

Atypical Forest Products, Processes, and Uses: A Developing Component of National Forest Management

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Abstract.—The Silvicultural practices prescribed under an ecosystem management regimen will alter the volume and character of National Forests' marketable raw material base. This alteration will affect forest-dependent communities that have traditionally relied upon these resources for their economic and social well being. Community based atypical forest products, processes and uses, such as landscape timbers, mushrooms, rustic furniture, seasonal greens, etc. add value to the smaller, more diverse and/or less traditional raw materials these silvicultural practices will provide. As it implements ecosystem management driven silvicultural prescriptions, the USDA Forest Service should recognize the importance community-based enterprise has in complementing high volume commodity focused industries.

PREFACE

This paper is the result of collaborative efforts between National Forest Systems' Timber Management Staff and State and Private Forestry's Cooperative Forestry Staff. This partnership is built on the overlap of resource management issues affecting both public and private lands, and, in particular, shared commitments to forest-dependent communities. Sustainable development, ecosystem health/restoration, and forest products link the programs, partners, and objectives of these two staffs.

INTRODUCTION

It was not so long ago that terms like multiple use and sustained yield basically captured the principal concepts involved in the management of national forests. Timber, wildlife, recreation, water and air were identified as these lands' typical products.

Today, management of National Forests is to focus upon entire ecosystems. Sustainability is now to address landscapes as well as harvest levels. Silvicultural prescriptions are to be driven by entire biotic communities as well as commercial species.

Ecosystem-driven management significantly expands the role of silviculture. And therefore, ecosystem-wide resource manipulation prescriptions have expanded influence on forest-dependent communities, through the resources these communities rely on for their social and economic health and welfare.

The purpose of this paper is to reinforce some of the elements affecting forest dependent-communities, and emphasize the role atypical forest products, process and uses will play in the relationship ecosystem-driven silviculture will have with those communities.

THE ROLE OF TIMBER HARVESTS IN NATIONAL FOREST MANAGEMENT

Classic market theory connects consumer demand with raw material supply through entrepreneurs. National Forest timber serves the nation's

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demand for wood products, via a corporate investor in industrial-scale production of wood commodities. Typical products include pulp and paper, panel products, dimension and grade lumber. Despite shifts in consumer preference, processing technology and resource character, National Forest timber continues to fill this role through its timber sales program.

Commercial timber harvests not only contribute to the nation's wood and fiber supply, they provide a fundamental tool in the management of forest based resources. A timber harvest provides the opportunity to manipulate a large range of forest resource components. And when commercially viable, these activities have an additional advantage of generating government revenue.

Markets are the key. Timber stand manipulation does not always generate harvest plans that call for felling trees in demand by local industry. The difference between commercial and non-commercial timber felling depends not solely on the intent of the resource manager, but on the nature of the local timber processing industry and the characteristics of its market demand. Dog hair lodgepole on the Big-horn NF, would be whole-tree pulp chips on the Bankhead National Forest (NF). Scrub oak on the Apalachicola NF, would be firewood on the Allegheny NF. Decadent aspen on the Cache NF, would be panel flake-bolts on the Chippewa NF.

TURMOIL IN THE MARKETPLACE

Recent events reducing the availability of National Forest Systems (NFS) timber to the market have created serious difficulties for both the supply and the demand side of the resource management/wood products production equation. Inside the Forest Service, entire program staffs, as well as individual positions, have been eliminated. In the private sector, many traditional wood products processors have gone out of business. Forest-dependent communities are suffering. Jobs, tax bases, community services—all intimately keyed to the availability of commercial timber—are declining.

On the resource side, resource manipulation options through commercial timber harvests decline with the loss of each mill. And once shut-down, or worse yet, sold for scrap, these mills are very difficult

to re-establish. The capital required to build and maintain an industrial-scale wood products processing enterprise is a serious barrier to corporate investors. Processors surviving current reductions in the availability of National Forest Timber are scrambling to maintain production and economies.

The loss of each timber processor translates into a loss of opportunity to manipulate the forest resource in a manner that allows for a financial return to both a forest and any of its dependent communities. More importantly however, it increases the potential for escalation in non-reimburse felling and removal costs associated with timber stand manipulation.

With the expanding adoption of ecosystem management, the issues of restoration, salvage and health will energize the near-term stimuli for timber stand manipulations. Such objectives will, in many cases, call for fellings and disposals of a timber mix (volumes, species/mixes, sizes and qualities) very much unlike materials that historically have been targeted in commercial timber sales.

This adoption will generate a second serious impact on commercial timber sales programs. Those mills surviving the volume reductions described above, may not be capable of adapting to this dramatic change in raw material mix. Existing local processing technologies, capacities, geometries, qualities, existing secondary markets, etc., could all translate to expanded barriers to a successful timber sales program.

Each National Forest will face its own local circumstances. Those fortunate, will be able to add to ecosystem manipulation volumes into their existing commercial timber sales programs. Those unfortunate, have already lost their industrial wood processing base and will face felling and removal costs with little hope for a commercial timber sale. Most forests, those in between, will face the challenge of matching the character of this material to the constraints of existing markets and local processing technologies.

