by "working forest" and "sustainable wood supply"?
Working forests are forests that are actively managed to generate revenue from multiple sources, including sustainably produced timber and other ecosystem services, and thus are not converted to other land uses such as residential development.

Sustainably-produced wood means that the forest owners kept their forests healthy, protected clean water and wildlife habitat, continually replanted and more, when they harvested or produced that wood.

Given this is a research forest, will there be an opportunity to conduct experimental research in riparian areas and other typical "reserves?" It would seem this is an excellent opportunity to understand all elements of forest management effects, not just those in standard operating areas.
Yes. There will be research nested under the Triad design that occurs in areas of the forest in reserve as well as those areas under intensive and extensive management.

Do you plan to do any specific research around salmon stream side buffers? Especially in intensive management zones.
We do have riparian research planned. The specific experiments have not been designed yet, but we do allow for management within the riparian conservation area (RCA) for experimental purposes. We also hope to contrast the riparian buffer approach for streamside conservation with an outcome-based approach that adds the possibility of better integrating upland and riparian management treatments with reserves. In addition, we will be designing experiments on restoration thinning. Since you asked about intensive management zones you will find it relevant that under the current research plan, only 7% of the fish-bearing streams flow adjacent to intensively managed stands illustrating the ability of the triad approach to offer conservation opportunities and wood production.

Topic: In-Progress Elements

Decoupling

Is OSU expected to raise the rest of the $221 million that the forest was appraised at from logging the forest, in order to buy out the rest of the Common School Fund's interest (beyond the $100 million that the legislature already approved)?

No. DSL and OSU are working collectively on pathways to successfully decouple the forest from the CSF. This work will continue into 2021.

Have you developed an estimate of how much timber you will produce in order to pay for the ESRF both to reimburse the Common School Fund and operate the ESRF?
Harvests on the ESRF will only be done as a part of the research design and will sustain research activities on the forest. The harvesting model based on the proposed research design results in approximately 17 MMBF per year. Harvests on the ESRF will not be used to compensate the Common School Fund (CSF). DSL and OSU are working collectively on pathways to successfully decouple the forest and compensate the CSF.

Habitat Conservation Plan

How does the research forest proposal inform development of the habitat conservation plan? Should the Land Board decide to proceed, the HCP will be based on the research forest proposal as accepted by the Land Board, but make clear that the forest can be managed by DSL should transfer to OSU ultimately not occur. DSL and its contractor are lead on the development of the HCP, and are doing the work in partnership with OSU. We anticipate that there will be public review of the draft HCP document before it is submitted to the federal agencies.

Topic: Exploratory Process

Public Participation

How will comments inform decision-making?
Comments may assist DSL and OSU in identifying adjustments to the final draft proposal that will go to the Land Board, or issues that OSU will need to specifically address during their presentation to the Land Board.

You allotted less than a month for public outreach and input for this critical phase of the Elliott process - the public's first chance to comment on the draft plan. OSU staff and the Advisory Committee worked for roughly 2 years to reach this point. Just understanding the complexities of the plan takes a lot of time and effort. Conservation groups are still

digesting it and contacting their members. Getting reporters engaged takes time. How do you justify having such a short period for public input?
The feedback deadline has been extended to November 29, 2020 at 5 p.m.

Process Status

Can Oregonians purchase back our own forest, and if so, what is the cost? Is the cost $121 million? We would like to try to raise the money for the Elliott.
The Elliott State Forest will remain publicly owned, as Oregon State University is a public entity. The State Land Board has directed DSL to work with OSU in exploring the research forest concept, to determine whether a research forest can achieve the Land Board's vision for the Elliott:

- Keeping the forest publicly owned with public access
- Decoupling the forest from the Common School Fund, compensating the school fund for the forest and releasing the forest from its obligation to generate revenue for schools
- Continuing habitat conservation planning to protect species and allow for harvest
- Providing for multiple forest benefits, including recreation, education, and working forest research

We were in attendance at the December 10, 2019 meeting. The State Land Board consists of three members. Has the State Land Board delivered our forest to OSU?
In December 2018, the State Land Board directed DSL to work collaboratively with OSU to develop a plan for transforming the Elliott into a research forest. In December 2019, DSL and OSU provided the Land Board with a progress report, with a full proposal anticipated to be before the Board in 2020. OSU will present a final draft research forest proposal to the Board on December 8, 2020 for consideration.