

# SILVICULTURE FOR NIPF LANDS IN THE INLAND NORTHWEST

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## INTRODUCTION

In the 1990s and beyond, the non-industrial private forests (NIPF) are going to be asked to supply an increased proportion of the nation's timber production. There are several reasons for this. Nationwide, NIPF lands comprise 58% of the commercial timberland. These lands which have relatively easy access to markets can increase their timber production through intensive forest management practices. Secondly, public forests cannot increase timber production. In fact, timber production will likely decrease in the future due to budget constraints and dedication of timberlands to other non-timber uses. Finally, industrial forests are already producing as much as is economically possible (USDA Forest Service 1982).

The opportunities to increase timber production are there if all NIPF owners managed their timberland for timber production alone and if sound forest management practices were implemented. However, these lands are not managed for timber production alone. They are also managed for forage production, firewood, recreation, homesites, wildlife, aesthetics, etc. In a survey of northern Idaho, NIPF owners obtaining income from the sale of timber was *fifth* on the list of reasons for owning forest land (Force *et al.* 1987) And in the future, management may be directed less towards timber production and more towards other resources of these lands as the value of those resources increase. The trend will be towards an integrated forest management approach.

The purpose of this presentation is to give a broad overview of NIPF lands in Idaho, to point out the need of NIPF owners to develop management goals which will influence and direct the silvicultural and harvest practices on these lands, and in reference to this symposium, give an idea of where Douglas-fir fits in the management of these lands.

## NIPF LANDS IN IDAHO

Approximately 27,000 individuals own about 1.6 million acres of NIPF lands in Idaho. These lands are easily accessible and located relatively close to municipalities and, consequently, log markets. Resource values include timber, of which 322 MMBF was harvested in 1988, wildlife habitat, forage for livestock, recreation, and minerals. NIPF lands occupy a wide range of environmental conditions and productivity classes, ranging from the highly productive cool, moist cedar-hemlock site in the north to the hot, dry lower productive ponderosa pine sites in central and southern Idaho. Overall, NIPF lands are very productive. The productivity may have been under-valued due to past forest management practices.

Because of their easy accessibility and the nature of the ownership, the NIPF lands have been heavily used in the past for

logging and grazing. The majority of these lands have been logged at least once and many of them have been logged two or three times. The most common type of harvest tends to be selective cutting, where selected species of the larger diameter classes are removed from the timber stand. This harvest method tends to remove the faster growing dominant seral tree species, i.e., western white pine, ponderosa pine, western larch, and Douglas-fir, of the better phenotypes. Basically, there was and still is very little sound forest management practiced on these lands.

Typically, the resultant stands of these management practices are high-graded, i.e., they are predominantly the intermediate and suppressed trees of poor form, high defect and of poor vigor. The stands are tending toward the potential climax stage because of both the harvest methods and exclusion of fire. Essentially, the stands on NIPF lands are not producing timber near the productive potential that they are capable.

## SILVICULTURAL SYSTEMS ON NIPF LANDS

If timber production was the primary objective of most NIPF owners' management activities, then forest managers would only have to convince the owners to practice good forestry and implement silvicultural practices that would attempt to maximize timber production. Activities such as pre-commercial thinnings, fertilizations, brush control, or tree planting could be conducted with mutual agreement of the owner as long as the benefits could be realized and were economically feasible. However, as stated previously, most owners are not managing their lands for timber production only; the owners may be managing for wildlife, recreation, or some other use. And even if the land is managed for timber production, the optimal silvicultural system may not coincide with all the needs, wants, or objectives of the landowner. Therefore, the choice of silvicultural system will be based first on the needs and wants or rather the management objectives of the owner and secondly on the current status and condition of the forest land.

Formulation of concise and specifically stated management objectives is an extremely important exercise for an owner. First of all, this exercise forces the owner to decide which resources are most important, and it provides a direction to management so that positive activities can occur. The owner must decide what the target forest is going to be and what products are to be derived from it. Secondly, the objectives set limits or constraints on the type of silvicultural activities that can occur. For example, if an owner that is managing for both timber production and forest beauty, clearcutting the existing timber stand and replanting is not likely to achieve both of those objectives.

The majority of NIPF owners have no stated specific long-term or short-term management objective. They generally have a vague idea of what they want to manage for, but nothing stated

quantitatively so that the success or failure of activities cannot be determined. The owner generally needs some guidance in identifying and stating specific objectives.

Once management objectives, both long-term and short-term, and management constraints have been established and identified, the forester or forest manager can apply his creativity to design sound and workable silvicultural systems to achieve those objectives. The forester can now begin to look at the structure and condition of the stand and decide what methods can be feasibly implemented to achieve the target forest. There is no single silvicultural system that fits or works best on NIPF lands since each forest stand is unique in its structure and condition and since each NIPF owner has different needs, objectives, and philosophies of forest management. However, this presentation will give a summary of observations, information, and experiences of what a good silvicultural prescription should achieve no matter what the stated management objectives and outline where the species Douglas-fir fits into management on NIPF lands.

First, Douglas-fir is one of the major tree species on NIPF land in Idaho. It is capable of occupying all the habitat types with the exception of ponderosa pine and the high elevation habitat types. It is a seral and relatively fast growing species on all the habitat types it occupies with the exception of the Douglas-fir types.

However, Douglas-fir has some inherent problems that will influence how it is managed. It is susceptible and prone to windshake and sweep on steeper slopes. It is very susceptible to the root rots found in Idaho. Other tree species appear to outgrow it; ponderosa pine will out-grow Douglas-fir on Douglas-fir and grand fir habitat types; grand fir and western white pine out-produce Douglas-fir on the cedar-hemlock sites. Douglas-fir is susceptible to windthrow when stands are opened up under seed tree or shelterwood systems. Douglas-fir does not naturally regenerate well under selective harvest systems on the grand fir and cedar-hemlock sites.

Douglas-fir is a highly valued commercial species and will continue to be so in the future. And Douglas-fir does grow and naturally regenerate well on the right sites and under favorable conditions. Therefore, Douglas-fir will be managed for, where it grows well, under any good silvicultural system since the underlying goal of any silvicultural system on NIPF land seek to diversify both the age structure and species composition of forest lands.

A diversified age and species composition is a desired goal on NIPF lands. This does not commit the landowner to a long-term management regime, but instead provides flexibility in management. This provides for a degree of stability in the forest environment and provides protection from whole scale insect and disease infestations. If a property doesn't have a well diversified age and species structure, then the forester must introduce that diversity. How the diversity is introduced, whether through natural or artificial means, will depend on the landowner objectives and constraints.

The silviculture on NIPF lands is the same as that on public lands or industrial lands. It is just on a smaller scale and is tailored to meet more specific and immediate needs and objectives.

## CONCLUSION

Overall, NIPF owners do not realize the advantages and benefits of proper forest management and generally view foresters as providers of logging assistance. Landowners practice what they consider to be good forest management and initiate harvest under their own set of rules with little thought given to the actual biological, ecological, and economic needs of the forest.

As professional foresters, it is our duty and obligation to educate and provide information to all forest landowners and the public at large on the positive benefits that can be derived from proper forest management.

## LITERATURE CITED

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