PURDUE UNIVERSITY

PURDUE EXTENSION

EC-720

Farm Business Management for the 21st Century

Developing Vision and Mission Statements

EXPERT REVIEWED

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Knowledge to Go

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In this publication we look at the underlying purpose for which the business exists: its vision and mission. An important key to any successful journey is to start with the end in mind. This is true whether the journey is something like a carefully planned vacation or like the initiation of a new business enterprise or restructuring of an existing business. A vision is the concept of what the firm really wants to be. It captures the imagination of the company and provides a focus for efforts. A firm's mission describes what the business does and what customers it serves. A mission is more specific than a vision in that it establishes the guidelines of how the business fulfills its vision. The information and worksheets in this publication will help you build and maintain a vision for your business.

Vision Statement

During the strategic planning process, farm business managers should write a vision statement and a mission statement for their farm. The vision statement indicates the characteristics of the farm in the future and can help answer many questions about the business. In writing the business vision statement, the farm business management team is trying to arrive at a consensus about what they want the farm to be in the future. Thus, the vision statement for the farm business provides a basis for leading the farm business into the future.

Most vision statements include some aspects of three important elements: a core ideology, an envisioned future, and recognition of service to stakeholders. The core ideology of the vision statement contains a statement about the firm's values and "reason for being." The envisioned future is a statement that describes what the farm will be like if it achieves its most important goals. The final part of the vision statement is the recognition of how the farm business serves its stakeholders, including owners/creditors, employees, and customers, as well as the community and society. It is important that a vision statement be able to stand the test of time and provide guidance to decision makers as they determine the direction of the farm in the future.

If you have never seen a vision statement, it may be helpful to review some examples. The example in Figure 1 is for MBC Farms, a grain and livestock farm located in northern Indiana. The farm consists of 3,000 acres and a 250-cow dairy herd. In addition to commodity corn and soybeans, the farm produces high oil corn and food grade corn. The farm also produces hay and silage that is used in the dairy.

The future envisioned by the MBC Farms' management team is influenced by the things they value. A key element of the visioning process is a reaffirmation of one's

MBC Farms will be an agribusiness focused on the profitable, progressive, and sustainable production of premium-quality, identity-preserved grains, oilseeds, and dairy products. MBC Farms will be a respected, responsible neighbor and an asset to our community. We prefer a rural lifestyle and are willing to embrace change as a means to that end. MBC Farms will provide the opportunity for our children and employees to participate in production agriculture either as owners and/or managers of the business.

Figure 1. Vision Statement for MBC Farms

values. For MBC Farms, operating a profitable business is valued. They also value owning farmland, being good neighbors, and gaining the respect of these neighbors. Providing opportunities for their children in the family business is also important. You can find additional vision statements in Appendix 1.

The vision statement has the potential to provide guidance when unanticipated problems and opportunities present themselves in the future. Having given careful consideration to the future characteristics of the business, farm business managers will find it easier to make decisions about unexpected opportunities in a timely manner. The vision statement also provides a useful starting point for developing a set of goals and objectives for the farm. The goals and objectives of the farm business identify those tasks that must be achieved for the long-term vision of the farm to be accomplished.

This publication provides several exercises to stimulate and organize your thinking about your vision of the farm business: "What Is Desired?"; "Vision/Mission Worksheet"; and "Statement of Our Business Vision." Take some time to answer the questions. Get other members of the management team to do the same. Set aside some time when members of the management team can share and discuss their vision of the business. The "Statement of Our Business Vision" asks the management team to write a vision statement. This statement should be one that all members of the management team can agree with. The statement's format, its length, and items included are not critical. The most important consideration in the development of a vision statement is its usefulness in managing your business.

Mission Statement

Unlike the vision statement, a statement focusing on the future, the business mission statement focuses on the current farm business. The business mission statement outlines "who we are, what we do, and for whom we do it." It provides a concise summary of the farm business's purpose. The mission statement deals with what the farm business is about and why.

Usually, the mission statement will be very specific about selected key information concerning the farm business. Examples of key information include customers who are served, products that are produced, key business capabilities, and unique aspects or accomplishments. Any facts that are useful for characterizing the farm business in terms of what it is and what it does could be included in the farm business mission. In some cases, the mission statement is only a short sentence or two.

Again, if you have never seen a mission statement, reviewing examples can be helpful. Figure 2 shows the mission statement for MBC Farms. The MBC Farms mission statement is aligned with the vision statement. The mission statement focuses on the here and now, and it is streamlined. But the connections between the mission and vision are apparent in terms of the focus on grains, specialty crops, and milk production; the focus on profitability; and the focus on doing the things necessary to provide a legacy.

To assist with the development of a mission statement, several exercises are provided to stimulate and organize your thinking: "Vision/Mission Worksheet"; "Developing a Business Mission"; and "Our Business." The final exercise, "Our Business," asks you to develop a brief mission statement describing what the business does, for whom, and the business uniqueness. You can find additional mission statements in Appendix 1. Again, getting input and ideas from all members of the management team is important. Be sure that the statement is one that all members of the management team agree with. The exact format of the mission statement, the items included, and its length are not critical. The most critical aspect of the final product is the extent to which it helps you manage your business.

MBC Farms is a producer of grains, oilseeds, specialty crops, and milk. Our mission is to be recognized by our business associates and competitors as one of the top producers in our area and to make sure that productivity translates into prosperity and growth for everyone involved with our farm.

Figure 2. Mission Statement for MBC Farms

Final Comments on Vision and Mission Statements

Although many people have preconceptions about what a good vision or mission statement should look like, a focus on appearances is generally not very helpful. Farm business managers should not become distracted by technicalities such as how long or short or how specific or general each statement should be. Instead, they should focus on gaining a better understanding of themselves, their business, and the business environment in which they operate. Any way that you find to clearly express that newfound or rediscovered understanding will produce a useful statement.

The purpose of a farm business vision statement is to express management's vision for the future of the business in words that will provide direction and motivation to everyone involved in the business. An effective farm business mission statement identifies the essential elements of the current business. Because management of most farm businesses involves more than one person, the development of these statements becomes a communications tool for the members of the management team. These statements can also be used to improve communication with other business stakeholders.

More often than not, a gap exists between where the farm business is now and where it wants to be in the future. It is the recognition of this gap that gives strategic planning its power to provide direction and motivation for the farm business. Farm business managers must bridge this gap if the vision is to have any chance of becoming reality. They must evaluate implications of the gap and factor them into farm business goals and action plans.

This publication is part of a series on applying strategic thinking to your farm. Each publication has a unique focus, enabling you to select those topics of greatest interest to you. Other publications help identify the important trends in the industry (EC-717), assess the strengths and weaknesses of your business (EC-721), and assess how your business can respond to opportunities and threats (EC-716).

Each publication contains reading materials and work exercises to help you, the farm business manager, develop, review, and, if necessary, modify your strategy for future business success. Other materials are available on-line at www.agecon.purdue.edu/ext/farmplan. This site contains information about strategy as well as financial management. And for still more Purdue Extension educational materials on agricultural economics and farm business management, visit www.agcom.purdue.edu/agcom/pubs/agecon.htm.

What Is Desired?

This set of questions asks you to think about and express what you want to accomplish and make a commitment to. The primary focus is on the business, but because it is a family business, consideration also needs to be given to the family.

1. If our farm could be anything we want in 10 years, what would it be?

2. What new activities will our business be pursuing? What business will we be in?

3. Who will be our customers? What customer needs will our business satisfy?

4. What will the business be especially good at?

5. What will be the roles and responsibilities of family members and employees involved in our business?

6. What do family members and the business value?

Vision/Mission Worksheet

In each of these important business areas, state your mental picture of your current business situation and your preferred future state.

	Now	Preferred Future
Business Products or Services		
Production Practices		
Business Size and Scope		
Markets and Linkages		
Management Structure		
Social Responsibilities		
Work Force (number and skills)		
Customers		

Our Business Vision

Using the notes and discussions from “What Is Desired?” and “Vision/Mission Worksheet,” develop a short vision statement that describes your future business, the areas in which it will excel, and the reasons for pursuing this vision. A vision is a mental picture of a preferred future state, a description of what the farm will be some years from now. It is more than a dream or set of hopes; it is a commitment. The vision provides the context for designing and managing the changes that will be necessary to reach goals. It provides guiding direction for developing strategy, searching out key opportunities, and making resource allocation decisions. Visions are rooted in reality but focused on the future. With that in mind, answer these questions.

In 10 years our business will be:

We will be recognized by our ability to:

We are pursuing these activities because:

Developing a Business Mission

This worksheet asks you to identify several features of the current farm business. These features can then be organized into a business mission statement.

1. What business are we currently in?

2. Who are our customers, and what are they buying from us?

3. How does our business go about satisfying our customers' needs?

4. What skills and capabilities is our business especially good at?

Our Business

Using your notes and discussion of the "Vision/Mission Worksheet" and "Developing a Business Mission," develop a mission statement that addresses these topics. A business mission provides management's customized answer to the question, "What is our business, and what are we to accomplish on behalf of our customer?" It describes who you are, what you do, and for whom you do it.

What We Do:

For Whom:

Our Uniqueness:

Appendix 1. Example Vision and Mission Statements

Below are five examples of vision and mission statements developed by farm managers that may help you develop your own statements. Following each statement is a brief analysis.

Boyd Farms

Vision

To have the ability to anticipate and effectively respond to change and to challenge ourselves to better our business. To be perceived as being one of the best farms in our area and to be known by landowners as doing the best job with customer satisfaction. To honor the work of previous generations and provide a thriving company for the future of our family and employees.

Mission

We operate effectively and efficiently as a grower of agricultural commodities and conduct business both responsibly and profitably to benefit our shareholders. We are committed to being a low-cost producer maintaining long-term growth.

In particular we strive to treat all employees as family. In our business:

- No one person will lay claim to the success or failure of the company,
- We will strive to motivate all to achieve company goals, and
- We will encourage a team atmosphere, respecting other employee's ideas and beliefs.

For our landowners we will:

- Produce excellent product with superior timeliness,
- Exhibit honesty and integrity in all landowner interactions, and
- Meet landlords' needs so that we achieve high landlord satisfaction.

Boyd Farms Comment

The vision characterizes the business as one that is responding to changes, being one of the best in the area, and providing opportunities for additional family members and employees. These can all be important sources of motivation. The statement could be improved by describing the customers that the business will be serving and the value these customers receive.

The mission statement expresses several values that are an important part of the business culture—being a low cost producer, respecting employees, and valuing landlord relationships. It could be strengthened by indicating the uniqueness of this business.

Carpenter Farms

Vision

Carpenter Farms is a profit center focused on production of premium quality dairy products for wholesale and retail markets. We strive to be an asset to our community. Carpenter Farms provides a comfortable standard of living for the owners, their children, and employees.

Mission Statement

Carpenter Farms is a producer of dairy products and grain. Our mission is to provide a better life for everyone involved in Carpenter Farms. We seek to maximize returns and create value for those involved while at the same time be good neighbors in our community.

Appendix 1. Example Vision and Mission Statements (continued)

Strategy

Our strategy is to become a family-owned processor of dairy products with the highest quality and confidence possible for the consumer. We are good people committed to straightforward production and delivery of those products.

Values

- We believe true success involves mutual gain.
- We believe in creating value above the cost of all resources.
- We believe that the people involved are the reason the business exists.
- We value the results of hard work and strive to make it enjoyable as well as rewarding.

Carpenter Farm Comment

The vision of their farm is fairly narrow along product lines, but the dairy products are for both the wholesale and retail markets. Indicating the value these two customer groups receive from the business would strengthen the statement. The mission statement indicates that the business produces dairy products and grain. It appears that grain production is only a secondary activity. These statements could be strengthened by more clearly identifying the role of grain production in the future of this business.

The writers of this statement chose to also address the strategy and values that are guiding the business. While these are not part of the typical definition of vision and mission statements, they provided value to this management team and illustrate that these statements do not have to follow a rigid format.

Ernst Farms

Vision

Ernst Farms is a profitable, efficient, diversified family-oriented agricultural operation that uses modern technology and environmentally friendly farming practices to produce high-quality value-added crops and livestock.

Mission

Our mission is to operate an honest, profitable business for us as owners, our employees, landlords, and suppliers. We plan to uphold our community values with integrity and morals by showing loyalty to our local customers, suppliers, employees, landlords, and neighbors as long as it is competitively advantageous and profitable.

Ernst Farms will strive to be the most efficient and best farming operation in the tri-county area by being good stewards of the land, producing weed-free crops, maintaining hard-working employees, providing an enjoyable and safe place to work, and strategically anticipating market changes and making timely, appropriate actions to maximize profitability.

Ernst Farms will strive to remain an economically viable agricultural business. We want to control costs and lower the debt-to-asset ratio while keeping profits and returns in double-digit figures. Risk management will remain a top priority.

Ernst Farm Comment

The vision statement is fairly general. Adding more specifics would make the statement more useful. Trying to address the customer benefits of value-added crops and livestock may help to shift the vision from a production orientation to a more customer-driven orientation.

The mission statement expresses several values that are important to the business. The last part of the mission statement drifts into strategies to be used. The mission statement could be strengthened by trying to identify what makes this business unique.

Kohl Farms

Vision

Kohl Farms, Inc. provides agricultural products to our customers and positions our business for long-term growth. We will strive to preserve our rich farming history, which began in 1839 on the homestead where we currently reside.

Mission

Based upon our vision of long-term growth and preserving our heritage, we will operate our business in harmony with our community and the environment around us. We feel that a progressive farm can be operated with integrity, having concern and consideration for our neighbors, the local community, and the environment.

Our focus is to position ourselves to take advantage of strategic opportunities and/or innovation that enables us to maximize profitability. By being a profitable business and striving for excellence, we will also benefit our landlords, area businesses, and the community in general.

Personal growth, enhancing the quality of life, being successful, and building strong relationships will result.

Kohl Farms Comment

The vision statement is fairly general. Adding specifics about who the products are being produced for and the value that they receive would strengthen the vision statement.

The mission statement identifies several values of the business. Working to describe the uniqueness of their business would strengthen the mission statement.

Nugget Nursery

Vision

Nugget Nursery is a wholesale ornamental nursery stock producer striving to add life to a concrete world through the use of plant material and cultivated minds. We will accomplish this in the following manner.

Product

We find and use raw material suppliers who produce quality, true-to-type material in a responsible, price-competitive manner.

We will add and develop:

- New varieties of plants
- Concepts in marketing strategies
- Methods and techniques (physical and biological) in production and distribution of our product.

Profit

We will profit by:

- Closely monitoring our economies of scale
- Monitoring our cost of goods sold margin
- Our ability and timeliness in turning over product
- Reviewing our position every quarter
- Devising a set of capital investment criteria
- Looking to be in it for the long run

Appendix 1. Example Vision and Mission Statements (continued)

Values

Our team will be treated as each individual would like to be treated. We will be rewarded for our ability, attempts, and acceptance of responsibility to move this company forward.

Our environment, both physical and mental, helps our company grow. We will treat it with respect and care, so that it will thrive even beyond our existence.

We truly believe in helping out customers reach their goals, and will only deal with those that do so in a responsible manner. We will strive to help them market our products better and be more efficient by using our services – truly trusting that we have their best interests in mind.

Nugget Nursery Comment

This statement illustrates that these statements do not have to adhere to a set of rigid guidelines to be useful. It describes the value that this company attempts to provide and the types of customers with whom the company will seek to establish long-term relationships.

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Estimating Breakeven Sales for Your Small Business

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EXPERT REVIEWED

The breakeven amount of sales for a business venture is the dollar amount of sales at which your business earns neither a profit nor a loss. Annual sales that exceed this breakeven point generate profit for the business. Annual sales that fall short of the breakeven point result in a loss. Estimating breakeven sales and conducting a sensitivity analysis relative to break-even sales can help you answer questions such as:

- What is the minimum dollar volume of sales needed to cover costs?
- How low must variable costs be to break even, based on price and sales forecasts?
- How low must fixed costs be to break even?
- How sensitive is breakeven sales volume to changes in prices or costs?
- How do changes in price levels affect the breakeven sales volume?
- What dollar volume of sales is required to not only break even, but to also generate a desired profit amount?

