

Feller-buncher White Paper Outline

1. Introduction/Purpose
 - a. What conditions are present and what other factors are resulting in the Board's support of feller-buncher, or other low impact heavy equipment, use in WLPZs?
 - i. (Van de Water & North, 2011)
 - ii. (Messier, Shatford, & Hibbs, 2012)
 - iii. (Van de Water & North, 2010)
 - iv. (Kilgore & Taylor, 1979)
 - v. Discussion of current applicable FPRs
2. Concerns
 - a. Address common concerns associated with low impact heavy equipment in WLPZs.
 - i. Erosion and related water quality issues
 - ii. Mass wasting and related water quality issues
 - iii. Nutrient input and related water quality issues
 - iv. Stream temperatures
 - v. Compaction
 - vi. Residual stand damage
3. Best Management Practices (BMPs) identified in the literature
 - a. Maintain adequate canopy cover
 - i. (Poff, 1996)
 - b. Do not store or use chemicals in riparian zones
 - i. (Broadmeadow & Nisbet, 2004)
 - c. Employ directional felling
 - i. (Akay, Yilmaz, & Tonguc, 2006)
 - d. Enter WLPZs at a 90-degree angle and limit to one pass
 - i. (Broadmeadow & Nisbet, 2004)
 - e. Utilize zero-swing equipment to minimize residual stand damage
 - i. (Resources, 2003)
 - ii. (Broadmeadow & Nisbet, 2004)
 - f. Equipment exclusion on areas that are unnecessarily steep, inherently unstable, or where saturated conditions are present
 - i. (Resources, 2003)
 - ii. (Poff, 1996)
 - g. Placing slash on the equipment pathway to reduce soil compaction
 - i. (Rone, 2011)
 - ii. (Poff, 1996)
 - h. Do not place slash into the watercourse or in areas where it is likely to enter the watercourse
 - i. (Resources, 2003)
 - ii. (Broadmeadow & Nisbet, 2004)

- i. Meet with operators on site or include them in the skid route planning process so that they understand the management objectives and move with the intention of minimizing disturbance in these areas
 - i. (Mattson, Baumgras, Blinn, & Thompson, n.d.)
 - j. Conduct operations when ground is dry or frozen
 - i. (Resources, 2003)
 - ii. (Poff, 1996)
 - k. Using tracked feller-bunchers as they exert less pressure on soil, or alternatively using high-flotation rubber tire designs
 - i. (Mattson et al., n.d.)
 - ii. (Akay et al., 2006)
 - iii. (Poff, 1996)
 - l. Preventing residual stand damage by using a cut-to-length harvester and forwarder system or straight skid trails when possible
 - i. (Mattson et al., n.d.)
 - ii. (Akay et al., 2006)
4. Discussion of how utilization of these BMPs addresses the concerns with utilization of feller-bunchers in WLPZs
 5. Conclusion
 - a. Reiteration of the board's support for this use provided that BMPs are followed and appropriate analysis pursuant to the FPA is completed.

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