

Appendix B :

Interpolation of VISTA-provided inventory years to provide interim years for Kentucky area and nonroad.

VISTA provided 2002-2009-2018. See spreadsheet included this appendix.

Kentucky used a standard linear interpolation equation to derive the interim years required between the fixed value inventory years provided by VISTA.

For example, for 2005,

$2005 = O3 + [(S3 - O3) * (3/7)]$, where there are seven years between the VISTA-provided inventory years of 2002 and 2009. Since 2005 is three years out between 2002 and 2009, that year is represented in the equation as 3/7 or 0.428.

Thus,

$$O3=130.61 \text{ (2002 year value)}$$

$$S3=120.96 \text{ (2009 year value)}$$

$$\text{Thus, } 2005=130.61 + [-4.14]$$

$$\underline{2005 = 126.47}$$

The same method of calculation was used for 2008,

$2008 = O3 + [(S3 - O3) * (6/7)]$, where there are seven years between the VISTA-provided inventory years of 2002 and 2009. Since 2008 is six years out between 2002 and 2009, that year is represented in the equation as 6/7 or 0.857.

Thus,

$$O3=130.61 \text{ (2002 year value)}$$

$$S3=120.96 \text{ (2009 year value)}$$

$$\text{Thus, } 2008=130.61 + [-8.27]$$

$$\underline{2008 = 122.34}$$

The same calculation for 2015,

$2015 = S3 + [(U3-S3) * (6/9)]$, where there are nine years between the VISTA-provided inventory years of 2009 and 2018. Since 2015 is six years out between 2009 and 2018, that year is represented in the equation as 6/9 or 0.667.

Thus,

$S_3=120.96$ (2009 year value)

$U_3=117.92$ (2018 year value)

Thus, $2015 = 120.96 + [-2.20]$

$2015 = 118.93$

The same calculation was used for calculating the out year 2022.

Since 2022 is thirteen years out from 2009, it can be calculated as $13/9$ or 1.44 , multiplied by the same increment ($U_3 - S_3 = -3.04$) already calculated between 2009 and 2018.

Where, $2022 = 120.96 + [-3.04 * 1.44] = -4.38$.

Thus, $2022 = 120.96 + [-4.37] = 116.58$.

$2022 = 116.57$.

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