Estimating breakeven sales for your business venture can help you set goals concerning the sales volume you will need to achieve to be profitable. The time you invest in doing a breakeven analysis can help you make better decisions about how to manage your new venture.

Audience: Owners and managers of a family business or other small business

Content: Presents a simple calculation for assessing the cost and revenue relationships in a venture

Outcome: Users will be able to conduct a breakeven analysis of their venture

Estimating Breakeven Sales

You can calculate breakeven sales using a relatively simple formula. To use it, you will need the information below about your operating costs. An example of a new small business, Sonora Winery is used to illustrate the computation.

- **Annual fixed cost:** the costs of being in business, also known as overhead. These costs don't vary with the level of output of the business and would be incurred if production were to cease. They include rent, insurance, depreciation, salaries, property taxes, and other costs that aren't directly associated with making or selling your product. Sonora Winery expects annual fixed costs of $80,000.
- **Annual variable cost:** the amount it costs you to buy or create the product you sell. Variable costs include raw material costs, direct labor, sales commissions, freight costs, packaging, and energy costs (fuel, electricity, natural gas) associated with

producing the product. Sonora Winery expects annual variable costs of $120,000.

- **Annual sales revenue:** the revenue you receive from sales of your product. When estimating this number, you will want to multiply the price actually charged to customers (so make sure you include discounts and special offers) by the number of units you expect to sell. If you have created a sales forecast as part of a projected cash flow or income statement, then use that number. Sonora Winery expects annual revenue of $200,000.
- **Contribution margin:** the dollar amount by which annual sales revenue exceeds annual variable costs. This margin contributes to the payment of annual fixed costs and, if larger than fixed costs, to profit. Sonora Winery's contribution margin is expected to be $80,000.

Some expenses may not be easy to separate into their fixed and variable components because they contain elements of both. An example is Sonora Winery's energy cost. A portion of the energy cost is attributable to heating office space, and the rest is attributable to producing their product, wine. Only the part associated with actually producing the wine should be considered in variable costs. Bills for heating and cooling the office will need to be paid as long as the business operates, regardless of how much wine is sold, and so are fixed costs.

The formula to calculate the breakeven annual sales is:

$$\text{Breakeven sales (\$)} = \frac{\text{Total annual fixed costs}}{\text{Contribution margin / Total sales}}$$

The formula in the denominator (below the line) is used to calculate the contribution margin ratio. This is the percentage of each sales dollar available to cover fixed costs and contribute to net income.

Sonora Winery anticipates fixed costs of $80,000 per year, variable costs of $120,000 per year, and sales revenue of $200,000 per year. For Sonora Winery, the calculation would be:

$$\begin{aligned}\text{Breakeven sales (\$)} &= \$80{,}000 \div (\$80{,}000 \div \$200{,}000)\\ &= \$80{,}000 \div 0.40\\ &= \$200{,}000\end{aligned}$$

The contribution margin ratio of 0.40 indicates that 40% of every dollar of sales is available to pay fixed expenses. This $.40 per dollar of sales *in excess* of breakeven sales is profit. With fixed expenses of $80,000, the breakeven sales analysis shows that Sonora Winery won't make any profits until it generates $200,000 in gross revenue.

Mistakes are easy to make, and the breakeven point is important to your business planning. So it's a good idea to check your calculations. To do this, compute the contribution margin based on sales of $200,000 and variable costs of $120,000. The breakeven point occurs at the dollar amount of sales that generates a contribution margin exactly equal to fixed costs. If the amount was computed correctly, the resulting contribution margin should be exactly equal to the $80,000 amount of annual fixed costs. The calculation below for Sonora Winery indicates that the breakeven sales amount calculated above is correct.

Sales	$200,000
minus Variable costs	$120,000
equals Contribution margin	$80,000

To convert the breakeven sales number to the equivalent number of units sold at the breakeven point, divide breakeven sales by the average selling price per unit. If Sonora Winery sells each case of wine for an average of $200, then they need to divide $200,000 by $200 to find out that they must sell 1,000 cases in order to break even.

Sensitivity Analysis

Once you have estimated the breakeven sales amount, you should use the breakeven sales computation to evaluate a variety of "what if" questions that will help you better understand the sensitivity of your new venture to changes in sales volume, prices, and costs. With sensitivity analysis, managers can look at the potential effects of undesirable outcomes like a shortfall in sales or an overrun on costs.

If Sonora Winery receives $200 for each case of wine, then its breakeven unit sales are 1,000. If the owners of Sonora Winery estimated the total market demand for their product at 1,050 units, or cases of wine, then they should be concerned about having a breakeven of 1,000 cases of wine. At 1,050 cases of wine, fixed costs are still $80,000, and variable costs will be

$126,000 (variable costs per case of wine are $120, and there are 50 additional cases). The contribution margin will be only $4,000, which is hardly likely to be enough profit to sustain the business long term.

What if Sonora Winery's owners have overestimated the number of cases of wine the business can sell, or what if the economy slows down unexpectedly after business start-up? Such a small margin for error may put the business's ability to cash flow at risk. The $4,000 difference between expected sales and breakeven sales indicates how much sales can decline before the business loses money and, as a result, is called the margin of safety.

If the owners of Sonora Winery would like to achieve a minimum net income to sales ratio of 15%, then sales of 1,250 cases of wine won't even get them close to that goal. In fact, they will have to sell 1,600 cases at $200 each to achieve that goal. The larger the contribution margin ratio, the less that sales will need to exceed breakeven in order to achieve a particular profit objective. If Sonora Winery could increase its contribution margin per unit, it could gain more profit from each case of wine sold.

Table 1 illustrates that increasing the quantity of product sold is not the only option for improving profitability. If Sonora Winery can manage to cut either variable costs or fixed costs, net income will increase because breakeven sales will decline. Sonora Winery can achieve an even greater effect on its net income by raising the price of the product by 25% (from $200 per case to $250 per case). While increasing the sales price of the product produces a benefit to net income, you should realize that customers will at some point react negatively to higher prices by buying fewer units.

One way to improve the contribution margin is to cut variable costs. This scenario is illustrated in the second-to-last column in Table 1. Cutting variable costs by 25% increases the contribution margin ratio from 0.40 to 0.55 ($110,000 ÷ $200,000). This would reduce the breakeven sales level because more margin would be available from each unit sold. So fewer units would be required to cover fixed costs. Thus, if Sonora Winery could maintain sales at $200,000, then $30,000 more profit would result.

Adding a Profit Objective to Breakeven Sales

Sonora Winery may wish to target a particular profit level. For example, Sonora Winery's capital investment in its business is $500,000. The company wants to earn 10% return on the investment. In this case, the $50,000 profit required to achieve the objective can be viewed as a fixed cost of doing business. The dollar amount of wine Sonora Winery will have to sell not only to break even, but to also produce the desired profit can be calculated using the following formula:

$$\text{Breakeven sales + profit (\$)} = \frac{\text{Total annual fixed cost + Profit objective}}{\text{Contribution margin / Total sales}}$$

Table 1. Sensitivity Analysis for Sonora Winery's Breakeven Sales

	Breakeven	Sales Price 25% Higher	Unit Sales 25% Higher	Unit Sales 25% Lower	Variable Costs 25% Lower	Fixed Costs 25% Lower
1. Annual Sales	$200,000	$250,000	$250,000	$150,000	$200,000	$200,000
2. Unit Sales (1/sale price)	1,000	1,000	1,250	750	1,000	1,000
3. Variable Cost	$120,000	$120,000	$150,000	$90,000	$90,000	$120,000
4. Contribution Margin (1-3)	$80,000	$130,000	$100,000	$60,000	$110,000	$80,000
5. Fixed Cost	$80,000	$80,000	$80,000	$80,000	$80,000	$60,000
6. Net income or profit (4-5)	$0	$50,000	$20,000	-$20,000	$30,000	$20,000
7. Net Income/Sales (6/1)	0%	20%	8%	-13%	15%	10%

Again, the contribution margin ratio for Sonora Winery is 0.40 based on variable costs of $120,000 and fixed costs of $80,000. Doing the math indicates that Sonora Winery will have to sell 1,625 cases of wine at $200 per case, which means total sales will have to be $325,000 in order to not only break even but also to earn $50,000 in net income.

Final Comment

Breakeven analysis is a useful tool for developing an understanding of the cost, volume, and profit relationships of a business. It provides some very useful information that will help new business owners make management decisions. It is useful in setting the sales price of your product relative to your profit goals and analyzing the effect of changes in business volume and costs.

However, a breakeven analysis is limited by the accuracy of the expense estimates you have. Also, when breakeven analysis suggests that expansion may be necessary or desirable, you should follow up the breakeven analysis with an investment analysis to evaluate whether to buy capital assets. You can find information on investment analysis tools in *Capital Investment Analysis and Project Assessment* (EC-731).

Resources

Effective Small Business Management: An Entrepreneurial Approach, Seventh edition. 2003. Norman Scarborough and Thomas Zimmerer. Prentice Hall.

Managerial Accounting: Creating Value in a Dynamic Business Environment, Sixth edition. 2005. Ronald W. Hilton. McGraw-Hill/Irwin.

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How to Use Goals to Achieve Business Success: First Steps for New Entrepreneurs

Christy Lusk and Maria I. Marshall
Department of Agricultural Economics

EXPERT REVIEWED

Audience: Beginning business managers

Content: Reviews the purpose of goals, how to set them, and how to track progress

Outcome: Reader should be able to understand how to use goals to identify tasks critical to the business's success and set up a tracking system for accomplishing them

Most of us set goals and objectives everyday, perhaps without even knowing it. When you wake up in the morning, you might find yourself mentally creating your to-do list, in essence creating goals and objectives for that day. Many people find it helpful to create a to-do list on paper and check off items as they accomplish them. While you can use the principles of writing goals and objectives in any area of life, they prove particularly useful for complicated matters such as starting a business.

Why Are Goals Important?

Many have likened goals to a road map—they help identify where you are going and how you will get there. Others have described them as the rudder of a boat, which keeps you on course toward your destination. Goals are of critical importance for entrepreneurs because of the potential impact a new business has on personal resources like time and money. Without goals, these scarce resources can dwindle away before you even realize it.

In this frantic world of information overload, it's not surprising that a key reason for failing to reach goals is because they were not written down. There are four primary benefits to capturing goals on paper. First, goals become more concrete. This process forces you to not only identify the desired outcome but the steps, also known as objectives, necessary to achieve that goal. Second, documentation helps you to prioritize goals and objectives according to duration and importance. Third, this process enables you to track progress towards goals, allowing you to recognize when you are in danger of not meeting a goal. Fourth, documenting all goals and objectives can make the process of starting a business much less intimidating and overwhelming.

How to Write Goals, Objectives, and Tasks

If a goal is the desired outcome, then objectives can be thought of as the tasks critical to the success of that overriding goal. In other words, you will not achieve a goal if you do not meet the underlying objectives of that goal. For this reason, it is important to create objectives that are concise and allow you to determine whether or not you have met them.

You can find more information about writing SMART objectives in EC-727, *Defining Your Business through Goals and Objectives: First Steps for New Entrepreneurs*. Example 1 illustrates the concept of how one might specify goals and objectives for a new bakery business started by a woman named Isabel.

Example 1—The Bakery: Goal and Objectives

Goal: Start a bakery specializing in special event cakes within the next six to 12 months.

Objective 1: Write a business plan within the next three months.

Objective 2: Contact an attorney, realtor, and banker for technical assistance as I start my business in the next six to 12 months.

Objective 3: Generate $10,000 in sales in my first year of business.

Without the objectives that outline the critical steps to starting this new bakery business, the process of achieving the overall goal would be quite vague. The same could be said for the objectives if more detail were not provided. To turn objectives into actionable statements, you must identify tasks, and in so doing, you can identify all the steps necessary to accomplish a certain objective. Example 2 uses the new bakery business to illustrate this concept.

Example 2—The Bakery: Action Plans

Objective 1: Write a business plan within the next three months.

Task 1. Assess my strengths and weaknesses.

Task 2. Write a vision and mission statement.

Task 3. Identify potential customer attributes.

Task 4. Identify the target market.

Task 5. Determine market potential.

Task 6. Identify and assess bakeries in the area.

Task 7. Research the industry.

One of the benefits of identifying tasks that support the overall objective is that the process makes it easier to prioritize. Quite often, the order in which you must accomplish tasks becomes very clear as you essentially create a to-do list.

Using the previous example, it is logical that Isabel must accomplish task four, identify the target market, before beginning task five, determine market potential. After all, how would she know the market potential if she hasn't yet identified that market? Sequentially ordering tasks is also beneficial in that it greatly enhances your ability to track goals.

Tracking Your Progress

One of the most difficult aspects of tracking goals and objectives is identifying the time required to accomplish each task, objective, and/or goal. The best way to do this is to consider the resources and time required to complete the task.

For example, is the task something that you can accomplish yourself, or will it take the involvement of an outside party? If you will handle the task, how many other constraints on your time exist that may influence your ability to complete the task on time? If the task will require the involvement of another, consider the actual time of the task as well any other potential hindrances. For example, getting a building permit signed may actually take only minutes, but paperwork processing time may translate into two weeks.

Regardless of how you will accomplish the task, make sure to realistically evaluate the time involved. Failure to do so will result in creating a timeline that is unrealistic, which will lead to missed deadlines and, ultimately, a sense of failure.

The process of identifying goals and objectives takes some time. All of that effort could be wasted if there were not a method in place to make sure tasks were completed. This has a domino effect, for if you do not complete tasks, then you cannot accomplish your objectives, which then means that you do not achieve your goals.

Fortunately, there are many methods and tools to help you do the job of tracking progress. These range from very simple methods such as using a calendar to much more complex options such as computer software packages and interactive Web-based tools. Because it is possible to become so involved in doing the list that you lose sight of the reason for doing it, you should use the simplest method appropriate for the job.

In this case, we will discuss using a simple calendar to track the progress of goals and objectives.

Example 3 again uses the new bakery business to illustrate the concept of how to use a calendar to track goals and objectives. This example tracks tasks and the overriding objective statement, but you can use this method to track objectives and goals as well.

Example 3—The Bakery: Tracking Objective Deadlines

Objective 1: Write a business plan within the next three months.

Today's Date: January 1, 2005

Objective 1 Due Date: January 1 + 3 months = March 31

Calendar Entry: March 31, 2005
- Deadline for writing business plan

Objective 1 for the new bakery business states that the business plan will be completed within three months. If it is assumed that today is January 1, 2005, it can be easily determined that this objective must be completed by March 31 to be accomplished on time. Using a calendar not only helps to set an actual due date, but it also helps to ensure that you do not overlook the deadline. By entering the date onto the calendar, you are able to visually see what needs to be accomplished on a specific date.

You should repeat this process of determining deadlines for each task that supports the overall objective. Again using the bakery example, if March 31 is the deadline for completing Objective 1, then all supporting tasks must also be completed by this date. Because we have identified the logical sequence of events when ordering tasks, we can use Task 1 to begin calculating all task deadlines. Adding together the estimated number of hours/days to complete the task beginning with the start date will result in a deadline for each task. Example 4 illustrates how to perform these calculations.

Example 4—The Bakery: Tracking Task Deadlines

Today's Date: January 1, 2005

Objective 1 Due Date: January 1 + 3 months = March 31

Task 1. Assess my strengths and weaknesses.

Estimated Time	Start Date	End Date
4 hours	January 3 + 4 hours	= January 3

Task 2. Write a vision and mission statement.

Estimated Time	Start Date	End Date
10 days	January 4 + 10 days	= January 13

Task 3. Identify potential customer attributes.

Estimated Time	Start Date	End Date
6 hours	January 17 + 6 hours	= January 17

Task 4. Identify the target market.

Estimated Time	Start Date	End Date
2 days	January 18 + 2 days	= January 19

Task 5. Determine market potential.

Estimated Time	Start Date	End Date
1 month	January 24 + 1 month	= February 21

Task 6. Identify and assess bakeries in the area.

Estimated Time	Start Date	End Date
8 days	February 22 + 8 days	= February 28

Task 7. Research the industry.

Estimated Time	Start Date	End Date
24 days	March 1 + 24 days	= March 24

It should be noted that three assumptions were made to make this illustration as simple as possible. The first is that each task will be accomplished by the business owner. If this were not the case, other factors such as time constraints for others involved would have to be considered.

