

ISSUE PAPER:
**Minimize the Adverse Financial Effects of
Regulation, Hybrid Poplar – Alternatives for
Ensuring Alignment with Policy Goals**

Oregon Department of Forestry
November 7, 2008



"STEWARDSHIP IN FORESTRY"

SUMMARY

The Board of Forestry (Board) has new authority (ORS 527.736 (3), (4), and (5)) to modify or waive the limitations and requirements of certain statutes of the Forest Practices Act (FPA), specifically ORS 527.676, 527.740, 527.750 and 527.755. The Board may exercise this authority for three specific cases, bona fide research projects, as a term of a stewardship agreement, and for intensively managed hardwood timber managed on a rotation cycle of more than 12 years but less than 20 years.

House Bill 3628 (2008 Legislature) granted this authority to the Board, in part, to address issues raised by hybrid poplar growers about the appropriateness of certain statutes of the FPA to intensively managed hardwood plantations. This paper describes and analyzes these issues, and provides policy alternatives for their resolution based on the goals of the Forest Practices Act and the Forestry Program for Oregon.

DEFINITION OF THE ISSUE

Hybrid poplar plantations managed on rotation cycles beyond 12 years qualify as forest operations and are subject to the Forest Practices Act (FPA) Statutes (ORS) and Oregon Administrative Rules (OAR). The age of some hybrid poplar plantations will soon extend beyond the 12-year rotation cycle limit. For example, the Greenwood Industries Boardman hybrid poplar tree farm has a significant acreage that would enter its 12th year in the spring of 2009. Many of these plantations were initially established on former agricultural lands and designed as agricultural operations focused on pulp production. Determination of management unit size was often based on irrigation infrastructure and/or agricultural economic considerations. Hybrid poplar growers have raised concerns that application of certain FPA regulations will severely limit their economic and operational feasibility. Some poplar growers face the decision to liquidate poplar stands approaching the 12-year rotation limit to avoid what they perceive as irreconcilable conflicts with FPA regulations and/or significant economic and operational challenges of moving from an agricultural to a forest operation.

Oregon forest policy is codified in statutes and rules and further described in the 2003 Forestry Program for Oregon (FPFO). Statutes and rules that effectively and efficiently achieve desired FPA policy outcomes when applied to traditional forest operations may not achieve the same result when applied to intensively managed hybrid poplar plantations on unproductive sites. The Board has new authority through House Bill 3628 to modify or waive the limitations and requirements of certain statutes of the FPA, specifically those statutes concerning leave trees and downed logs, clearcut size limitations, and Scenic Highways. These statutes may be modified or

waived specifically for intensively managed hardwood timber managed on a rotation cycle beyond 12 years but less than 20 years. These statutes may also be modified or waived upon entering into a stewardship agreement.

BACKGROUND

In 1989, SB799 changed the definition of forestland in ORS 321.267 to exclude intensively cultivated hardwoods (including hybrid poplars) grown on a rotation cycle of less than 10 years from severance taxes. In 1991, these intensively managed hardwood stands were effectively exempted from FPA requirements by explicitly excluding their establishment, management and harvesting from the definition of an operation under ORS 527.620. Five years later (1996), the exception was broadened to exempt hardwood timber harvested on a rotation cycle within 12 years after planting.

Hybrid poplar plantations were originally established with the pulp market as the key focus. Changing market conditions led hybrid poplar growers to reevaluate the desired product mix of these tree farms. The current exemption for rotation cycles of 12 years or less does not allow full product expansion into the non-structural lumber market. Hybrid poplar growers made an unsuccessful attempt to extend the rotation cycle exempted from FPA requirements from 12 to 20 years as part of House Bill 3481 in the 2007 session of the legislature. Strong resistance to extending the rotation cycle was raised by the Oregon Forest Industries Council (OFIC) and Oregon Small Woodlands Association (OSWA). After roughly a year of negotiations between commercial hybrid poplar growers, OFIC, OSWA and the Oregon Farm Bureau (OFB), House Bill 3628 passed in the February 2008 special session. Instead of increasing the rotation age, HB 3628 allows the Board to modify or waive the limitations and requirements of ORS 527.676 (leave trees and downed logs), 527.740 and 527.750 (clearcut size limitations), and 527.755 (Scenic Highways) for intensively managed hardwood timber. Industrial poplar growers view these statutes as a threat to commercial viability. The Legislature provided no direction to the Board regarding a preferred route for resolving issues raised by hybrid poplar growers.