ATYPICAL PRODUCTS, PROCESSES, AND USES—A POTENTIAL ASSET TO EM

For large-scale wood product industries, reduced timber volumes or variation in sizes, quality and

species can create a serious mismatch with existing processing technologies. Typically, large volumes of predictable uniformity are crucial. Daily truckloads of Hem-fir studs, yellow-pine plywood, or pallet cants are the key to many processors' efficiencies and survival.

Ecosystem management will call for a significant alteration in the role of forest manipulation. Attention will include focus on smaller components of the ecosystem. Any one of these components could rise enough in importance to direct the manipulation of traditional timber species, generate its own manipulation prescription, influence existing, and/or create new markets.

SPECIAL FOREST PRODUCTS

For example, National Forest focus on ecosystem components will expand the typically limited interface that exists between what USDA Ag Info Bulletin 666 refers to as Special Forest Products, and the elements addressed in most forest plans. This publication, *Income Opportunities in Special Forest Products* lists sixteen unique classifications of forest produced materials atypical to the list of traditional forest products, i.e., timber, water, air, wildlife, recreation, etc., most plans address. These sixteen classifications include:

- Forest Botanicals as Flavorings, Medicinals, and Pharmaceuticals
- Chips, Shavings, Excelsior, Sawdust, Bark and Pine Straw
- Recreation and Wildlife Enterprises
- Cooking Wood, Smoke Wood and Flavor Wood
- Greenery, Transplants and Floral Enterprises
- Weaving and Dying Materials
- Berries and Wild Fruit
- Decorative Wood
- Speciality Wood Products
- Cones and Seeds
- Honey
- Nuts
- Mushrooms
- Syrups
- Charcoal

And each in turn, includes hundreds of individual products, from beverages to bird houses.

COMMUNITY BASED ENTERPRISE

This focus on the smaller components of an ecosystem's forest base could also generate smaller per-sale volumes, based upon fewer removals per acre. The same focus could generate a broader range of species and/or stem sizes, and include include larger per-sale-volumes of lesser valued species. Ecosystem driven sale specifications could call for the removal of shrubs, vines, etc., as collateral activities of the timber harvest. All of these factors could significantly reduce the market based value associated with typical forest products.

While these changes may be complications for a panel producer, there is a small but growing segment of wood processors who are learning to deal with its consequences. As specialists in niche markets rather than commodity production, small scale enterprise can thrive on the variety inherent in these complications. There are community based businesses, focusing on a variety of products from on non-homogeneous resource currently find success through specialized products. Rustic furniture, bark filtration systems, horticultural and landscape posts/stakes/boards/trim, poles, fencing, utility structures, pallets, crating, hobby wood, crafts, packaging, etc., all are practical products currently matching community and non-homogeneous timber to consumer demand. Processing and marketing flexibility is the key to these small enterprises raw material adaptation and success.

VALUED ADDED

Each of the above specialized products can in turn generate a range of value added support enterprises. The logging, sawing/shaping, drying, blanking, assembly, packaging and shipping, required in the production of the products listed above, often involves many of the same skills associated with large commodity industries. Where forest dependent communities have lost their major industrial base, the skills of the local work force are often fully capable of developing support

enterprises for the niche product manufacturers mentioned above.

USES

This emphasis on resource extraction should not mask an important ecosystem feature. Manufacturing, marketing and consumption all come to mind when the term "use" is employed. Even hobby or family-gathered products such as mushrooms or seasonal greenery usually involve harvest and removal, even if only in small amounts.

There is, however, another element that needs to be recognized. For lack of a better term, "uses" is employed to address a special type of access to a particular component of an ecosystem's character. Many unique personal and/or cultural experiences and traditions are intimately dependent upon interaction with nature. This interaction does not involve consumption in the commercial sense. Some, such as the tradition of burning an herb, or gathering of basket-grass, the digging of a medicinal bark, may involve "collecting" materials. Others—the coming together at a special place, ceremonies in groups or as individuals, personal spiritual experiences—only involve a setting.

Attention is due these activities. They involve a critical component of the ecosystem—its people. And they require attention in the management of the biological as well as, site-specific cultural components of an ecosystem.

SUMMARY

Ecosystem management is clearly a new era for the Forest Service. Its science is changing many of our standard practices. Coincidentally, forest based communities are also undergoing significant change. In many places, smaller community-based forest enterprises are a growing component of their economic and social future.

As members of our forest based communities and practitioners of ecosystem management, the Forest Service needs to capitalize upon opportunities to serve these collateral roles. Efforts by timber dependent communities to remain viable will be affected by specific practices mandated by ecosystem management. The entire Forest Service, and those directing resource manipulation through fellings and removals, should be on the look-out for mutual benefits when the science of ecosystem management allow practices that can benefit local communities.

It is unlikely that the economic stability forest dependent communities enjoyed over the last 25 years can be fully restored. However, ecosystem managed harvests recognizing both commodity and atypical forest products, process and uses, can ease the transition of some of these communities to a new level of economic stability.