The second assumption is that tasks are completed in sequential order. However, some tasks may be accomplished concurrently. For example, instead of identifying and assessing bakeries in the area (Task 6) before researching the industry (Task 7), Isabel could have chosen to work longer hours so that she could accomplish both tasks during the same time period.

The third assumption is that the timeline would involve the entire calendar month. This arrangement could be altered to exclude weekends if Isabel could accomplish the same amount of work in less time.

After determining the deadline for each task, the next step is to go to the calendar and write down each task deadline. Example 5 provides the calendar entry for Task 1.

Example 5—The Bakery: Tracking Task Deadlines

Task 1: Assess my strengths and weaknesses.

Today's Date: January 1, 2005

Task 1 Due Date: January 3 + 4 hours = January 3

Calendar Entry: January 3, 2005

- Deadline for assessing personal strengths and weaknesses

The process of tracking goals, objectives, and tasks isn't really hard. The most challenging part is the discipline required to establish a system and follow it. The time and effort spent setting up this system is well worth it if the result is met deadlines and accomplished goals. If some tracking mechanism were not in place, it would be very difficult to complete tasks, which would lead to unmet objectives, which translates into missed goals.

Furthermore, the tracking process helps to identify when a goal, objective, and/or task is in jeopardy of not being met. If the ultimate goal is starting a new business, this could have serious consequences such as lost time and money.

Missed Deadlines

There will be situations where the unforeseeable happens. This could be anything from a personal event, such as an illness, that causes an unexpected delay, to something that may be out of your control, such as an unanticipated office closing. Because these circumstances can occur even in the most carefully devised plans, it is important to recognize the potential for these types of events.

There are other times when the unmet deadline is your responsibility. If this is the case, there are a few questions you should consider. Was the reason for the unmet deadline an unrealistic timeframe? Were the resources underestimated? What can be done differently to develop better estimates?

Neither case negates the importance of putting together a realistic timeline for accomplishing goals, objectives, and tasks. Rather, it means that there should be a method in place to handle these situations if and when they do take place. Regardless of the cause for the delay, you will need to determine how many days this will cost and adjust deadlines accordingly. If you have built some lag time into the tracking system, this may help alleviate some of the problem caused by the unexpected.

In Example 4, all seven tasks are scheduled for completion by March 24, although the deadline for Objective 1 (to write the business plan) is not until March 31. This week between deadlines not only allows for time to assemble all the materials and write the business plan, but also allows flexibility if an unexpected delay should occur.

However, you should use the practice of padding, or overestimating, deadlines with caution. While incorporating some time to account for contingencies may increase your ability to meet scheduled deadlines, the reverse can also be true. That is, overestimating timeframes can lead to due dates that have no real meaning—and that's as bad as creating no plan at all.

Final Comment

Specifying and accomplishing goals and objectives are critical to the success of a business because they help identify the road map of how to proceed. Without this road map, you could get lost along the way.

There are several benefits to documenting goals on paper. They become more concrete, they can be prioritized and tracked for progress, and they become much less daunting when you break them down into more manageable pieces. The tracking aspect is extremely important, because this will allow you to determine if and when a goal, objective, or task will be met—or perhaps more important, unmet. When a you do not make a deadline, you must make adjustments to ensure that the project gets back on schedule, so that future deadlines are not also jeopardized.

Using goals and objectives is not difficult. However, creating them does take time and requires thought. Sometimes the most challenging part is putting something down on paper. However, the benefits far outweigh the costs, and when used correctly, the process can greatly enhance your chances at achieving your goals.

Resources

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Lewis, James P. 1997. *Fundamentals of Project Management*. New York, NY: American Management Association.

Marshall, Maria I. 2004. *Defining Your Business Through Goals and Objectives: First Steps for New Entrepreneurs*. Purdue Cooperative Extension, EC-727. http://www.ces.purdue.edu/extmedia/EC/EC-727.pdf

Notes

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EC-727

AICC
Agricultural Innovation & Commercialization Center

Defining Your Business Through Goals and Objectives: First Steps for New Entrepreneurs

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Department of Agricultural Economics

EXPERT REVIEWED

Starting a successful new business requires a lot of thought and time before even a cent is spent. Many people worry about whether they have a market for their product or service, but do not put a lot of thought into how this new business will fit with their current lifestyle or with the goals they have for their future.

This publication helps you determine how a new venture will fit with your personal and business goals, using the example of a new bakery start-up to illustrate the concepts discussed. The objective is to merge the new business with your personal life in a way that makes you happy and your business profitable.

Audience: Beginning business managers

Content: Explains the use of goals and objectives in accomplishing outcomes

Outcome: Reader should be able to effectively write clear goals and objectives

Why Are Goals Important?

Just as your final destination is important to your journey, your goals are important to your business. They define your destination and shape what your business will become. They also help you determine a timeline for the things you need to do.

Begin by determing the reason(s) you want to start a business. Do you want to make a lot of money? Do you want to be your own boss? Do you simply want to provide a job for yourself or your family? Some potential reasons for starting a business are because you want to:

- Have more control over your life and career,
- Increase your income,
- Make a difference and contribute to society,
- Reach your full potential by doing something you enjoy,
- Use your available resources (labor, land, finances) more efficiently, and/or
- Diversify your assets.

Think about your life as a business owner and manager, taking into account all aspects of your life. What benefits will

Example—The Bakery

Isabel loves to bake and occasionally even gets paid for it. Several of her friends and neighbors routinely ask her to bake her famous cakes for special events, so Isabel is thinking about starting a bakery. She is very busy with her job in the family's orchard and her children's activities, and she knows that if she starts a bakery she might not get to some of her children's activities or be as active in the family business. However, she feels that owning her own business while doing something she really loves will not only fulfill her dreams but also provide her family with some extra needed income.

you derive from the business? What are the impacts to your lifestyle? In other words, how will starting and managing a business affect your career and personal life? How do you measure success? Your reasons for starting a business will help guide your plan for starting and growing your business.

The reasons people start a business fall within four general business goals: service, social, profit, or growth. Service, profit, and growth goals are interrelated because most small businesses must provide quality service if they want to make a profit and grow. Many businesses have started from a social agenda, such as providing products that do not harm the environment, and have still been able to achieve the profit goal.

You must also think about how big you want the business to become. This is important because one of the reasons businesses fail is uncontrolled growth. Consider whether you want the business to remain small or grow enough to challenge a larger competitor. Is your goal to receive a profit commensurate with your effort and investment, or is it to receive as much profit as possible?

Setting Goals and Objectives

While goals can be broad or general in nature, objectives should be clear and concise. Goals do not have to be specific enough for you to act on, but should give you a future target or list of things you want to work on. Objectives, however, need to be *SMART*—specific, measurable, action-oriented, realistic, and timely—to accomplish the goals set for your business.

Specific objectives should be as detailed as possible. In order for the objectives to be **measurable**, you should state them in terms of dollars or quantities. Objectives are clear targets of performance you can use to evaluate the operation. **Action-oriented** objectives state which actions need to be taken and who will take them. Objectives should be realistic but challenging, with set deadlines in order to be **timely**.

Example—The Bakery Goal and Objectives

Isabel's goal is to start a bakery specializing in special event cakes within the next 6 to 12 months. Isabel's first objective is to write a business plan within the next 3 months. Isabel's second objective is to contact an attorney, realtor, and her banker for technical assistance as she starts her business in the next 6 to 12 months. Her third objective is to have $10,000 in sales in her first year of business.

Write down a series of personal and business goals and objectives for next year. Next, write down goals and objectives for the next 3 to 5 years. Although goals are dreams with deadlines, make sure that your objectives are *SMART*.

Action Plans

Once you have identified your objectives, the next step is to break each objective down into action plans, or all the steps necessary to achieve that objective. Think of action plans as small, manageable projects. Make sure the action plans are small enough that they can be accomplished in a few days or a week at most. Work on the most timely goals and objectives first, breaking them down into monthly action plans. Breaking down each objective into action plans will help you make the daunting task of starting a new business manageable and less stressful.

Example—The Bakery Action Plans

Isabel has decided to break down her first objective, the business plan, into manageable action plans. Some of her action plans for the first month are:

1. Assess her strengths and weaknesses.
2. Write a vision and mission statement.
3. Identify potential customer attributes.
4. Identify the target market.
5. Determine market potential.
6. Identify and assess bakeries in the area.
7. Research the industry.

Final Comment

Starting a business takes thought and planning. Understanding the reasons you want to start a business and setting personal and business goals are essential to your success. Breaking this process down into three steps will make it less daunting and more manageable.

In step one, you should set broad goals to be accomplished. For example, wanting to start a business and get a 10% return on your investment might be your goal. In step two, you should break up your goals into objects that are *SMART*—specific, measurable, action-oriented, realistic, and timely. In step three, you should further break down your objectives into action plans—smaller, more manageable projects. This process will not only help you decide where you are going and how you are going to get there, but also provide a map for your journey.

For More Information

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Lesonsky, Rieva, ed. 2004. *Start Your Own Business: The Only Start-Up Book You'll Ever Need*, 3rd ed. Canada: Entrepreneur Media, Inc.

Turner, Marcia Layton. 1999. *The Unofficial Guide™ to Starting a Small Business*. New York, NY: Hungry Minds, Inc.

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COMPARISON OF LEGAL AND TAX ATTRIBUTES OF BUSINESS ENTITIES FOR INDIANA NATURAL RESOURCES ENTERPRISES

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June 30, 2009

Attribute	Sole Proprietor[1]	Gen. Partnership	LP[2] or LLP[3]	LLC[4]	"C" Corporation	"S" Corporation
Organizational document(s)	None	None required, but written partnership agreement should be drafted.	Must file certificate with Sec. of State. Should have written partnership agreement.	Must file articles of organization with Sec. of State. Should have written operating agreement.	Must file articles of incorporation under state law. Must also have by-laws and keep minutes of shareholder & director meetings.	Same as "C" corporation.
Continuity of Life	No - ends at owner's death.	No, partnership is dissolved upon death or withdrawal of a partner, but may be reorganized by surviving partners.	LP may be for a fixed term, but not perpetual. LLP is same as general partnership.	Yes, if articles of organization so provide, or may be for fixed term.	Yes	Yes
Personal Liability of Owners	Proprietor is liable for all debt of business.	General partners individually liable on partnership liabilities.	Limited partners and LLP partners not personally liable, except for debt guaranteed by them.	Members not personally liable, except for debt guaranteed by them.	Shareholders not personally liable, except for debt guaranteed by them.	Same as "C" corporation.
Qualified Owners	Single owner.	No limitation.	No limitation.	No limitation.	No limitation.	No. of shareholders limited to 100. With limited exceptions, shareholders must be individuals.

Attribute	Sole Proprietor[1]	Gen. Partnership	LP[2] or LLP[3]	LLC[4]	"C" Corporation	"S" Corporation
Number/Classes of Owners	Individual ownership.	More than one class of partner permitted.	LP must have at least 1 gen. partner & at least 1 limited partner. An owner may hold both types of interests. All owners of an LLP are gen. partners.	More than one class of membership permitted.	More than one class of stock permitted.	Generally only one class of stock permitted. But 2 classes are permitted if only difference is voting vs. non-voting.
Decision Making	Sole proprietor makes all decisions.	Depends on terms of partnership agreement. But act of any gen. partner in furtherance of apparent business purpose binds partnership.	Gen. partner of LP makes most decisions; limited partners do not actively manage. LLP is same as gen. partnership.	May be either "member managed" or "manager managed." If member managed, act of any member in furtherance of apparent business purpose binds the LLC.	Directors set policy and make major decisions. (Note: Ind. law allows corp. with fewer than 51 shareholders to dispense with directors, and have direct management by shareholders.)	Same as "C" corp.
Transfer of Ownership	Assets of business transferable rather than business itself.	Consent of other partners normally required, buy may be varied by agreement.	Same as gen. partnership.	Membership interests are assignable but transferee does not become a voting member unless other members agree or operating agreement so provides.	Ready transfer of ownership through the use of stock certificates; restrictions may be imposed by shareholders' agreement.	Same as "C" corp., except that "S" election is lost if shares are transferred to ineligible shareholders. No consent needed by new shareholder for "S" election to continue.
Capital Sources	Capital raised only by contribution by proprietor.	Capital contributions or loans from partners.	Same as gen. partnership	Capital contributions or loans from members.	Sale of stock, issuance of debt, shareholder loans.	Same as "C" corp.

Attribute	Sole Proprietor[1]	Gen. Partnership	LP[2] or LLP[3]	LLC[4]	"C" Corporation	"S" Corporation
Taxable Year	Same taxable year as the owner - nearly always a calendar year.	Calendar year with few exceptions.	Same as gen. partnership.	Same as gen. partnership.	Any year is permissible upon adoption; changes require business purposes.	Must be a calendar year unless there is valid business purpose.
Accounting methods	Cash or accrual.	Generally cash or accrual.	Generally cash or accrual.	Generally cash or accrual.	Accrual, but cash available if not more than $5 million annual gross receipts.	Cash or accrual.
Owner's Wage Deduction	Not applicable.	Can be deductible by partnership or treated as an allocation of profits.	Same as gen. partnership	Same as gen. partnership.	Deductible by the corporation and taxable to the shareholder-employee.	Same as "C" corp.
Income Taxation of Entity	N/A. All income or loss reported on proprietor's return.	Partnership pays no income tax.	Same as gen. partnership.	Same as gen. partnership.	"C" corporation pays federal and state corp. income tax on net income. Reasonable compensation of shareholder-employees is deductible in arriving at corp. taxable income.	Subject to exception for "built-in gains" of former "C" corps, "S" corporations pay no federal/state income tax. Shareholder compensation is deductible, except fringe benefits of 2% or greater shareholders.

Attribute	Sole Proprietor[1]	Gen. Partnership	LP[2] or LLP[3]	LLC[4]	"C" Corporation	"S" Corporation
Taxation of Owners	All income or loss reported on proprietor's return.	Partners generally report pro rata share of partnership net income or loss, plus "guaranteed payments." Loss deduction limited to partner's basis in partnership interest, including share of partnership debt for which partner is liable.	Same as gen. partnership.	Same as gen. partnership.	None unless dividends are paid - see "Tax on Distributions" below.	Generally treated same as partners, except that "S" corp. shareholder's basis for loss deduction is limited to actual capital contributions and loans to corp., and does not include 3rd party loans for which shareholder is a guarantor.
Tax on Distributions	Drawings from the business are not taxable.	Generally not taxable	Generally not taxable.	Generally not taxable.	Dividends paid are taxable to shareholders to extent of current + retained earnings, but are not deductible by corp., resulting in double-taxation of "C" corp. dividends.	"S" corp. dividends are generally not taxable to shareholders. Exceptions may apply if "S" corp. was formerly a "C" corp.
Health Insurance Premiums	Self-employed may deduct premiums from gross income unless eligible for coverage under an employer-subsidized plan available to self-employed person or spouse. Premiums not deducted for purposes of self-employment tax.	If partner performs services, partnership may deduct premiums as "guaranteed payment" & partner includes them in gross income. Partner's deduction subject to same rules applicable to self-employed persons.	Same as gen. partnership rules.	Same as gen. partnership rules.	Corp. may generally deduct health ins. premiums if part of reasonable compensation of shareholder-employee, who does not include them in gross income.	"C" corp. rules apply if shareholder-employee owns less than 2%. Premiums included in gross income of more than 2% shareholder, whose deduction is subject to self-employed rules.

Attribute	Sole Proprietor[1]	Gen. Partnership	LP[2] or LLP[3]	LLC[4]	"C" Corporation	"S" Corporation
Deduction of Start-up Costs	First $5,000 deducted as incurred; excess amortized over 180 months.	Same	Same	Same	Same	Same

1. Sole proprietorship includes single-member LLCs

2. "LP": Limited Partnership

3. "LLP": Limited Liability Partnership

4. "LLC": Limited Liability Company. Comments in "LLC" column apply only to multi-member LLCs electing partnership income tax status.

Fact Sheet April 2003

USDA United States Department of Agriculture

Conservation Reserve Program

Overview

USDA Farm Service Agency's (FSA) Conservation Reserve Program (CRP) is a voluntary program available to agricultural producers to help them safeguard environmentally sensitive land. Producers enrolled in CRP plant long-term, resource-conserving covers to improve the quality of water, control soil erosion, and enhance wildlife habitat. In return, FSA provides participants with rental payments and cost-share assistance. Contract duration is between 10 and 15 years.