Hybrid poplar plantations occur on former agricultural lands in a diverse range of ecosystems including sage uplands, drained and/or diked wetland areas, and lowlands of the Willamette Valley. Most poplar plantations were established for pulp production, though some municipal plantations also serve the dual purpose as bioremediation for municipal waste. The size of hybrid poplar plantations may range from small acreages under private ownership up to thousands of acres on industrial ownership. These hardwood plantations often occur on old agricultural ground and management units (blocks) generally adopt the size and dimensions of the past agricultural crops. Blocks mature together and may have very narrow windows of financial maturity. In many cases, these blocks are sustained by a variety of irrigation systems, including but not limited to individual tree watering systems and sub-irrigation in diked areas. Accordingly, planned harvest units (clearcut sizes) can range from a few acres on small, private ownerships to hundreds of acres on industrial plantations.

These type of intensively managed, agriculturally based hardwood stands did not exist during the initial development of the statutes and rules that make up and provide the framework for the Forest Practices Act. They often occur on ecosystems that did not historically support forest tree

species. Hybrid poplar growers are now considering rotation ages beyond 12 years and the implications of complying with the Forest Practices Act. By some calculations, the 13th year will begin for some hybrid poplar stands in the spring of 2009. Regardless of the Board decision regarding the authority in HB 3628, hybrid poplar stands harvested on 13-year or longer rotation cycles will be subject to all applicable portions of the Forest Practices Act. The Department will be required to administer the regulations in a situation it has not yet dealt with, and a clientele that is not used to the regulations.

Given that the Legislature provided no specific direction to the Board, the Department used the policy goals in the FPA and strategies from the Forestry Program for Oregon (FPFO) to guide the analysis. The overarching policy goals of the Forest Practices Act are stated in ORS 527.630 (see Attachment 2). These rules declare it is the public policy of the State of Oregon to:

- encourage economically efficient forest practices;
- ensure the continuous growing and harvesting of forest tree species;
- keep working forests working;
- encourage the sound management of soil, air, water, fish and wildlife resources and scenic resources on forestland;
- and ensure the continuous benefits of those resources for future generations of Oregonians.

The Board further describes forest policy in the FPFO. This policy document outlines seven Board strategies to achieve the Board mission statement, that of leading Oregon in implementing policies and programs that promote environmentally, economically, and socially sustainable management of Oregon's forests. The most relevant strategies for this discussion include:

- Strategy B: Ensure that Oregon's forests provide diverse social and economic outputs and benefits valued by the public in a fair, balanced, and efficient manner.
- Strategy E: Contribute to the conservation of diverse native plant and animal populations and their habitats in Oregon's forests.

ANALYSIS

This analysis examines the three statutes for which the Board has new authority over rule making. The analysis discusses situations for which the existing statutes may not meet the policy goals of the Board or the strategies to achieve those goals as written in the 2003 Forest Plan for Oregon when applied to intensively managed hardwood plantations. The analysis examines statutes and administrative rule considerations for clearcuts, scenic corridors, and leave trees/downed wood

A. Clearcut Size (ORS 527.740 and 527.750)

This statute limits clearcut (type 3) harvests to 120 acres with some exceptions (see Attachment 2 for Statute language). Operators may apply for a plan for alternate practice to get approval for type 3 harvests between 120 and 240 acres in size. Under this alternative practice they are required to demonstrate that "...the larger harvest size will result in increased protection of, or

reduced adverse impact on, any or all of the resources and values protected by the Oregon Forest Practices Act” (OAR 629-605-0175(3)(c)).

Defining harvest practices on hybrid poplar plantations that are equal or better than the 120-acre limitation would be challenging. The statute has a broad set of policy goals focused on resource protection consistent with ORS 527.630 and lack specific criteria by which to base sufficiency. Poplar management blocks are often based on economic and irrigation system concerns, not resource protection issues. The clearcut (type 3) size limitation may not pose the same limitation for small ownerships in the Willamette Valley as it would for large industrial plantations. Several issues arise concerning these of the FPA

1. Issues related to FPA policy goals of economic efficiency and FPFO Strategy B - ensure that Oregon's forests provide diverse social and economic outputs and benefits valued by the public in a fair, balanced, and efficient manner.
 - Hardwood plantations grown on old agricultural ground are generally the size and dimensions of the past agricultural crops. Blocks mature together and may have very narrow windows of financial maturity. Managing sub-units within units established after conversion from agriculture is inefficient.
 - Plantations sustained with individual tree watering systems cannot be efficiently converted into smaller blocks to comply with the clearcut size limitation.
2. Issues related to FPA policy goals for overall maintenance and to FPFO Strategy E- Protect, maintain, and enhance the health of Oregon's forest ecosystems, watersheds, and airsheds within a context of natural disturbance and active management.
 - The effects of clearcut size on wildlife are not well established by the scientific literature, and known effects vary by species and ecosystems. Scientific information establishing effects between any species and clearcut size for intensively managed hardwood such as hybrid poplar is lacking.

