

Question 6

1. The amount of complex stands and reserves anticipated in the desired future condition for the Elliott State Forest ranges between 50%-60% of the Forest. The amount of complex stands and reserves in individual management basins could vary from 35%- 75%. If we apply the Sustainable Forest Ecosystem Strategies as described in Chapter 5, what is the likelihood that the amount and distribution of complex structure, reserves, and non-reserve areas will meet the management goals for fish and wildlife, forest condition, and timber?

Reviewer	Comments
Bisson	<p>In part, the answer will depend on the time period over which the Forest will meet management goals. Overall, I'm inclined to believe that some long-term goals will not be attained because climate change over the next 50 years will alter patterns of precipitation, soil moisture, and runoff. With specific respect to fishes (my area of expertise), maintaining only 35% of the forest in complex stand and reserve conditions may not be beneficial for important coho salmon-producing watersheds such as occur in the coastal lakes systems. Long-term gradual deterioration of salmon productive capacity is likely in intensively managed watersheds without adequate water quality and riparian safeguards, and in fact this may occur anyway as the climate changes.</p>
Emmingham	<p>I like the proportions of the landscape designated to be occupied by complex stands and reserves, and the high variability at the basin level does not seem unreasonable. As noted earlier, given the lack of detail in how the strategies will be implemented and the unknown nature of the landscape, I do not feel comfortable in predicting that the ESF FMP will meet the management goals for fish and wildlife, forest condition and timber production.</p> <p>Timber: I am least confident that the goal of maximizing timber output on SLB land. The actual prescriptions for stand treatments were not specified, and timber production outputs have not been quantified (nor has the reduction in cut needed to accomplish the desired complexity). My guess is that management for the diversity levels described in both non-complex and complex scenarios will reduce timber yield substantially (5-30%) and increase management costs. Will these reductions in revenue be acceptable to the BOF or SLB?</p> <p>On the wildlife side of the equation, accurate prediction models for many of the wildlife species based on forest conditions have not been developed. The distribution of complex and non-complex stands on the landscape is not mapped in the FMP. The HCP and the Implementation Plan have not been completed. (I understand there is considerable negotiation involved in the HCP process.) Therefore judging success on the wildlife site would be premature. Success in the riparian and aquatic arena depends in part on</p>

	<p>success in restoring sources of large conifer trees in the riparian management zone. The process of growing large conifers in the RMZ will take 50-100 years.</p> <p>Forest condition: As stated elsewhere, I am confident that all sorts of stand conditions can be created by use of well known and tested density management principles. However, prescriptions needed to achieve the stand structures suggested were not included in the FMP, so I'm not sure the stand transformations will be successful. Also, I have enough practical experience to know that good prescriptions are sometimes botched in implementation. How could the questions raised here be addressed? I believe the best answers (in the short term) could be achieved by production of a series of stand and landscape simulations where quantitative values could be compared and professional judgements made.</p>
Gresswell	<p>These levels seem reasonable; however, it is almost impossible to predict because results are dependent on both the proportion of the landscape that might be represented in a certain stand type, and how the stand types are arranged across the landscape. Implementation of the adaptive management strategies will increase the probability of success.</p>
Irwin	<p>I would expect that the complex stands, in combination with the reserves, will go a long ways to meet the specified goals. However, in my opinion, it will be important to link the DFCs in the Elliott with the surrounding federal and private forest landscape. The relative success in reaching the goals for the Elliott will in no small way likely hinge upon the pattern and condition for the surrounding forests. For example, the physical location of a complex stand in the landscape it will make a significant difference to biodiversity in relation to similar stands and in relation to reserves. That means that a true dynamic shifting mosaic, even with reserves, must pay attention to topography and soil productivity in addition to spatial arrangement. At this time, no one knows what the optimal spatial arrangement might look like, and such a dream may never be identified even if it occurs. In short, there are physical constraints to the dynamic shifting mosaic: some physical locations will always have higher capability or likelihood for certain elements of biological diversity (e.g. riparian zones), and to the extent that such places are identified and accounted for, the Plan will be more successful in reaching the goals.</p>
Ohmann	<p>No one could in good faith give a unequivocal answer to such a complex question. Most likely, some goals will be met and some will not. Your best prediction re. meeting timber goals is attained through the modeling analysis that I believe is in an appendix we did not receive. In terms of meeting ecological and biodiversity goals, there is much scientific support for targeting landscape proportions developed from analysis of historical range of</p>

variability (HRV), as in the Wimberly papers cited in the FMP. [Also note that there is a masters thesis by Nonaka, Oregon State University, that looks at historical range of variability in live and dead wood biomass in the Oregon Coast Range.] At the scale of the entire coastal province, Wimberly cites a historical range of 25-75% old growth, and a median value of 42%. However, the FMP's 50-60% in reserves and complex stands does not equate directly to old growth, so comparisons are difficult. If most of this area ultimately develops forest characteristics similar to old growth, these percentages appear to be a good starting point or working hypothesis, and have a reasonable likelihood of achieving desired outcomes if legacy components are provided in non-complex stands. Of course, the spatial arrangement of older patches also is important, and the more recent (2002) Wimberly paper can provide guidance in this regard. But ultimately, only real-world monitoring data will answer this question.