The Food Security Act of 1985, as amended, authorized CRP. The program is also governed by regulations published in 7 CFR, part 1410. The program is implemented by FSA on behalf of USDA's Commodity Credit Corporation.

Benefits

CRP protects millions of acres of American topsoil from erosion and is designed to safeguard the Nation's natural resources. By reducing water runoff and sedimentation, CRP protects groundwater and helps improve the condition of lakes, rivers, ponds, and streams. Acreage enrolled in the CRP is planted to resource-conserving vegetative covers, making the program a major contributor to increased wildlife populations in many parts of the country.

CRP Administration

FSA administers CRP, while technical support functions are provided by:

- USDA's Natural Resources Conservation Service (NRCS);
- USDA's Cooperative State Research, Education, and Extension Service;
- State forestry agencies;
- Local soil and water conservation districts; and
- Private sector providers of technical assistance.

CRP General Sign-up

Producers can offer land for CRP general sign-up enrollment only during designated sign-up periods. For information on upcoming sign-ups, contact your local FSA office. To find your local office, visit FSA's Web site at: http://oip.usda.gov/scripts/ndisapi.dll/oip_agency/index?state=us&agency=fsa

CRP Continuous Sign-up

Environmentally desirable land devoted to certain conservation practices may be enrolled at any time under CRP continuous sign-up. Certain eligibility requirements still apply, but offers are not subject to competitive bidding. Further information on CRP continuous sign-up is available in the FSA fact sheet "Conservation Reserve Program Continuous Sign-up."

Eligible Producers

To be eligible for CRP enrollment, a producer must have owned or operated the land for at least 12 months prior to close of the CRP sign-up period, unless:

- The new owner acquired the land due to the previous owner's death;
- The ownership change occurred due to foreclosure where the owner exercised a timely right or redemption in accordance with state law; or
- The circumstances of the acquisition present adequate assurance to FSA that the new owner did not acquire the land for the purpose of placing it in CRP.

Eligible Land

To be eligible for placement in CRP, land must be either:

- Cropland (including field margins) that is planted or considered planted to an agricultural commodity 4 of the previous 6 crop years from 1996 to 2001, and which is physically and legally capable of being planted in a normal manner to an agricultural commodity; or
- Certain marginal pastureland that is enrolled in the Water Bank Program or suitable for use as a riparian buffer or for similar water quality purposes.

continues ▶

Additional Cropland Requirements

In addition to the eligible land requirements, cropland must meet one of the following criteria:

- Have a weighted average erosion index of 8 or higher;
- Be expiring CRP acreage; or
- Be located in a national or state CRP conservation priority area.

CRP Payments

FSA provides CRP participants with annual rental payments, including certain incentive payments, and cost-share assistance:

- ***Rental Payments***

  In return for establishing long-term, resource-conserving covers, FSA provides annual rental payments to participants. FSA bases rental rates on the relative productivity of the soils within each county and the average dryland cash rent or cash-rent equivalent. The maximum CRP rental rate for each offer is calculated in advance of enrollment. Producers may offer land at that rate or offer a lower rental rate to increase the likelihood that their offer will be accepted.

- ***Maintenance Incentive Payments***

  CRP annual rental payments may include an additional amount up to $5 per acre per year as an incentive to perform certain maintenance obligations.

- ***Cost-share Assistance***

  FSA provides cost-share assistance to participants who establish approved cover on eligible cropland. The cost-share assistance can be an amount not more than 50 percent of the participants' costs in establishing approved practices.

- ***Other Incentives***

  FSA may offer additional financial incentives of up to 20 percent of the annual payment for certain continuous sign-up practices.

Ranking CRP Offers

Offers for CRP contracts are ranked according to the Environmental Benefits Index (EBI). FSA collects data for each of the EBI factors based on the relative environmental benefits for the land offered. Each eligible offer is ranked in comparison to all other offers and selections made from that ranking. FSA uses the following EBI factors to assess the environmental benefits for the land offered:

- Wildlife habitat benefits resulting from covers on contract acreage;
- Water quality benefits from reduced erosion, runoff, and leaching;
- On-farm benefits from reduced erosion;
- Benefits that will likely endure beyond the contract period;
- Air quality benefits from reduced wind erosion; and
- Cost.

For More Information

For more information on CRP, contact your local FSA office or visit FSA's Web site at: http://www.fsa.usda.gov/dafp/cepd/crp.htm

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

Farm Bill 2002

Fact Sheet

March 2005

Conservation Security Program

Overview
The Conservation Security Program (CSP) is a voluntary conservation program that supports ongoing stewardship of private agricultural lands by providing payments for maintaining and enhancing natural resources. CSP identifies and rewards those farmers and ranchers who are meeting the highest standards of conservation and environmental management on their operations.

CSP provides financial and technical assistance to promote the conservation and improvement of soil, water, air, energy, plant and animal life, and other conservation purposes on Tribal and private working lands. Working lands include cropland, grassland, prairie land, improved pasture, and range land, as well as forested land that is an incidental part of an agriculture operation.

CSP is available in all 50 States, the Caribbean area and the Pacific Basin area. The program provides equitable access to benefits to all producers, regardless of size of operation, crops produced, or geographic location.

The Farm Security and Rural Investment Act of 2002 (2002 Farm Bill) (Pub. L. 107-171) amended the Food Security Act of 1985 to authorize the program. CSP is administered by USDA's Natural Resources Conservation Service (NRCS).

Benefits
CSP will help producers maintain conservation stewardship and implement additional conservation practices that provide added environmental enhancement, while creating powerful incentives for other producers to meet those same standards of conservation performance.

The conservation benefits gained will help farms and ranches be more environmentally sustainable and will increase the natural resources benefits provided to all Americans.

How CSP Works
1. The CSP sign-up will be offered in selected watersheds across the Nation. Selected watersheds are listed on the Internet from: http://www.nrcs.usda.gov/programs/csp/ and in NRCS offices nationwide.
2. Producers complete a self-assessment, including description of conservation activities on their operations, to help determine eligibility for CSP at this time. The self-assessment is available from: http://www.nrcs.usda.gov/programs/csp and in NRCS state offices on compact disk or as a printed workbook.
3. Eligible producers in the selected watersheds complete the self-assessment and schedule an interview to submit an application at their local NRCS office.
4. Based on the application, description of current conservation activities, and the interview, NRCS determines CSP eligibility and in which program tier and enrollment category the applicant may participate.

Eligibility
The producer and the producer's operation first must meet the basic eligibility criteria:

- The land must be privately owned or Tribal land and the majority of the land must be located within one of the selected watersheds.

- The applicant must be in compliance with highly erodible and wetland provisions of the Food Security Act of 1985, have an active interest in the agricultural operation, and have control of the land for the life of the contract.
- The applicant must share in the risk of producing any crop or livestock and be entitled to a share in the crop or livestock marketed from the operation.

All applicants must meet the following minimum tier eligibility and contract requirements, plus any additional requirements in the sign-up announcement:

- For Tier I, the producer must have addressed soil quality and water quality to the described minimum level of treatment for eligible land uses on part of the agricultural operation prior to acceptance.
- For Tier II, the producer must have addressed soil quality and water quality to the described minimum level of treatment on all eligible land uses on the entire agricultural operation prior to acceptance and agree to address one additional resource by the end of the contract period.
- For Tier III, the producer must have addressed all applicable resource concerns to a resource management system level that meets the NRCS Field Office Technical Guide standards on all eligible land uses on the entire agricultural operation before acceptance into the program and have riparian zones adequately treated.

Soil quality practices include crop rotations, cover crops, tillage practices, prescribed grazing, and providing adequate wind barriers.

Water quality practices include conservation tillage, filter strips, terraces, grassed waterways, managed access to water courses, nutrient and pesticide management, prescribed grazing, and irrigation water management.

CSP Contract Payment

Applicants may submit only one application for each sign-up. Producers who are participants in an existing conservation stewardship contract are not eligible to submit another application.

CSP contract payments include one or more of the following:

- An annual stewardship component for the existing base level conservation treatment.
- An annual existing practice component for the maintenance of existing conservation practices.
- An enhancement component for exceptional conservation effort and additional conservation practices or activities that provide increased resource benefits beyond the prescribed level.
- A one-time new practice component for additional needed practices.

Enhancements will be made for exceptional conservation effort and additional conservation practices or activities that provide increased resource benefits beyond the prescribed level. There are five types of enhancement activities:

1. The improvement of a significant resource concern to a condition that exceeds the requirements for the participant’s tier of participation and contract requirements.
2. An improvement in a priority local resource condition, as determined by NRCS, such as water quality and wildlife.
3. Participation in an on-farm conservation research, demonstration, or pilot project.
4. Cooperation with other producers to implement watershed or regional resource conservation plans that involve at least 75 percent of the producers in the targeted area.
5. Implementation of assessment and evaluation activities relating to practices

included in the conservation security plan, such as water quality sampling at field edges, drilling monitoring wells and collecting data, and gathering plant samples for specific analysis.

Total payments are determined by the tier of participation, conservation treatments completed, and the acres enrolled:

- For Tier I, contracts are for 5 years; maximum payment is $20,000 annually.
- For Tier II, contracts are for 5 to 10 years; maximum payment is $35,000 annually.
- For Tier III, contracts are for 5 to 10 years; maximum payment is $45,000 annually.

For More Information

If you need more information about CSP, please contact your local USDA Service Center, listed in the telephone book under U.S. Department of Agriculture, or your local conservation district. Information also is available on the Internet at: http://www.nrcs.usda.gov/programs/farmbill/2002/

Visit USDA on the Web at:
http://www.usda.gov/farmbill

Note: This is not intended to be a definitive interpretation of farm legislation. Rather, it is preliminary and may change as USDA develops implementing policies and procedures. Please check back for updates.

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

Farm Bill 2002

Fact Sheet

October 2004

Environmental Quality Incentives Program

Overview

The Environmental Quality Incentives Program (EQIP) is a voluntary program that provides assistance to farmers and ranchers who face threats to soil, water, air, and related natural resources on their land. Through EQIP, the Natural Resources Conservation Service (NRCS) provides assistance to agricultural producers in a manner that will promote agricultural production and environmental quality as compatible goals, optimize environmental benefits, and help farmers and ranchers meet Federal, State, Tribal, and local environmental requirements.

EQIP is reauthorized in the Farm Security and Rural Investment Act of 2002 (Farm Bill). Funding for EQIP comes from the Commodity Credit Corporation.

Benefits

Since EQIP began in 1997, USDA has entered into 117,625 contracts, enrolled more than 51.5 million acres into the program, and obligated nearly $1.08 billion to help producers advance stewardship on working agricultural land. These efforts have concentrated on improving water quality, conserving both ground and surface water, reducing soil erosion from cropland and forestland, and improving rangeland. EQIP also was used to improve riparian and aquatic areas, improve air quality, and address wildlife issues. The increased funding for EQIP in the 2002 Farm Bill greatly expands program availability for optimizing environmental benefits.

How EQIP Works

The objective of EQIP, optimize environmental benefits, is achieved through a process that begins with the definition of National priorities. The National priorities are:

- Reduction of non-point source pollution, such as nutrients, sediment, pesticides, or excess salinity in impaired watersheds, consistent with Total Maximum Daily Loads (TMDLs) where available, as well as reduction of groundwater contamination and conservation of ground and surface water resources;
- Reduction of emissions, such as particulate matter, nitrogen oxides (NOx), volatile organic compounds, and ozone precursors and depleters that contribute to air quality impairment violations of National Ambient Air Quality Standards;
- Reduction in soil erosion and sedimentation from unacceptable levels on agricultural land; and
- Promotion of at-risk species habitat conservation.

These priorities are used by the Chief of NRCS to allocate available EQIP funds to State Conservationists. The State Conservationist, with advice from the State Technical Committee, then identifies the priority natural resource concerns in the State that will be used to help guide which applicants are awarded EQIP assistance. After identifying the priority natural resource concerns, the State Conservationist, with advice from the State Technical Committee, decides how funds will be allocated, what practices will be offered, what the cost-share rates will be, the ranking process used to prioritize contracts, and which of these authorities will be delegated to local level. The local designated conservationist, with the advice of local work groups, adapts the State program to the local conditions. As a result, EQIP can be different between states and even between counties.

The selection of eligible conservation practices and the development of a ranking process to evaluate applications are the final steps in the optimization process. Applications will be ranked based on a number of factors, including the environmental benefits and cost effectiveness of the proposal.

More information regarding State and local EQIP implementation can be found at http://www.nrcs.usda.gov/programs/eqip/EQIP_signup/2004_EQIP/2004_EQIP.html

New Provisions

The 2002 Farm Bill added EQIP funding for Ground and Surface Water Conservation (GSWC) which provides cost-share and incentive payments to producers where the assistance will result in a net savings in ground or surface water resources in the agricultural operation of the producer. In Fiscal Year (FY) 2002, eight states, considered high plains aquifer states, received funding (Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming). In FY 2003, in addition to the high plains aquifer states, eight western drought states (Arizona, California, Idaho, Montana, North Dakota, Oregon, Utah, and Washington) also received GSWC funding. GSWC provided $45 million for FY 2003. An additional $50 million was appropriated for fiscal years 2002-2007 to support use and installation of ground and surface water conservation practices in the Klamath River Basin, located on the Oregon and California state boundary.

Eligibility

Persons engaged in livestock or agricultural production are eligible for the program. Eligible land includes cropland, rangeland, pasture, private non-industrial forestland, and other farm or ranch lands. Persons interested in entering into a cost-share agreement with the U.S. Department of Agriculture (USDA) for EQIP assistance may file an application at any time. To be eligible to participate, applicants must:

- Be an agricultural producer;
- Be in compliance with the highly erodible land and wetland conservation provisions of the 1985 Farm Bill;
- Provide the Social Security number of all individuals who will benefit from the assistance; and
- Develop an EQIP plan of operations, including:
    - The participant's specific conservation and environmental objectives to be achieved;
    - One or more conservation practices in the conservation management system to be implemented to achieve the conservation and environmental objectives; and
    - The schedule for implementing the conservation practices.

If an EQIP plan of operations includes an animal waste storage or treatment facility, the participant must provide for the development and implementation of a comprehensive nutrient management plan.

NRCS works with the participant to develop the EQIP plan of operations. This plan becomes the basis of the cost-share agreement between NRCS and the participant. NRCS provides cost-share payments to landowners under these agreements that can be up to 10 years in duration.

The 2002 Farm Bill limits the total amount of cost-share and incentive payments paid to an individual or entity to an aggregate of $450,000, directly or indirectly, for all contracts entered into during fiscal years 2002 through 2007.

The Adjusted Gross Income provision of the 2002 Farm Bill impacts eligibility for EQIP and several other 2002 Farm Bill programs. Individuals or entities that have an average adjusted gross income exceeding $2.5 million for the three tax years immediately preceding the year the contract is approved are not eligible to receive program benefits or payments. However, an exemption is provided in cases where 75 percent of the adjusted gross income is derived from farming, ranching, or forestry operations.

Practice Payments

Cost-sharing may pay up to 75 percent of the costs of certain conservation practices, such as grassed waterways, filter strips, manure management facilities, capping abandoned wells, and other practices important to improving and maintaining the health of natural resources in the area. The EQIP cost-share rates for limited resource producers and beginning farmers and ranchers may be up to 90 percent. USDA has established a self-determination tool for applicants to determine eligibility as a limited resource producer. The tool can be found at: http://www.nrcs.usda.gov/programs/smlfarmer/tool.asp.

Incentive payments may be made to encourage a producer to perform land management practices, such as nutrient management, manure management, integrated pest management, irrigation water management, and wildlife habitat management. These payments may be provided for up to three years to encourage producers to carry out management practices that they otherwise might not implement.

How to Apply for EQIP

Applications may be obtained and filed at any time with your local USDA Service Center or conservation district office. Applications also may be obtained through USDA's e-gov Web site at: http://www.sc.egov.usda.gov. Enter "Natural Resources Conservation Service" in the Agency field, "Environmental Quality Incentives Program" in the Program Name field, and "CCC-1200" in the Form Number field. Applications also may be accepted by cooperating conservation partners approved or designated by NRCS.