B. Scenic Highways (ORS 527.755)

This statute intends to mitigate the visual impact of forest operations along scenic highways by temporarily maintaining a certain stocking density within a specified corridor along the highway (see Attachment 2). These trees may be removed when “green up” is achieved (adequate reforestation density with average height of 10 feet) in the adjacent harvested unit. The statute identifies a number of situations where plans for alternate practice may modify or waive most regulatory requirements including certain safety and economic considerations. The list is not all-inclusive, and other waivers or modifications could be considered for a plan for alternate practice as long as they strive to be consistent with ORS 527.755(2) (maintaining roadside trees for the enjoyment of the motoring public while traveling through forestland, consistent with FPA policy goals, safety and other practical considerations).

The high stocking densities of poplar stands and their shallow rooting habits create concerns about the wind firmness of narrow strips of trees left for scenic corridor mitigation. The survival of those trees is unlikely in scenarios where irrigation systems are removed at harvest or watering stops until reforestation occurs. On the other hand, hybrid poplar stands have the unique ability to meet the “green-up” stocking density and height requirements at or within months of reforestation. A plan for alternate practice with some provision to ensure rapid reforestation may be a viable option for meeting policy objectives.

1. Issues related to FPA policy goals of economic efficiency and FPFO Strategy B

- Trees left to provide a scenic buffer are unlikely to remain standing after final harvest, and blown down trees are unlikely to contribute to enjoyment of the motoring public.
- Blown down trees may damage the irrigation systems. Returning to salvage blow down is unlikely to be economical.
- On irrigated plantations where removal of individual tree watering systems occurs before final harvest, it is inefficient to continue watering after final harvest.

C. Leave Trees and Downed Wood (ORS 527.676)

This statute intends to provide nutrient cycling, wildlife maintenance, and moisture retention and other resource benefits *of retained wood* (emphasis added, see Attachment 2). Type 3 harvest size and stocking density criteria trigger the requirement to leave two leave trees and pieces of downed wood per acre on units greater the 25 acres, where the operator has the discretion for leave tree locations and can either clump or disperse leave trees in the unit.

The State Forester has the discretion to consider alternate plans that locate leave trees in another location as long as it is determined that the plan “...would achieve better overall benefits for wildlife.” The statute focuses on the benefits of retained wood, thus mitigation for wetlands or other resources may not be substituted in an alternate plan or stewardship agreement that does not exercise the waiver authority. The statute is blind to the historical role of wood or its significance in a given ecosystem. While there are likely to be hybrid poplar stands in locations where the provisions of the leave tree/downed wood statute could be successfully implemented, it is unlikely that its authors anticipated it to be extrapolated to hybrid poplar plantations in sage uplands, or other areas outside of what is considered traditional forestland in Oregon.

As discussed previously for scenic highway mitigation, there is concern that small areas of leave trees may be at significant risk of wind throw and are unlikely to survive if irrigation ceases for any length of time. These conditions may result in a population of fast-decaying snags and downed wood on poplar plantations. While these trees may be beneficial to wildlife that utilize standing or dead wood for the short period before it decays, they are unlikely to provide a desirable amount of standing live trees.

1. Issues related to FPA policy goals of economic efficiency and FPFO Strategy B

- The typical farm equipment used for hardwood cultivation cannot maneuver over or around these leave trees when they are on the ground. Blown down trees may damage the irrigation systems.
 - On irrigated plantations where removal of individual tree watering systems occurs before final harvest, it is inefficient to continue watering after final harvest.
2. Issues related to FPA policy goals for overall maintenance and to FPFO Strategy E
- Intensively managed hardwood plantations rarely have any snags, so all trees left to meet this rule will be sound trees. Furthermore, hardwood trees grown in tight plantations are wind infirm and are unlikely to contribute to habitat except as down wood.
 - If any did remain standing, those in irrigated plantations would die from the lack of water, possibly remaining standing as snags.
 - Hardwood trees, especially the hybrid poplar contemplated by these rules, have small diameters and decay more quickly than conifer logs. The contribution of hybrid poplar plantations to wildlife habitat through leave trees, snags, and downed wood is expected to be of limited quality and duration relative to conifer stands and larger diameter trees.

