**Carbon Credit Valuation Tool – Instructions**

This bulleting is aimed at giving producers a way to evaluate the benefits of rangeland carbon credit contracts prior to signing an agreement. There has been recent interest in carbon credit contracts on rangelands with the inception of the Chicago Climate Exchange (CCX) carbon market. Currently, in order to trade on the CCX market, a minimum of 10,000 credits is required, however aggregators have begun pooling credits from local producers allowing smaller ranches the ability to participate in this emerging market. The carbon credit contracts offered by these aggregators can potentially be very appealing under high carbon prices if a producer does not have to alter management practices drastically, however these contracts may lose much of their appeal with lower carbon prices. While this bulletin does not forecast future carbon prices, it provides a tool to calculate total payments and net present value of these payments for user defined carbon prices. We provide a link to historical carbon prices for review.

The Carbon Credit Valuation Tool is based upon documents from both Iowa Farmers Union Aggregation contracts (AgraGate), as well as North Dakota Farmers Union (NDFU). The contract is modeled for the minimum 5-year contract. This example contract accounts for aggregator fees (10% for either group), as well as the Chicago Climate Exchange (CCX) trading fee of $0.20 per credit. The example contract also includes a $0.10 per acre verification fee. This fee is unique to AgraGate, which charges this per acre fee to every enrolled acre to cover the cost of verification of the mandatory 10% of enrolled acres (random verification is required on 10% of all enrolled acres, individual programs of over 10,000 acres are automatically required to be verified). To model a contract through NDFU, this $0.10 per acre fee can be eliminated, but per the example contract available from NDFU, “offset verification costs are the responsibility of the offset project owner, and will be deducted from pool proceeds prior to payment calculation.” NDFU does not state what these costs may entail, so caution must be used, as these costs are not included in this spreadsheet.

This example contract also incorporates the CCX mandate that 20% of credits be retained until the expiration of the contract. These credits are then modeled to be sold at the expiration of the contract (Year 5), and may not necessarily be at the same price received in the early years of the contract. The spreadsheet initially sets the ‘hold over’ price at the same level as Year 5 price, as all of these held over credits will be sold in year 5. However, it is important to keep in mind that credits are traded by the year they were stored, so not all vintages will necessarily be sold at the same price in Year 5. However, historical prices (available for download at the CCX website) show that usually different vintages trade with pennies of each other. Although we do tie all held over prices to be equal to the Year 5 initial price, we do allow the user to input prices for hold over credits in Year 5 if they feel it to be more accurate based on their price expectations.

On the ‘Input and Summary’ sheet, cells shaded in yellow are designed for user input. These include ‘Carbon Credit Rate’ (Currently 0.27 for non-degraded rangeland in Eastern Wyoming, and 0.12 for non-degraded rangeland in Western Wyoming, see CCX, AgraGate, or NDFU for listing of eligible counties). ‘Interest Rate’ is used to calculate Net Present Value (NPV) of contracts. This will determine the value of a contract over its entire life using a user defined interest rate. For each year 1 through 5, the user can specify both current year and hold over prices. For example, in year 1, user can define the current carbon price for the 80% of credits sold in year one in the box next to ‘Current Year’. The box ‘Hold Over Prices’ would be what the user expects the carbon price to be at the end of the contract, when the remaining 20% of credits are sold (as stated above, these values are tied to Year 5 price unless changed by the user). After entering all 10 prices, the spreadsheet determines total income over the contract life, the NPV of this value based on user defined interest rate, as well as a simple annual average income. On the ‘Worksheet’ tab, users can track the actual calculations based on user input, but input is required on this page. Input from the ‘Input and Summary’ sheet is automatically carried over to the green cells in the ‘Worksheet’ tab and used in calculations. In order to remove the $0.10 per acre verification charge administered by AgraGate, the user should replace the ‘0.1’ in the blue cells (C13, G13, K13, O13, and S13) with ‘0’. However, remember that NDFU *does* charge for verification, but that cost will not be included in this spreadsheet.

Caution must be used when using this tool. We provide a tool to calculate potential revenue payment only, and do not incorporate any of the costs of adherence to CCX carbon credit contract protocols. Producers need to understand we are helping to define potential benefits of these contracts, but they must weigh these benefits against any increases in costs (or decreases in revenues) from compliance such as increased labor/management costs or decreases in animal numbers. We also eliminate the possibility of negative returns to these contracts. We assume that if the cost of carbon falls low enough that the fees associated with trading exceed the revenues that would be received the aggregator will not trade carbon. Therefore, if prices are input that would incur a loss (any value less than $0.75 per credit), the spreadsheet will enforce a $0.00 annual payment in lieu of a negative payment.

**References**

Agragate. 2009. Agragate Climate Credits Corporation Carbon Credit Program, Exchange Soil Offset Contract. Available at: <<http://www.kfb.org/naturalresources/nrimages/SoilOffsetContract.pdf>>. Accessed August 9, 2009.

CCX (Chicago Climate Exchange). 2009. “CCX Rangeland Soil Carbon Management Offsets.” Available at: <<http://carboncredit.ndfu.org/pdfs/Rangeland/RangelandProtocol.pdf>>. Accessed March 17, 2009.

NDFU. 2009. North Dakota Famers Union Rangeland Management Program. Available at: <<http://carboncredit.ndfu.org/rangeland.html>>. Accessed August 9, 2009.