Applications are accepted through a continuous sign-up process. The local decision makers periodically will announce a ranking date when applications received will be ranked.

For More Information

If you need more information about EQIP, please contact your local USDA Service Center, listed in the telephone book under U.S. Department of Agriculture, or your local conservation district. Information also is available on the World Wide Web at: http://www.nrcs.usda.gov/programs/farmbill/2002/

Visit USDA on the Web at:
http://www.usda.gov/farmbill

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USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Farm Bill 2008

At a Glance:

Environmental Quality Incentives Program

May 2008

Overview

The Environmental Quality Incentives Program (EQIP) is a voluntary program that provides financial and technical assistance to farmers and ranchers who face threats to soil, water, air, and related natural resources on their land. Through EQIP, the Natural Resources Conservation Service (NRCS) provides financial incentives to producers to promote agricultural production and environmental quality as compatible goals, optimize environmental benefits, and help farmers and ranchers meet Federal, State, Tribal, and local environmental regulations.

Legislative Changes

The Food, Conservation, and Energy Act of 2008 (2008 Farm Bill) clarifies EQIP purposes to include forest management and energy conservation, as well as practices related to organic production and fuels management.

The 2008 Farm Bill authorizes increased payments for socially disadvantaged farmers or ranchers in addition to beginning and limited resource producers – up to 90 percent. It further allows these individuals to receive in advance up to 30 percent of the amount needed for purchasing materials or contracting.

Priority will be given to water conservation or irrigation efficiency applications that will reduce water use or where the producer agrees not to use any associated water savings to bring new land under irrigation production.

Assistance to organic production operations will be based on producers agreeing to develop and carry out organic system plans. Payments for conservation practices related to organic production may not exceed $20,000 per year or $80,000 during any 6-year period.

The overall payment limitation is reduced to $300,000 per person or legal entity over a 6-year period. The Secretary of Agriculture may raise the limitation to $450,000 for projects of special environmental significance, including those involving methane digesters.

Applications that improve conservation practices or systems already in place at the time of offer acceptance will be given priority. Offers shall be grouped by similar crop or livestock operations for evaluation purposes.

Funding for each fiscal year is authorized as follows: $1.2 billion for 2008; $1.337 billion for 2009; $1.45 billion for 2010; $1.588 billion for 2011; and $1.75 billion for 2012.

More Information

For more information and updates about EQIP and other Farm Bill topics, please refer to the U.S. Department of Agriculture Web site http://www.usda.gov/farmbill or the Natural Resources Conservation Service Web site http://www.nrcs.usda.gov/programs/eqip.

NRCS Natural Resources Conservation Service

Farm Service Agency

Farm Bill 2002

Fact Sheet

September 2004

Grassland Reserve Program

Overview
The Grassland Reserve Program (GRP) is a voluntary program that helps landowners and operators restore and protect grassland, including rangeland, pastureland, shrubland, and certain other lands, while maintaining the areas as grazing lands. The program emphasizes support for working grazing operations; enhancement of plant and animal biodiversity; and protection of grassland and land containing shrubs and forbs under threat of conversion to cropping, urban development, and other activities that threaten grassland resources.

GRP is authorized by the Food Security Act of 1985, as amended by the Farm Security and Rural Investment Act of 2002 (2002 Farm Bill). The USDA Natural Resources Conservation Service (NRCS) and USDA Farm Service Agency (FSA) administer the program, in cooperation with the USDA Forest Service. Funding for the GRP comes from the Commodity Credit Corporation (CCC).

Benefits
Restoring and protecting grasslands contributes positively to the economy of many regions, provides biodiversity of plant and animal populations, and improves environmental quality.

How GRP Works
Applications may be filed for an easement or rental agreement with NRCS or FSA at any time. Participants voluntarily limit future use of the land while retaining the right to conduct common grazing practices; produce hay, mow, or harvest for seed production (subject to certain restrictions during the nesting season of bird species that are in significant decline or those that are protected under Federal or State law); conduct fire rehabilitation; and construct firebreaks and fences.

GRP contracts and easements prohibit the production of crops (other than hay), fruit trees, and vineyards that require breaking the soil surface and any other activity that would disturb the surface of the land, except for appropriate land management activities included in a conservation plan.

Each state will establish ranking criteria that will prioritize enrollment of working grasslands. The ranking criteria will consider threats of conversion, including cropping, invasive species, urban development, and other activities that threaten plant and animal diversity on grazing lands.

The program offers several enrollment options:

Permanent Easement. This is a conservation easement in perpetuity. Easement payments for this option equal the fair market value, less the grassland value of the land encumbered by the easement. These values will be determined using an appraisal.

Thirty-year Easement. USDA will provide an easement payment equal to 30 percent of the fair market value of the land, less the grassland value of the land of the land encumbered by the easement.

For both easement options, USDA will provide all administrative costs associated with recording the easement, including appraisal fees, survey costs, title insurance, and recording fees. Easement payments may be provided, at the participant's request, in lump sum or annual payments (equal or unequal amounts) for up to 10 years.

Rental Agreement. Participants may choose a 10-year, 15-year, 20-year, or 30-year contract. USDA will provide annual payments in an amount that is not more than 75 percent of the grazing value of the land covered by the agreement for the life of the agreement. Payments will be disbursed on the agreement anniversary date each year.

Restoration agreement. An approved grassland resource management plan identifying required restoration activities will be incorporated within the rental agreement or easement. CCC may provide up to 90 percent of the restoration costs on lands that have never been cultivated, and up to 75 percent of the cost on restored grasslands and shrub lands that were previously cropped. Participants will be paid upon certification of the completion of the approved practice(s) by NRCS or an approved third party. Participants may contribute to the application of a cost-share practice through in-kind contributions. The combined total cost-share provided by Federal or State Governments may not exceed 100 percent of the total actual cost of restoration.

Eligibility

Landowners who can provide clear title on privately owned lands are eligible to participate for either easement option. Landowners and others who have general control of the acreage may submit an application for a rental agreement.

There is no national maximum limitation on the amount of land that may be offered for the program. However, there is a minimum requirement established in law. Offers for enrollment must contain at least 40 contiguous acres, unless special circumstances exist to accept a lesser amount. These special circumstances are determined by the NRCS State Conservationist.

The Adjusted Gross Income provision of the 2002 Farm Bill impacts eligibility for GRP and several other 2002 Farm Bill programs. Individuals or entities that have an average adjusted gross income exceeding $2.5 million for the three tax years immediately preceding the year the contract is approved are not eligible to receive program benefits or payments. However, an exemption is provided in cases where 75 percent of the adjusted gross income is derived from farming, ranching, or forestry operations.

Eligible land includes privately owned and Tribal lands, such as grasslands; land that contains forbs (including improved rangeland and pastureland or shrubland); or land that is located in an area that historically has been dominated by grassland, forbs, or shrubland that has the potential to serve as wildlife habitat of significant ecological value. Incidental lands may be included to allow for the efficient administration of an agreement or easement.

For More Information

If you need more information about GRP, please contact your local USDA Service Center, listed in the telephone book under U.S. Department of Agriculture, or your local conservation district. Information also is available on the World Wide Web at: http://www.nrcs.usda.gov/programs/farmbill/2002/ and http://www.fsa.usda.gov/dafp/GRP/default1.htm

2002 FARM BILL

Visit USDA on the Web at:
http://www.usda.gov/farmbill

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USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Farm Bill 2008

At a Glance:

Grassland Reserve Program

May 2008

Overview

The Grassland Reserve Program (GRP) is a voluntary program for landowners and operators to protect, restore, and enhance grassland, including rangeland, pastureland, shrubland, and certain other lands. The program emphasizes support for working grazing operations; enhancement of plant and animal biodiversity; and protection of grassland and land containing shrubs and forbs under threat of conversion.

In the last 5 years, GRP has closed on over 250 easements covering more than 115,000 acres in 38 states.

The USDA Natural Resources Conservation Service (NRCS) and USDA Farm Service Agency (FSA) jointly administer this program. Funding for GRP comes from the Commodity Credit Corporation (CCC).

Legislative Changes

- The Food, Conservation, and Energy Act of 2008 (2008 Farm Bill) increases the acreage that may be enrolled in the program by 1.2 million acres during the years 2009 through 2012.
- The 2008 Farm Bill provides priority for enrollment of expiring acreage from the Conservation Reserve Program (CRP), limited to 10 percent of the total acres enrolled in any year. Eligible lands can be enrolled into either a permanent easement (or maximum allowed under State law); or a 10-, 15-, or 20-year rental contract. Restoration agreements, based on a 50 percent cost-share, may be placed on land enrolled under a rental contract or easement.
- The definition of eligible land has also been expanded to include land that contains historical or archeological resources and land that addresses State, regional, or national conservation priorities.
- The Bill requires a grazing management plan for participants.
- Valuation of an easement is required to be at the lowest of either an appraisal or market survey; a rate set by the Secretary of Agriculture; or the landowner's offer.

Easements may now be acquired by eligible entities based on a 50 percent cost-share with the Federal government. Eligible entities are defined as units of State, local or Tribal government or nongovernmental organizations that have a charter describing a commitment to conserving ranchland, agricultural land, or grassland for grazing and conservation purposes.

Enforcement of the easement is the responsibility of the eligible entity; failure to do so will result in Federal enforcement, as mandated by the 2008 Farm Bill.

The 2008 Farm Bill establishes an annual payment limitation of $50,000 for both rental and restoration agreements.

More Information

For more information and updates about the GRP and other Farm Bill topics, please refer to the U.S. Department of Agriculture Web site http://www.usda.gov/farmbill or the Natural Resources Conservation Service Web site http://www.nrcs.usda.gov/programs/grp.

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

Farm Bill 2002

Fact Sheet

September 2004

Wildlife Habitat Incentives Program

Overview
The Wildlife Habitat Incentives Program (WHIP) is a voluntary program that encourages creation of high quality wildlife habitats that support wildlife populations of National, State, Tribal, and local significance. Through WHIP, the Natural Resources Conservation Service (NRCS) provides technical and financial assistance to landowners and others to develop upland, wetland, riparian, and aquatic habitat areas on their property.

WHIP is reauthorized in the Farm Security and Rural Investment Act of 2002 (Farm Bill). Through WHIP, NRCS works with private landowners and operators; conservation districts; and Federal, State, and Tribal agencies to develop wildlife habitat on their property. Funding for WHIP comes from the Commodity Credit Corporation.

Benefits
Since WHIP began in 1998, nearly 14,700 participants have enrolled more than 2.3 million acres into the program. Most efforts have concentrated on improving upland wildlife habitat, such as native prairie, but there is an increasing emphasis on improving riparian and aquatic areas. The 2002 Farm Bill greatly expands the available tools for improving wildlife habitat conditions across the Nation.

Species that have benefited from WHIP activities include the grasshopper sparrow, bobwhite quail, swift fox, short-eared owl, Karner-blue butterfly, gopher tortoise, Louisiana black bear, Eastern collared lizard, Bachman's sparrow, ovenbird, acorn woodpecker, greater sage grouse, and salmon.

How WHIP Works
The State Technical Committee advises the State Conservationist in the development of a State WHIP plan. The State WHIP plan serves as a guide for the development of the State WHIP ranking criteria.

Persons interested in entering into a cost-share agreement with the U.S. Department of Agriculture (USDA) to develop wildlife habitat may file an application at any time. Participants voluntarily limit future use of the land for a period of time, but retain private ownership.

NRCS works with the participant to develop a wildlife habitat development plan. This plan becomes the basis of the cost-share agreement between NRCS and the participant. NRCS provides cost-share payments to landowners under these agreements that are usually 5 to 10 years in duration, depending upon the practices to be installed.

There are shorter-term agreements to install practices that are needed to meet wildlife emergencies, as approved by the NRCS State Conservationist. NRCS also provides greater cost-share assistance to landowners who enter into agreements of 15 years or more for practices on essential plant and animal habitat. NRCS can use up to 15 percent of its available WHIP funds for this purpose.

NRCS does not place limits on the number of acres that can be enrolled in the program or the amount of payment made; however, some

States may choose to establish such requirements. NRCS welcomes projects that provide valuable wildlife habitat and does not want to discourage any landowner who desires to implement practices that will improve habitat conditions for declining species.

NRCS continues to provide assistance to landowners after completion of habitat development activities. This assistance may be in the form of monitoring habitat practices, reviewing management guidelines, or providing basic biological and engineering advice on how to achieve optimum results for targeted species.

Applications are accepted through a continuous sign-up process. Applications may be obtained and filed at any time with your local USDA Service Center or conservation district office. Applications also may be obtained through USDA's e-gov Internet site at: www.sc.egov.usda.gov. Click on Register to open a USDA account and then have access to a WHIP application (CCC-1200) or other USDA programs. Applications also may be accepted by cooperating conservation partners approved or designated by NRCS.

Eligibility

Eligible lands under the program are:

- Privately owned land;
- Federal land when the primary benefit is on private or Tribal land;
- State and local government land on a limited basis; and
- Tribal land.

If land is determined eligible, NRCS places emphasis on enrolling:

- Habitat areas for wildlife species experiencing declining or significantly reduced populations;
- Practices beneficial to fish and wildlife that may not otherwise be funded; and
- Wildlife and fishery habitats identified by local and State partners and Indian Tribes in each State.

The Adjusted Gross Income provision of the 2002 Farm Bill impacts eligibility for WHIP and several other 2002 Farm Bill programs. Individuals or entities that have an average adjusted gross income exceeding $2.5 million for the three tax years immediately preceding the year the contract is approved are not eligible to receive program benefits or payments. However, an exemption is provided in cases where 75 percent of the adjusted gross income is derived from farming, ranching, or forestry operations.

For More Information

If you need more information about WHIP, please contact your local USDA Service Center, listed in the telephone book under U.S. Department of Agriculture, or your local conservation district. Information also is available on the World Wide Web at: http://www.nrcs.usda.gov/programs/farmbill/2002/

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USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Farm Bill 2008

May 2008

At a Glance:

Wildlife Habitat Incentives Program

Overview
The Wildlife Habitat Incentives Program (WHIP) is a voluntary program for private landowners to develop and improve high quality habitat that supports wildlife populations of National, State, Tribal, and local significance. Through WHIP, the USDA's Natural Resources Conservation Service (NRCS) provides technical and financial assistance. WHIP agreements generally last from 5 to 10 years.

Legislative Changes
The Food, Conservation, and Energy Act of 2008 (2008 Farm Bill) extends the authority to the Secretary of Agriculture for carrying out the program during fiscal years 2008 through 2012.

Non-agricultural lands, as well as State, county, or local government-owned lands are now ineligible for WHIP.

Land eligible for WHIP includes:

- Private agricultural land,
- Non-industrial private forest land, and
- Tribal land.

The 2008 Farm Bill authorizes WHIP cost-share payments to be made to landowners to develop other types of wildlife habitat including habitat developed on pivot corners and irregular areas.

The total of WHIP funds available for use in long-term agreements to protect and restore plant and animal habitat is increased from 15 percent to 25 percent. Such agreements have a term of at least 15 years.

Priority will be given to projects that address issues raised by State, regional, and national conservation initiatives.

WHIP payments made, either directly or indirectly, to a person or legal entity, may not exceed $50,000 per year.

Funding for WHIP is authorized at $85,000,000 per fiscal year through 2012.

More Information
For more information and updates about WHIP and other Farm Bill topics, please refer to the U.S. Department of Agriculture Web site http://www.usda.gov/farmbill or the Natural Resources Conservation Service Web site http://www.nrcs.usda.gov/programs/whip.

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

Farm Bill 2002

Fact Sheet

September 2004

Wetlands Reserve Program

Overview

The Wetlands Reserve Program (WRP) is a voluntary program that provides technical and financial assistance to eligible landowners to address wetland, wildlife habitat, soil, water, and related natural resource concerns on private lands in an environmentally beneficial and cost-effective manner. The program provides an opportunity for landowners to receive financial incentives to restore, protect, and enhance wetlands in exchange for retiring marginal land from agriculture. WRP is reauthorized in the Farm Security and Rural Investment Act of 2002 (Farm Bill). The Natural Resources Conservation Service (NRCS) administers the program. Funding for WRP comes from the Commodity Credit Corporation.