ALTERNATIVES

The Board has a number of alternatives in responding to the new authority granted in ORS 527.736. This paper presents four alternatives that represent the range that the Board might consider. The paper discusses each alternative in terms of operational outcomes and alignment with policy objectives.

A. Operate Under Current FPA

Under this alternative, the Board takes no action responding to new authority and hybrid poplar plantations with rotation cycles greater than 12 years would fall under current FPA statutes and regulations.

This alternative requires some hybrid poplar growers to modify operations to accommodate clearcut size limitations, scenic highway mitigation, leave tree/downed wood requirements. Hybrid poplar plantations with rotation cycles greater than 12 years must limit clearcut sizes to 120 acres, mitigate operations along scenic highways, and provide leave trees and downed wood. Larger plantations will face the choice of extremely costly redesign of current irrigation systems, or of limiting rotation ages, hence limiting their range of potential forest products. Landowners with plantations at or approaching age 12 may choose to liquidate stands in order to avoid regulation under the FPA. Where poplar growers choose not to extend rotation ages beyond 12, limited product diversity may leave them at greater economic risk to pulp market fluctuations. Where scenic highway buffers and leave tree provisions are applied, they may incur significant blow down damage or die due to lack of irrigation. Trees that die or blow down due to lack of irrigation may provide habitat for wildlife use, but are unlikely to meet visual resource goals. Poplar growers will be required to contribute live trees, as snags are unlikely to be unavailable to count as leave trees. Returning to salvage blow down is unlikely to be economical. Downed

logs will hamper the mechanical equipment used for cultivation and management, and will decay long before the next harvest.

Plans for alternate practices or stewardship agreements without waivers may mitigate or avoid these outcomes for leave trees/downed wood and scenic highway requirements. For example, it may be feasible but not economically efficient for poplar growers to create irrigated leave tree/downed wood retention blocks or to find such opportunities off-site. It may also be feasible to meet visual resource goals by ensuring poplar growers immediately reforest harvested sites with trees at or near the stocking and height requirements. It is unlikely that plans for alternate practice or normal stewardship agreements could mitigate or avoid harvest unit size limitations. Poplar growers would have to demonstrate that "...the larger harvest size will result in increased protection of, or reduced adverse impact on, any or all of the resources and values protected by the Oregon Forest Practices Act."

This alternative will have a greater impact for large, industrial poplar plantations and those with extreme site limitations than for small ownerships on more inherently productive lands. For example, a small Willamette Valley ownership may be able to accommodate the clearcut size limitation and successfully maintain wildlife and/or scenic highway leave trees without irrigation adjacent to a riparian area. The additional operational and regulatory constraints may make existing or new investments in intensively managed hardwood plantations inefficient and/or infeasible.

This alternative provides mixed results in terms of alignment with policy objectives. The alternative imposes significant increases in operational and regulatory costs with uncertain outcomes for soil, air, water, fish and wildlife resources and scenic resources protection. This alternative provide uncertain results in terms of encouraging the continuous growing and harvesting forest tree species, providing diverse social and economic outputs, and keeping working forests working. Conversely, this alternative provides equal application of the FPA, and may minimize risk to the social license to operate and regulatory inequity concerns for traditional forest operations and family forestlands.

While the legislature provided no specific direction to the Board regarding a preferred route for resolving issues raised by hybrid poplar growers, the granting of the authority implies the intent that the Board resolve the issues. Poplar growers might view this alternative as a failure to resolve the issue and return to the legislature for relief.

B. Waive Clearcut, Scenic Highway, and Leave Tree/Downed Wood Statutes

Under this alternative, the Board would waive the requirements for ORS 527.676, 527.740, 527.750 and 527.755 for intensively managed hardwood timber manage on a rotation cycle between 12 and 20 years, as allowed in ORS 527.736(5). Operations in these stands would still fall under remaining FPA statutes and regulations.

Under this alternative, hybrid poplar plantations with a rotation cycle between 12 and 20 years will continue under current operational models, while being subject to most of the FPA provisions. Harvest units will range from a few acres to hundreds of acres in size (exceeding

current 120-acre limit) without providing leave trees, downed wood, or mitigation for scenic highways. Hybrid poplar growers could efficiently produce a variety of forest products as they expand from predominantly pulp into non-structural lumber and veneer markets.