Benefits

WRP participants benefit by:

- Receiving financial and technical assistance in return for restoring, protecting and enhancing wetland functions and values;
- Seeing a reduction in problems associated with farming potentially difficult areas; and
- Having incentives to develop wildlife recreational opportunities on their land.

Wetlands benefit the Nation by providing fish and wildlife habitat; improving water quality by filtering sediments and chemicals; reducing flooding; recharging groundwater; protecting biological diversity; as well as providing opportunities for educational, scientific, and recreational activities.

How WRP Works

Landowners and Tribes may file an application for a conservation easement or a cost-share restoration agreement with the U.S. Department of Agriculture (USDA) to restore and protect wetlands. Participants voluntarily limit future use of the land, but retain private ownership.

The program offers three enrollment options:

Permanent Easement. This is a conservation easement in perpetuity. Easement payments for this option equal the lowest of three amounts: the agricultural value of the land, an established payment cap, or an amount offered by the landowner. In addition to paying for the easement, USDA pays 100 percent of the costs of restoring the wetland.

30-Year Easement. Easement payments through this option are 75 percent of what would be paid for a permanent easement. USDA also pays up to 75 percent of restoration costs.

For both permanent and 30-year easements, USDA pays all costs associated with recording the easement in the local land records office, including recording fees, charges for abstracts, survey and appraisal fees, and title insurance.

Restoration Cost-Share Agreement. This is an agreement (generally for a minimum of 10 years) to re-establish degraded or lost wetland habitat. USDA pays up to 75 percent of the cost of the restoration activity. This enrollment option does not place an easement on the property. Other agencies, conservation districts, and private conservation organizations may provide additional incentive payments as a way to reduce the landowner's share of the costs. Such special partnership efforts are encouraged.

NRCS and its partners, including conservation districts, continue to provide assistance to landowners after completion of restoration activities. This assistance may be in the form of reviewing restoration measures, clarifying technical and administrative aspects of the easement and project management needs, and providing basic biological and engineering advice on how to achieve optimum results for wetland dependent species.

Applications are accepted through a continuous sign-up process. Applications may be obtained and filed at any time with your local USDA Service Center or conservation district office. Applications also may be obtained through USDA's e-gov Internet site at: www.sc.egov.usda.gov. Enter "Natural Resources Conservation Service" in the Agency field, "Wetlands Reserve Program" in the Program Name field, and "AD-1153" in the Form Number field.

Eligibility

To offer a conservation easement, the landowner must have owned the land for at least 12 months prior to enrolling it in the program, unless the land was inherited, the landowner exercised the landowner's right of redemption after foreclosure, or the landowner can prove the land was not obtained for the purpose of enrolling it in the program. To participate in a restoration cost-share agreement, the landowner must show evidence of ownership.

To be eligible for WRP, land must be restorable and be suitable for wildlife benefits. This includes:

- Wetlands farmed under natural conditions;
- Farmed wetlands;
- Prior converted cropland;
- Farmed wetland pasture;
- Farmland that has become a wetland as a result of flooding;
- Range land, pasture, or production forest land where the hydrology has been significantly degraded and can be restored;
- Riparian areas which link protected wetlands;
- Lands adjacent to protected wetlands that contribute significantly to wetland functions and values; and
- Previously restored wetlands that need long-term protection.

Ineligible Land. Ineligible land includes wetlands converted after December 23, 1985; lands with timber stands established under a Conservation Reserve Program contract; Federal lands; and lands where conditions make restoration impossible.

The Adjusted Gross Income provision of the 2002 Farm Bill impacts eligibility for WRP and several other 2002 Farm Bill programs. Individuals or entities that have an average adjusted gross income exceeding $2.5 million for the three tax years immediately preceding the year the contract is approved are not eligible to receive program benefits or payments. However, an exemption is provided in cases where 75 percent of the adjusted gross income is derived from farming, ranching, or forestry operations.

Uses of WRP Land

On acreage subject to a WRP easement, participants control access to the land and may lease the land for hunting, fishing, and other undeveloped recreational activities. At any time, a participant may request that additional activities be evaluated to determine if they are compatible uses for the site. This request may include such items as permission to cut hay, graze livestock, or harvest wood products. Compatible uses are allowed if they are fully consistent with the protection and enhancement of the wetland.

For More Information

If you need more information about WRP, please contact your local USDA Service Center, listed in the telephone book under U.S. Department of Agriculture, or your local conservation district. Information also is available on the World Wide Web at: http://www.nrcs.usda.gov/programs/farmbill/2002/

2002 FARM BILL

Visit USDA on the Web at:
http://www.usda.gov/farmbill

Note: This is not intended to be a definitive interpretation of farm legislation. Rather, it is preliminary and may change as USDA develops implementing policies and procedures. Please check back for updates.

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Farm Bill 2008

At a Glance:
Wetlands Reserve Program

May 2008

Overview
The Wetlands Reserve Program (WRP) is a voluntary program that provides technical and financial assistance to private landowners and Tribes to restore, protect, and enhance wetlands in exchange for retiring eligible land from agriculture. Over 1.9 million acres are currently enrolled in WRP.

Wetlands provide habitat for fish and wildlife, including threatened and endangered species; improve water quality by filtering sediments and chemicals; reduce flooding; recharge groundwater; protect biological diversity; and provide opportunities for educational, scientific, and limited recreational activities.

The program offers three enrollment options:

1. *Permanent Easement* is a conservation easement in perpetuity. USDA pays 100 percent of the easement value and up to 100 percent of the restoration costs.

2. *30-Year Easement* is an easement that expires after 30 years. USDA pays up to 75 percent of the easement value and up to 75 percent of the restoration costs.

   For both permanent and 30-year easements, USDA pays all costs associated with recording the easement in the local land records office, including recording fees, charges for abstracts, survey and appraisal fees, and title insurance.

3. *Restoration Cost-Share Agreement* is an agreement to restore or enhance the wetland functions and values without placing an easement on the enrolled acres. USDA pays up to 75 percent of the restoration costs.

Legislative Changes
The Food, Conservation, and Energy Act of 2008 (2008 Farm Bill) changes the process for determining the easement value, directing the Secretary of Agriculture to pay the lowest of:

- the fair market value of the land according to the Uniform Standards of Professional Appraisal Practices or an area-wide market analysis;
- the geographic area rate cap as determined by the Secretary of Agriculture; or
- the landowner's offer.

Other important legislative changes include:

- The total number of acres that can be enrolled in the program is 3,041,200 – an increase of 766,200 additional acres.
- Payments for easements valued at $500,000 or more will be made in at least five annual payments.
- For restoration cost-share agreements, annual payments may not exceed $50,000 per year.
- No easement shall be created on land that has changed ownership during the preceding 7 years.
- Eligible acres are limited to private and Tribal lands.

More Information
For more information and updates about WRP and other Farm Bill topics, please refer to the U.S. Department of Agriculture Web site http://www.usda.gov/farmbill or the Natural Resources Conservation Service Web site http://www.nrcs.usda.gov/programs/wrp

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

Farm Bill 2002

Summary of NRCS Conservation Programs

July 2002

Landmark Legislation for Conservation
The Farm Security and Rural Investment Act of 2002 (Farm Bill) is landmark legislation for conservation funding and for focusing on environmental issues. The conservation provisions will assist farmers and ranchers in meeting environmental challenges on their land. This legislation simplifies existing programs and creates new programs to address high priority environmental and production goals. The 2002 Farm Bill enhances the long-term quality of our environment and conservation of our natural resources. The Natural Resources Conservation Service (NRCS) administers the following programs authorized or re-authorized in the 2002 Farm Bill.

Conservation of Private Grazing Land Program
The Conservation of Private Grazing Land Program (CPGL) is a voluntary program that helps owners and managers of private grazing land address natural resource concerns while enhancing the economic and social stability of grazing land enterprises and the rural communities that depend on them.

Conservation Security Program
The Conservation Security Program is a voluntary program that provides financial and technical assistance for the conservation, protection, and improvement of soil, water, and related resources on Tribal and private lands. The program provides payments for producers who historically have practiced good stewardship on their agricultural lands and incentives for those who want to do more. The program will be available in fiscal year 2003.

Environmental Quality Incentives Program
The Environmental Quality Incentives Program (EQIP) is a voluntary conservation program that promotes agricultural production and environmental quality as compatible National goals. Through EQIP, farmers and ranchers may receive financial and technical help to install or implement structural and management conservation practices on eligible agricultural land.

Farmland Protection Program
The Farmland Protection Program is a voluntary program that helps farmers and ranchers keep their land in agriculture. The program provides matching funds to State, Tribal, or local governments and non-governmental organizations with existing farmland protection programs to purchase conservation easements or other interests in land.

National Natural Resources Conservation Foundation
The National Natural Resources Conservation Foundation (NNRCF) promotes innovative solutions to natural resource problems and conducts research and educational activities to support conservation on private land. The NNRCF is a private, nonprofit 501(c)(3) corporation. The foundation builds partnerships among agencies and agricultural, public, and private constituencies interested in promoting voluntary conservation on private lands.

Resource Conservation and Development Program

The Resource Conservation and Development Program (RC&D) encourages and improves the capability of civic leaders in designated RC&D areas to plan and carry out projects for resource conservation and community development. Program objectives focus on "quality of life" improvements achieved through natural resources conservation and community development. Such activities lead to sustainable communities, prudent land use, and the sound management and conservation of natural resources.

Wetlands Reserve Program

The Wetlands Reserve Program is a voluntary program that provides technical and financial assistance to eligible landowners to address wetland, wildlife habitat, soil, water, and related natural resource concerns on private land in an environmentally beneficial and cost-effective manner. The program provides an opportunity for landowners to receive financial incentives to enhance wetlands in exchange for retiring marginal land from agriculture.

Wildlife Habitat Incentives Program

The Wildlife Habitat Incentives Program (WHIP) is a voluntary program that encourages creation of high quality wildlife habitats that support wildlife populations of National, State, Tribal, and local significance. Through WHIP, NRCS provides technical and financial assistance to landowners and others to develop upland, wetland, riparian, and aquatic habitat areas on their property.

For More Information

If you need more information about these and other conservation programs, please contact your local USDA Service Center, listed in the telephone book under U.S. Department of Agriculture, or your local conservation district. Information also is available on the World Wide Web at:
http://www.nrcs.usda.gov/programs/farmbill/2002/

Visit USDA on the Web at:
http://www.usda.gov/farmbill

Planting and Care of Fine Hardwood Seedlings

Hardwood Tree Improvement and Regeneration Center
Northern Research Station
USDA Forest Service
Department of Forestry and Natural Resources
Purdue University

Resources and Assistance Available for Planting Hardwood Seedlings

Lenny D. Farlee
Department of Forestry and Natural Resources, Purdue University

Introduction

Preparing for and implementing a successful tree planting involves several steps, ideally starting almost a year before the seedlings are planted. A publication by Meilan (2006) in the series *Planting and Care of Fine Hardwood Seedlings* (Pijut 2007) outlines the considerations and schedule of activities that precede planting, and follow-up activities to help the plantation become established and thrive. Part of this planning process is finding sources of materials, information, and assistance. Planning, site preparation, planting, weed control, pruning, thinning, and managing the financing of each of these activities requires access to materials, advice, and assistance. This publication will provide resources to help landowners interested in planting trees for conservation purposes find seedlings, tools and materials, professional advice and assistance, and the possibility of some financial incentives. The resources and contact information provided will emphasize hardwood seedling planting in the Central Hardwood Region (Pijut 2003) and should not be considered an exhaustive list. Some of the local advice and assistance contacts listed in this publication can provide more details on assistance available in your area.

Professional Advice and Assistance

An important part of a successful tree planting program is obtaining professional advice and assistance to help plan and implement the planting project. A study of tree plantings in Indiana found that tree plantings installed by professional foresters performed significantly better than plantings installed by the landowner (Jacobs et al. 2004). Professional foresters provide expert advice in the planning process, and have experience using the correct tools, materials, and techniques in the installation and maintenance of plantings. That experience helps the landowner avoid mistakes that can result in poor performance of the plantation, or outright failure.

Several sources of professional assistance are available. Most states in the region have agencies that provide forest management and tree planting assistance to private landowners. Many of these agencies can provide on-site consultation, plan preparation, and referrals to public or private sources of seedlings and tree planting contractors. These services from the state forestry agencies are generally free, but there may be a long wait to get access to the services. See Table 1 on page 9 for a listing of the Central Hardwood Region state forestry agency contacts for tree planting services, or visit the National Association of State Foresters website to find the State Forester for your state (http://www.stateforesters.org/SFlist.html).

Most states also have private professional foresters (often referred to as consulting foresters), industry foresters, and professional tree planting contractors who can provide a variety of tree planting and plantation management services for hire. Local lists of these professional contractors can be obtained from state forestry agencies, Cooperative Extension Service offices, and local Soil and Water Conservation District offices. A national listing of consulting foresters is available from the Association of Consulting Foresters of America, Inc, 312 Montgomery Street, Suite 208, Alexandria, Virginia 22314, Phone: 703-548-0990, Fax: 703-548-6395, email: director@acf-foresters.org or from the Association of Consulting Foresters website (http://www.acf-foresters.org). Many of these contractors can provide the full range of services associated with planting and maintaining hardwood

seedlings. This group possesses experience and understanding of the local conditions for tree planting, and has access to equipment and weed control materials that may not be available to the landowner.

If you would like to plant the seedlings yourself, professional foresters can give you guidance on selecting the correct species for your site and planting objectives, seedling spacing and arrangement, site preparation and weed control, and proper planting techniques for the tools you have available. Landowners can obtain additional information on tree planting from the Natural Resources Conservation Service (NRCS) Electronic Field Office Technical Guide [eFOTG] (http://www.nrcs.usda.gov/technical/efotg). The NRCS eFOTG contains standards and specifications for tree planting, and may include job sheets with technical guidance on tree planting. In addition, landowners can contact the local NRCS office to obtain copies of the eFOTG information, soil maps, and detailed soils information for your property. The NRCS may also be able to provide you with recommended tree species by soil type and seeding information for cover crops, as well as technical assistance with erosion control issues. You can find the nearest NRCS office in the phone book under US Government Offices, Dept. of Agriculture, or visit their web site (http://www.nrcs.usda.gov). Detailed soils information is available from the NRCS Web Soil Survey (http://websoilsurvey.nrcs.usda.gov/app) or download soils information at the NRCS Soils Data Mart (http://www.soildatamart.nrcs.usda.gov).

The County Cooperative Extension Service can provide access to publications providing practical information for planning and planting hardwood seedlings, as well as direction to local sources of assistance. Check your local phone listings for the county office location and number. Contact information for cooperative extension programs around the nation can be obtained at: http://www.csrees.usda.gov/Extension/index.html.

Be aware that planting seedlings can be a major commitment of time and energy, and results may vary depending on the quality of planning and work done. It can also be a highly rewarding activity yielding both tangible and intangible benefits for many years. Be sure to get professional help with planning and planting to increase your chances of success.

Financial Incentives for Tree Plantations

Another topic to explore early in the planning process is access to financial assistance and incentive programs for tree plantings. Several federal and state programs may be available to landowners who meet program eligibility requirements and are willing to design and install their plantings to program specifications. In addition, some local government entities and non-government organizations may also provide assistance for tree plantings that coincide with the goals of their organization. Many of these programs will not cover costs incurred before you have been approved for funding, so exploring these options early in your planning process is important.

Two Purdue University publications provide a detailed review of agencies, organizations, and related programs that may provide financial incentives or assistance for tree planting (McGowan et al. 2001; Rathfon et al. 2002). These publications, as well as the others mentioned in this publication, are available as free online documents at the Purdue University Department of Forestry and Natural Resources Extension publications website (http://www.agriculture.purdue.edu/fnr/Extension/extpubs.htm), or can be ordered for a fee from the Cooperative Extension Service, 1-800-EXT-INFO. These documents outline programs in Indiana, but many of the federal programs are consistent across the region.

The primary contact points for the programs are the local district or extension forester associated with the state forestry agency, and the local NRCS office. The foresters can provide an overview of programs currently available and guide you to the particular programs that may meet your needs. The NRCS office will help you determine your eligibility for federal programs, assist you with the application process, and provide details on program requirements. Program eligibility requirements and funding levels can change from year to year. In addition, new programs may be added and old ones discontinued, so checking with your forester or NRCS office regularly is advised. Acceptance of financial assistance may have income tax implications as well, so ask the program manager how the funds will be considered for tax purposes.

Tree planting expenses may be eligible for advantageous tax treatment in the form of tax credits and amortization of expenses. Explanations and examples of options for the tax treatment of tree planting expenses can be found in the publication by Hoover (2004). Another source of general tax information for forest and tree plantation owners is the National Timber Tax website (http://www.timbertax.org).

Several states in the Central Hardwoods Region offer property tax reduction programs for landowners who plant conservation tree plantings, or practice sustainable forest management on their property. Consult your state forestry agency about eligibility and application procedures. Some of these programs are paired with financial assistance for tree planting and forest management as well as technical assistance, so they can be advantageous to the landowner in multiple ways. Some of these programs also offer group certification of sustainable forest management. This certification could be an important advantage for marketing forest products, as more forest product users are looking for materials from certified sustainable sources.

Some states are planning or have already initiated carbon offset programs. The premise is that certain land management activities take carbon dioxide (CO_2) from the atmosphere and lock it up (sequester) as plant material or organic matter. Companies that produce carbon dioxide as part of their operations may agree, or be required to cap their CO_2 emissions at a certain level. If they exceed that level of emission they are allowed to purchase carbon credits from entities that are actively sequestering carbon to offset their emissions. The Chicago Climate Exchange is one of the market places where these transactions occur. As an example, a landowner who plants 20 acres of trees could have the quantity of carbon sequestered by that planting verified by the Exchange and offer the carbon for sale to CO_2 emitters needing offset credits. The income from this carbon will be dependent on the market value of carbon at the time of sale, minus any costs associated with the transaction. Most private landowners will need to go through an aggregator to sell their carbon, since the exchange has minimum required quantities for trading purposes. Aggregators combine carbon from several landowners to meet the minimum volume requirements for trading on the exchange. A non-profit organization that is acting as an aggregator is the Delta Institute. They can help landowners with the administrative procedures required to sell their carbon. Contact the Delta Institute at:

Delta Institute
53 West Jackson Boulevard
Suite 230
Chicago, Illinois 60604
Phone: (312) 554-0900
Fax: (312) 554-0193
E-mail: delta@delta-institute.org
Web: http://www.delta-institute.org

Figure 1. *Bare-root ash seedlings are lifted from nursery beds and packaged for shipment when dormant. (Photo courtesy of John Seifert)*

Figure 2. *Containerized conifer seedlings showing the intact root system and soil plug. (Photo courtesy of Mel Baughman, Univ. of Minnesota)*

Figure 3. *Large containerized hardwood seedling. (Photo courtesy of Ron Rathfon)*

Other aggregators may be available in your area. Check the Chicago Climate Exchange listings to see who can help you market the carbon sequestered by your tree plantation or forest land. Information on trading CO_2 can be obtained from the Chicago Climate Exchange at:

Chicago Climate Exchange
190 South LaSalle Street, 11th Floor
Chicago, Illinois 60603 USA
Phone: (312) 554-3350
Fax: (312) 554-3373
E-mail: info@chicagoclimateexchange.com
Web: http://www.chicagoclimateexchange.com/info/contact.html

Sources of Seedlings

Planting stock for hardwood reforestation projects is usually bare-root seedlings or, less frequently, containerized seedlings of a variety of sizes (Fig. 1-3). Two publications (Jacobs 2003; Pijut 2003) in the *Planting and Care of Fine Hardwood Seedlings* (Pijut 2007) provide a discussion of seedling quality and production techniques, and considerations for selecting and planting seedlings. Terminology used in the advertisement and sale of seedlings is detailed in the publication by Woeste and Woeste (2006) from this series. Selection and ordering of seedlings is normally completed in the summer or Fall before the year of planting. Ordering as soon as possible may be important, as demand for seedlings often exceeds supply. It is also recommended to have a list of second choices for each of the species you intend to plant. This allows you to make suitable substitutions if the nurseries have sold out of your first choice of species.

Seedlings are available from a variety of public and private nurseries across the Central Hardwood Region. Consider the seed source of the seedlings when ordering. Seedlings from populations not climatically adapted to your planting area may not perform well or survive extremes of temperature. Species native to your area and produced from local seed sources are often the best choice for planting, since they are biologically and climatically adapted to the local environment. Exotic (non-native) plant species have been used extensively for conservation plantings, but some of these species have become weeds that are competing with native plants. With a large number of excellent native tree species for timber and wildlife management, there is no need to risk the problems exotic species can cause. Pijut (2005) provides growth, site characteristics, and native range information for tree species commonly encountered in the region.

Many of the states in the Central Hardwood Region have state operated nurseries that offer seedlings to landowners for conservation and reforestation plantings. The state operated nurseries will usually provide seedlings at an attractive cost for reforestation efforts in the state. Some state programs provide free seedlings for specific uses. State nurseries often use local seed sources, so the trees you purchase should be climatically adapted to your area. Some nurseries provide “improved” or “genetically selected” seedlings providing improved growth, form or disease resistance. Contact information for the state nursery programs in the Central Hardwood Region can be found in Table 1 on page 9.

Private nurseries can also provide seedlings for tree plantations. Large orders of seedlings may be purchased at prices competitive with some state nurseries. Private nurseries may have different species, sizes of stock, or special services not available from state nurseries. Private nurseries in your area can often be located by contacting your area extension or district forester, Cooperative Extension Service office, or by contacting trade groups such as, private nursery associations in the state where you live. Ornamental tree nurseries in your area may also be able to provide information on availability of seedlings for tree plantings. The Reforestation, Nurseries, and Genetics Resources website (http://www.rngr.net) maintains a list of plant material suppliers, both public and private, that can be searched by location or product types.

Equipment and Supplies

The type of equipment and supplies needed for a successful tree planting will depend on factors such as, the type and size of seedlings to be planted, soil and site conditions, weed control techniques, and practices required to protect seedlings from wildlife damage. If you hire a tree planting contractor, they may be able to provide most or all of the tools and materials needed for the planting and follow-up maintenance work. If you decide to do the work, you may need some specialized equipment and supplies not readily available at the local hardware or garden store. Some of the items you may need include tree planting bars (Fig. 4), seedling planting bags, stakes or flagging for plantation layout, herbicide sprayers (Fig. 5), herbicides or pesticides, tree tubes, weed barriers, and fencing. These and other related items are available from forestry equipment companies.

Figure 4. *Tools for hand-planting tree seedlings. (Photo courtesy of Ron Rathfon)*

Figure 5. *Backpack sprayer for weed control treatments. (Photo courtesy of Ron Rathfon)*

Figure 6. Tree tubes used to protect seedlings in a regeneration opening. (Photo courtesy of Ron Rathfon)

Three of the largest suppliers are:

Forestry Suppliers Inc.
205 West Rankin Street
P.O. Box 8397
Jackson, MS 39284-8397
Phone: (800) 647-5368
E-mail: sales@forestry-suppliers.com
Web: http://www.forestry-suppliers.com

Ben Meadows
Mail Orders: P.O. Box 5277
Janesville WI USA 53547-5277
Phone: (800) 241-6401
E-mail: mail@benmeadows.com
Web: http://www.benmeadows.com

Figure 7. A mechanical tree planter suitable for planting large bare-root seedlings. (Photo courtesy of Ron Rathfon)

Bailey's
Southeastern Division
196 Edwards Dr.
Jackson, TN 38301
Phone: (800) 322-4539
E-mail: Baileys@Baileys-Online.com
Web: http://www.baileys-online.com

Herbicides, pesticides, and fencing materials may also be available from local agricultural supply stores, and nurseries or garden stores. Be aware that some herbicides and pesticides are only available to licensed applicators, and all herbicides and pesticides should only be applied as indicated on the label.

Tree tubes or shelters (Fig. 6) can been used to protect seedlings from wildlife and herbicide damage. Some suppliers of tree tubes are:

Summit Environmental Group, LLC
P.O. Box 12267
Toledo, OH 43612
Phone: (888) 720-0185
Fax: (419) 720-0187
Web: http://www.summitenvironmental.net/id30.htm

TREE PRO
3180 West 250 North
West Lafayette, IN 47906
Phone: (800) 875-8071 or (765) 463-1011
Fax: (765) 463-3157
E-mail: sales@treepro.com
Web: http://www.treepro.com

Treesentials Company
60 E. Plato Boulevard, Suite 130
Saint Paul, MN 55107
Phone: (800) 248-8239
E-mail: info@growtubes.com

Some county Soil and Water Conservation Districts have equipment such as, tree planting machines, seeders, or drills that can be rented for local use. Mechanical tree planters (Fig. 7) that are pulled behind a tractor can be purchased from several sources. Check with the manufacturer of the tree planter to determine the recommended minimum horsepower required to pull the machine. Two manufacturers of tree planting machines are:

R.A. Whitfield Manufacturing Co.
6431 Mableton Parkway, S.W.
P.O. Box 188
Mableton, GA 30126
Phone: (770) 948-1212
Fax: (770) 948-0155
E-mail: treesone@mindspring.com
Web: http://www.whitfieldforestry.com

Trees Are Us
Tree Planters, Custom Planting & Weed Barrier Machines
7355 Gage Road
Hemingford, NE 69348
Phone: (308) 487-3995

There are many companies that sell products related to tree planting and maintenance. Your local forestry contacts can provide you with more information on special products that may be helpful to you in planting and maintaining your trees.

Organizations for Tree Planting Enthusiasts

Tree planting and plantation management can become a fulfilling and enjoyable personal pass-time or business venture. For those landowners interested in more intensive management and a greater depth of information and involvement, several organizations exist that can provide a venue for information gathering and sharing, knowledge and experience networks, and a chance to see how others have used tree plantings to meet their property objectives.

This listing is not definitive, but should help you find a place to connect with other landowners, resource professionals, and business entities who are interested in hardwood tree planting and plantation management.

The American Chestnut Foundation
469 Main Street, Suite 1
P.O. Box 4044
Bennington, Vermont 05201
Phone: (802) 447-0110
E-mail: chestnut@acf.org
Web: http://www.acf.org

American Forests
P.O. BOX 2000
Washington, DC 20013
Phone: (202) 737-1944
Web: http://www.americanforests.org

American Tree Farm System
1111 19th St., N.W., Suite 780
Washington, D.C. 20036
Phone: (202) 463-2462
E-mail: info@treefarmsystem.org
Web: http://www.treefarmsystem.org

The Forest Stewardship Council Family Forest Alliance
Phone: (612) 333-0430
E-mail: Katie@dovetailinc.org
Web: http://www.fscus.org/

National Arbor Day Foundation
100 Arbor Avenue
Nebraska City, NE 68410
Phone: (888) 448-7337
Web: http://www.arborday.org

National Woodland Owners Association
374 Maple Ave. E., Suite 310
Vienna, VA 22180
Phone: (800) 476-8733
E-mail: info@woodlandowners.org
Web: http://www.woodlandowners.org

The Walnut Council
Wright Forestry Center
1011 N. 725 W.
West Lafayette, IN 47906-9431
Phone: (765) 583-3501
Web: http://www.walnutcouncil.org

There are many state and local organizations in the Central Hardwood Region that are interested in tree planting and forest stewardship. Your local foresters and the offices of the Cooperative Extension Service and Soil and Water Conservation District can provide contact information for groups you may be interested in contacting.

Resource Conservation and Development Councils are locally led groups that work on community development and natural resource issues. Many of these councils have active forestry, wildlife, or natural resources committees that participate in a wide variety of education or development programs.

The US Forest Service offers several programs and information sources for management of tree plantings and private forest lands. Below is contact information for these entities:

Cooperative State Research, Education, and Extension Service (CSREES)
Web: http://www.csrees.usda.gov/Extension/index.html

Directory of Soil and Water Conservation Districts
Web: http://www.nacdnet.org/directory/index.htm

Directory for Resource Conservation and Development Councils
Web: http://www.rcdnet.org/Directory/login.php

US Forest Service Landowner Assistance Programs
Web: http://www.fs.fed.us/spf/coop/programs/loa

Conclusion

There is an abundance of information and assistance available to landowners interested in planting trees for conservation purposes. Planning ahead, seeking professional assistance, and knowing where to find the tools and materials will increase your chances of having a successful planting. It can be as simple as contacting a professional forester to take care of the entire planting process, or you can become as involved as your time and energy allow. In either case, enjoy the many benefits tree plantings provide now and in the decades to come, through carefully planning and implementing your project.

Literature Cited

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Jacobs, D.F., A.L. Ross-Davis, and A.S. Davis. 2004. *Establishment Success of Conservation Tree Plantations in Relation to Silvicultural Practices in Indiana, USA*. New Forests 28(1):23-36.

Hoover, W.L. 2004. *Financial and Tax Aspects of Tree Planting*. USDA Forest Service, North Central Research Station and Purdue University, Department of Forestry and Natural Resources, West Lafayette, IN. FNR-214. 7 p.

McGowan, B.J., B.K. Miller, and J.R. Seifert. 2001. *Forestry and Wildlife Management Assistance Available to Indiana Landowners: Providers, Organizations, and Programs*. Purdue University Cooperative Extension Service, West Lafayette, IN. FNR-87. 16 p.

Meilan, R. 2006. *Planning the Tree Planting Operation*. USDA Forest Service, Northern Research Station and Purdue University, Department of Forestry and Natural Resources, West Lafayette, IN. FNR-223. 4 p.

Pijut, P.M. 2003. *Planting Hardwood Seedlings in the Central Hardwood Region*. USDA Forest Service, North Central Research Station and Purdue University, Department of Forestry and Natural Resources. FNR-210. 8 p.

Pijut, P.M. 2005. *Native Hardwood Trees of the Central Hardwood Region*. USDA Forest Service, North Central Research Station and Purdue University, Department of Forestry and Natural Resources. FNR-218. 16 p.

Pijut, P.M. 2007. *Planting and Care of Fine Hardwood Seedlings*. USDA Forest Service, Northern Research Station and Purdue University, Department of Forestry and Natural Resources, West Lafayette, IN. FNR-235.

Rathfon, R., W.L. Hoover, D. Ernst, and A. Pursell. 2002. *A Landowners Guide to Sustainable Forestry in Indiana, Part 8: Help!*, Purdue University Cooperative Extension Service, FNR-187. 9 p.

Woeste, K. and V.S. Woeste. 2006. *A Guide to Legal and Genetic Terminology Used in the Sale of Hardwood Seedlings and Planting Stock*. USDA Forest Service, Northern Research Station and Purdue University, Department of Forestry and Natural Resources, West Lafayette, IN. FNR-222. 8 p.

Additional Resources

These sites are good general reference for tree planting and forestry topics:

Forest Landowners Guide to Internet Resources:

States of the Northeast
Web: http://na.fs.fed.us/pubs/misc/flg

USDA Forest Service Cooperative Forestry
Web: http://www.fs.fed.us/spf/coop

Community Forestry Resource Center
Web: http://www.forestrycenter.org/index.cfm

Acknowledgements

The author wishes to thank Ken Collins, USDA NRCS, and Ron Overton, USDA Forest Service, for their review and constructive critique of this publication.