Current outcomes for soil, air, water, fish and wildlife, and scenic resources relative to clearcut size will continue. Some poplar growers incorporate resource mitigation beyond that required of agricultural operations (e.g., the Greenwood Industries operation in Boardman, which received Forest Stewardship Council certification). A full understanding of how waiving these FPA statutes will affect water, biological, and other resources is difficult given it is an extrapolation to apply the statutes to the ecosystems and former agricultural lands in question. However, waiving these statutes will eliminate any assurance or process to align poplar operations with related FPA resource protection goals. Other forest operations will not receive waivers, resulting in unequal application of the FPA.

There is no indication from interviewed hybrid poplar growers that they currently draw the same negative public response to clearcutting or other practices as traditional forest landowners do. It may be that the location of plantations on converted agricultural lands, the use of a non-native tree species, and the intensity of management operations (trees in rows with irrigation systems) distinguishes them from traditional forest operations in the mind of the public. It is uncertain if public response will change as hybrid poplar plantations mature and grow, resulting in the public association between reduced resource protection in larger-diameter poplar plantations and traditional forestland operations.

There is a risk that waiving publicly sensitive statutes such as clearcut size limitations for even a narrow population of the forest industry would be perceived as of a diminishment of the FPA. The FPA goal of keeping working forests working, or in other words maintaining the social license to operate may be negatively impacted by potentially inflammatory publicity that could surround statute waivers. Lastly, there the issue of waiving these statutes for hybrid poplar plantations as providing a potential economic advantage over traditional forest operations, particularly against smaller family forestlands.

C. Waivers Under Stewardship Agreements

Under this alternative, the Board would waive one or more of requirements for ORS 527.676, 527.740, 527.750 and 527.755 as a term of a stewardship agreement, as allowed in ORS 527.736(4). In this case, the Board could retain the approval of stewardship agreements with waivers or delegate approval of waiver for stewardship agreements to the State Forester.

As stated previously, House Bill 3628 gave also gave the Board the authority to modify or waive statutes for clearcut size limitations, scenic highway buffers, or leave tree/downed wood upon entering into a stewardship agreement. This is true for *all forest operations*, not just hybrid poplar plantations. Under this scenario, all forest operations may either operate under existing FPA requirements or propose stewardship agreements with one or more waivers. The Board (State Forester) may grant waivers if the stewardship agreement meets overall FPA and FPFO policy goals.

This alternative has the advantage of maintaining the overall integrity of the FPA and is equitable in allowing all forest operations to apply for waivers. It allows the Board (State Forester) to review individual ownerships for alignment with overall FPA resource goals, but tailor resource mitigation/protection to site specific conditions, such as reserving upland sage areas in lieu of leave tree/downed wood requirements. This alternative will accommodate a range of hybrid poplar issues, including those that may be resolved through plans for alternate practice up to those justifying waivers under stewardship agreements.

The risk of waiving publicly sensitive statutes such as clearcut size limitations will not be eliminated but reduced. It will require the Department to work cooperatively with ODFW and other agencies to evaluate the relative benefits of proposed practices versus policy goals. This alternative gives the Board (State Forester) significant discretionary authority, which may result in inconsistent outcomes between stewardship plans. It also does not eliminate but reduces uncertainty regarding equitable application of the FPA and meeting resource protection. For example, it may be difficult to say whether providing additional wetland protection while not providing leave trees and downed wood is either completely equitable or fully meets resource goals.

D. Modify statutes and/or Write New Rules

Under this alternative, the Board would modify specific requirements of the statutes ORS 527.676, 527.740, 527.750 and 527.755 to accommodate hybrid poplar plantations. The Department would continue work on this topic and provide specific alternatives and or rule changes for each individual section and corresponding rules.

An example of one possible change would be to develop regulatory language to accommodate larger clearcut sizes due to the limitations of underlying irrigation systems. Another example would be to develop rules that allow a plan for alternate practice for harvest size limitations limited to hybrid poplar plantations. The associated outcomes of this option are difficult to assess, as they would vary depending on the magnitude of rule changes. Additional work would have to be prioritized in the Private Forests work plan.

RECOMMENDATION

Alternative C, Waivers under Stewardship Agreements, provides the preferred alternative to the issues raised regarding the FPA and hybrid poplar plantation. This alternative balances integrity of the FPA with flexibility tailored to site-specific conditions. The Department recommends moving forward with Alternative C, with the Board delegating review and approval of waivers to the State Foresters.