Table 1. *State Forest Agencies and State Seedling Nurseries for the Central Hardwood Region.*

State Forestry Agency	State Nursery Addresses (Unless otherwise noted, the website for the state forestry agency provides the link to the nursery program)	State Nursery (Phone numbers)	Seedling Types Available[1].
Alabama Forestry Commission Phone: (334) 240-9300 http://www.forestry.state.al.us	No state nursery – list of private nurseries at their web site.		
Arkansas Forestry Commission Phone: (501) 296-1940 http://www.forestry.state.ar.us	*Baucum Nursery* 1402 Hwy 391 N North Little Rock, AR 72117	(501) 907-2485	HD, CO, BR, IMP
Connecticut Forestry Division Phone: (860) 424-3630 http://www.dep.state.ct.us/burnatr/forestry	No State Nursery – list of private nurseries under “Plants” in the “Natural Resources” section of the web site.		HD, CO, SH, BR
Georgia Forestry Commission Phone: (800) GA-TREES, (428-7337) http://www.gatrees.org	*Flint River Nursery* 9850 River Road Byromville, GA 31007	(229) 268-7308	HD, CO, SH, BR, IMP
Illinois Division of Forest Resources Phone: (217) 782-6302 http://dnr.state.il.us/conservation/forestry	*Mason State Nursery* 17855 N. County Road 2400 E. Topeka, IL 61567	(309) 535-2185 Contact a district forester from the state web site.	HD, CO, SH, BR
	Union State Tree Nursery 3240 State Forest Rd. Jonesboro, IL 62952	(618) 438-6781 Contact a district forester from the state web site.	HD, CO, SH, BR
Indiana Division of Forestry Phone: (317) 232-4105 http://www.in.gov/dnr/forestry	*Vallonia State Nursery* 2782 W. Co. Rd. 540 S P.O. Box 218 Vallonia, IN 47281	(812) 358-3621	HD, CO, SH, BR, IMP
Iowa Bureau of Forestry Phone: (515) 242-5966 http://www.iowadnr.com/forestry	*State Forest Nursery* 2404 South Duff Avenue Ames, IA 50010	(800) 865-2477	HD, CO, SH, BR
Kansas Forest Service Phone: (785) 532-3300 http://www.kansasforests.org	Kansas Forest Service 2610 Claflin Rd. Manhattan, KS 66502-1798	(785) 532-3315	HD, CO, SH, BR, CT
Kentucky Division of Forestry Phone: (502) 564-4496 http://www.forestry.ky.gov	*John P. Rhody Nursery* P.O. Box 97 Gilbertsville, KY 42044	(270) 362-8331	HD, CO, SH, BR
	Morgan County Nursery 438 Tree Nursery Road West Liberty, KY 41472	(606) 743-3511	HD, CO, SH, BR
Maryland Forest Service Phone: (410) 260-8531 http://www.dnr.maryland.gov/forests	*John S. Ayton State Tree Nursery* 3424 Gallagher Rd. Preston, MD 21665	(800) 873-3763	HD, CO, SH, BR
Michigan Department of Natural Resources Phone: (517) 373-1275 http://www.michigan.gov/dnr	No public nursery sales program. Contact the DNR for list of private nurseries.		
Minnesota Division of Forestry Phone: (651) 259-5300 http://www.dnr.state.mn.us/forestry	*General Andrews Nursery* P.O. Box 95 - Seedling Sales Willow River, MN 55795	(800) 657-3767	HD, CO, SH, BR, IMP
Mississippi Forestry Commission Phone: (601) 359-1386 http://www.mfc.state.ms.us	*Waynesboro Nursery* 1063 Buckatunna-Mt. Zion Rd. Waynesboro, MS 39367	(601) 735-9512	HD, CO, BR, CT, IMP
Missouri Department of Conservation Phone: (573) 751-4115 http://www.mdc.mo.gov/forest	*George O. White State Forest Nursery* 14027 Schafer Rd. Licking, MO 65542	(573) 674-3229	HD, CO, SH, BR, IMP
Nebraska Forest Service Phone: (402) 472-4975 http://www.nfs.unl.edu	*Trees are available from local Natural Resource* District offices http://www.nrdnet.org/trees		

Table 1. *State Forest Agencies and State Seedling Nurseries for the Central Hardwood Region. (continued)*

State Forestry Agency	**State Nursery Addresses** (Unless otherwise noted, the website for the state forestry agency provides the link to the nursery program)	**State Nursery** (Phone numbers)	**Seedling Types Available[1].**
New Hampshire Division of Forests & Lands Phone: (603) 271-2214 http://www.dred.state.nh.us/divisions/forestandlands/bureaus/index.htm	*New Hampshire State Forest Nursery* 405 Daniel Webster Hwy. Boscawen, NH 03303	(603) 796-2323	HD, CO, SH, BR
New Jersey Forest Service Phone: (609) 292-2531 http://www.state.nj.us/dep/parksandforests/forest	*New Jersey Forest Tree Nursery* 370 East Veterans Highway Jackson, NJ 08527	(732) 928-0029	HD, CO, SH, BR
New York Division of Lands & Forests Phone: (518) 402-9425 http://www.dec.state.ny.us/website/dlf/privland	*Saratoga Tree Nursery* 2369 Route 50 Saratoga Springs, NY 12866	(518) 581-1439	HD, CO, SH, BR
North Carolina Division of Forest Resources Phone: (919) 733-2162 http://www.dfr.state.nc.us	*Claridge Nursery* 762 Claridge Nursery Road Goldsboro, NC 27503	(888) 628-7337	HD, CO, SH, BR, CT
	Linville River Nursery 6321 Linville Falls Hwy. Newland, NC 28657	(828) 733-5236	HD, CO, SH, BR
Ohio Division of Forestry Phone; (877) 247-8733 http://www.dnr.state.oh.us/forestry	*Marietta State Nursery* P.O. Box 428 Reno, OH 45773-0428	(877) 691-8733	HD, CO, SH, BR, IMP
Oklahoma Forestry Services Division Phone: (405) 522-6158 http://www.oda.state.ok.us/forestry-overviewhome.htm	*Oklahoma Department of Ag* Forestry Services 830 NE 12th Ave. Goldsby, OK 73093	(800) 517-3673	HD, CO, SH, BR, CT
Pennsylvania Bureau of Forestry Phone: (717) 787-4777 http://www.dcnr.state.pa.us/forestry	*Penn Nursery* R.R. 1, Box 127 Spring Mills, PA 16875	(814) 364-5150	HD, CO, BR, IMP
Pennsylvania State Game Commission Phone:(717) 787-4250 http://www.pgc.state.pa.us	*Howard Nursery* Pennsylvania State Game Commission 197 Nursery Road Howard, PA 16841	(814) 355-4434 E-mail: HowardNrsrySales@state.pa.us	HD, CO, SH, BR
Tennessee Division of Forestry Phone:(615) 837-5520 http://tennessee.gov/agriculture/forestry	*East Tennessee Nursery* P.O. Box 59 Delano, TN 37325	(877) 868-7337	HD, CO, SH, BR, IMP
Virginia Department of Forestry Phone: (434) 977-6555 http://www.dof.virginia.gov	*Augusta Forestry Center* P.O. Box 160 Crimora, VA 24431	(540) 363-7000	HD, CO, SH, BR
	Garland Gray Forestry Center 19127 Sandy Hill Rd. Courtland, VA 23837	(804) 834-2855	HD, CO, SH, BR
West Virginia Division of Forestry Phone: (304) 558-2788 http://www.wvforestry.com	*Clements State Tree Nursery* 101 Allison Drive West Columbia, WV 25287	(304) 675-1820	HD, CO, BR
Wisconsin Division of Forestry Phone: (608) 264-6294 http://www.dnr.state.wi.us/org/land/forestry	*Griffith State Forest Nursery* 473 Griffith Ave. Wisconsin Rapids, WI 54494	(715) 424-3700	HD, CO, SH, BR
	Hayward State Forest Nursery 16133 W. Nursery Road Hayward, WI 54843	(715) 634-2717	HD, CO, SH, BR
	Wilson State Forest Nursery 5350 Highway 133 East P.O. Box 305 Boscobel, WI 53808	(608) 375-4123	HD, CO, SH, BR

[1]Abbreviations used: Hardwood Trees (HD); Coniferous Trees (CO); Shrub Species (SH); Bare-root Seedlings (BR); Containerized Seedlings (CT); Seedlings Advertised as Improved are Available for Some Species (IMP).

NOTES

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Land Use

Tax Treatment of Conservation Easements

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Knowledge to Go
Purdue Extension

Introduction

Conservation easements are a way for individuals, non-profit organizations, and units of government to maintain the flow of scenic and environmental benefits from private forestland without buying the land outright. An easement is the separation of designated rights held by the outright owner of forestland. The most frequently separated right is development when this would result in the loss of the scenic, environmental, or other benefits the land provides. Easement programs are almost exclusively voluntary. See Purdue Extension publication ID-231, *Conservation Easements in Indiana*, for an introduction to conservation easements.

This publication discusses tax aspects of conservation easements from the standpoint of a forest landowner, the person selling or donating an easement. Although it is intended to provide you with a basic introduction, footnotes on specific points of tax law are provided to help your attorney, CPA, or other tax advisor apply the law to your specific circumstances.

The discussion assumes the easement is granted to a qualified charitable organization or unit of government. Federal income and estate tax treatments are the focus, but state tax implications are discussed for residents of Indiana.

The total financial impact of a conservation easement depends on many factors. Before making a decision to sell, donate, or make a bargain sale of an easement, you should estimate the tax implications of each alternative. Your analysis should consider the tax implications to you, your spouse, and any heirs you desire to benefit.

"Conservation easement" is a general term applied to easements for scenic, ecological, wildlife, and almost any conservation purpose. The discussion here focuses on forestland, but it is applicable to easements on any type of undeveloped land.

An easement transaction can take three basic forms: (1) donation, (2) sale, or (3) bargain sale. A donation occurs when you do not receive anything of value in return for granting the easement. A sale is when you receive payments of cash or anything of value equal to the fair market value of the easement. A bargain sale is when you sell an easement for less than fair market value. This results in a transaction that is part sale and part donation.

The starting point for a discussion of any of these three types of transactions is the fair market value of the easement. The appraised value of the easement is the difference between the fair market value of your property with and without the easement. This is the value of the bundle of rights granted by you to the holder of the easement. It is determined by a complete appraisal of the property with and a complete appraisal without the easement, as demonstrated in Example 1.

A qualified professional appraiser must conduct the appraisal. The qualifications needed depend on whether federal funds are involved and whether you will be claiming a charitable deduction on your tax return.

Example 1. Fair Market Value of Conservation Easement

Mr. and Mrs. Burkholder purchased 320 acres of forestland in 1975. They demarcated 5 acres as the homestead on which to build a house, outbuildings, pond, and other facilities. In 2002 the Burkholders sold a conservation easement on their forestland in order to reduce its value for estate tax purposes and to provide retirement income. The easement applied to the 315 acres of forestland. The 5-acre homestead and all improvements were excluded. Under the terms of the easement, the Burkholders and all subsequent owners are allowed to manage the timber and conduct harvests consistent with sustainable forestry practices.

The appraised fair market value of the 315 acres in 2002 without the easement was $6,000 per acre, for a total of $1,890,000. The appraised fair market value with the easement was $2,000 per acre, for a total of $630,000. This makes the value of the easement $1,260,000 ($1,890,000 - $630,000).

Federal Income Tax Treatment

This section discusses the income tax treatment under the Internal Revenue Code (IRC) of the transactions creating the easement. Sales, donations, and bargain sales are discussed separately.

Sale of Easement

The sale of an easement in forestland is treated the same as the sale of any real property, regardless of the tax status of the person or organization buying it. The initial discussion assumes your forestland qualifies as a capital asset. This means you are not holding the forestland primarily for sale to customers in the ordinary course of a trade or business,[1] or for use in a trade or business.[2] You determine the gain on the sale by reducing the sale proceeds by your basis in the easement portion of your property plus any expenses you incurred for the sale. The gain would be reported on Schedule D of your personal Form 1040. If you owned the forestland for more than one year prior to the sale, it would be reported as a long-term capital gain.

If your forestland is held for use in a trade or business, the gain would be aggregated with other IRC Section 1231 gains and losses. It would be reported on Form 4797 as part of the tax return for your business. Long-term capital gains treatment depends on the result of netting this transaction with your other Section 1231 gains and losses.

It would be unusual for a conservation easement to be executed on land held primarily for sale because such land is usually destined for development. If this occurs, net income from the transaction would be reported as ordinary income on the business's tax return.

You pay tax on the net gain from the transaction. The net gain is sale proceeds less basis and less expenses of sale. The sale proceeds are the contract price. This is the total fair market value of anything received of value, including cash, notes, or other personal or real property.

Basis Determination

Start with your adjusted basis of the property in the year of sale. This is the original basis as adjusted since the date of acquisition. At the time you acquired the forestland you should have allocated the acquisition cost among the land itself, the timber, and any improvements. The acquisition cost is the purchase price paid to the seller plus any costs you incurred to take legal title. If you inherited the forestland, you use its fair market value on the date of death of the deceased. If you never made this initial allocation, you need to do so based on conditions on the date of acquisition.

It would be unusual if you had allocated a portion of the original basis of your forestland

[1] Forestland is held primarily for sale to customers if you are a land broker or dealer who holds land in inventory ready for sale. A land developer who sells building lots is an example.

[2] Forestland is held for use in a trade or business if you are in the business of growing and selling timber, lease the land for hunting or other recreational activities, or otherwise conduct a business for which the forestland is an integral part.

Example 2. Sale of Conservation Easement

Mr. and Mrs. Burkholder purchased 320 acres of forestland in 1975. The total purchase price was $272,000. In addition, they paid $3,000 in fees to their forester and attorney. This made the total acquisition cost $275,000 ($272,000 plus $3,000). In 1975 they demarcated 5 acres as the homestead on which to build a house, outbuildings, pond, and other facilities. The fair market value of the merchantable timber in 1975 was $150,000. The fair market value of cutover timberland in 1975 was $500 per acre.

The original basis of the assets in 1975 was determined as follows. The total fair market value was $310,000, the sum of the $150,000 timber value and $160,000 land value. The timber and land accounted for 48.4% and 51.6% respectively of the $310,000 total fair market value. This makes the original cost basis of the timber $133,100 (48.4% of $275,000). Likewise, the original basis of the land is $141,900 (51.6% of $275,000). The allocation of basis to the homestead is based on the portion of the total acreage set aside, 1.56 % (5/320). The basis of the 5 acres of land is $2,214 (1.56% of $141,900). The basis of the timber on the homestead is $2,076 (1.56% of $133,100). This makes the basis of the 315 acres of land $139,686 ($141,900 – $2,214). The allowable basis claimed for timber sold on the stump in 1990 was $30,000. The basis of the timber on the 315 acres is $101,024 ($133,100 - $30,000 - $2,076).

The basis of the house, outbuildings, roads, etc. is $210,000, their construction cost of $245,000 less $35,000 of depreciation taken on the outbuildings used for the production of income.

In 2002 the Burkholders sold a conservation easement on their forestland in order to reduce its value for estate tax purposes and to provide retirement income. The easement applied to the 315 acres of forestland. The 5-acre homestead and all improvements were excluded. Under the terms of the easement, the Burkholders and all subsequent owners are allowed to manage the timber and conduct harvests consistent with sustainable forestry practices.

This easement has no effect on the $210,000 basis of the improvements or on the $101,024 basis of the timber. The basis used to determine the gain on the sale of the easement is the $139,686 basis of the 315 acres of land affected.

The appraised fair market value of the 315 acres in 2002 without the easement was $6,000 per acre, for a total of $1,890,000. The appraised fair market value with the easement was $2,000 per acre, for a total of $630,000. This makes the value of the easement $1,260,000 ($1,890,000 minus $630,000).

The Burkholders are paid the full fair market value of the easement, $1,260,000. In addition, they paid $5,000 for appraisal and legal services directly related to the sale of the easement. The gain they report on Schedule D is $1,115,314 ($1,260,000 - $139,686 - $5,000). This gain would generally be taxed at a maximum rate of 20% as a long-term capital gain of individual taxpayers.

to development rights. In most cases, you retain ownership of the timber, and the easement allows you to continue management for timber production. You also most likely retain ownership of improvements. Thus, the easement doesn't involve a disposal of these assets, and your basis in them would not change. The basis in the development rights is part of your basis in the land itself, separate from the timber and improvements. There is no rational basis for making an allocation between the land rights retained and the development rights sold. In such cases, no gain is realized until your basis in the land is fully recovered.[3]

The procedure for determining the gain on the sale of development rights in forestland is demonstrated in Example 2.

[3] Rev. Rul. 77-414, 1977-2 CB 299 Some tax practitioners would recommend an allocation of the basis of the forestland between development and timber production using the fair market value of the land for development and for timber production.

Example 3. Donation of Conservation Easement

Assume the same circumstances as in Example 2.

In 2002 the Burkholders gave a conservation easement on their forestland in order to reduce its value for estate tax purposes. The easement applied to the 315 acres of forestland. The 5-acre homestead and all improvements were excluded. Under the terms of the easement the Burkholders and all subsequent owners are allowed to manage the timber and conduct harvests consistent with sustainable forestry practices.

The value of the Burkholders' donation is the fair market value of the easement, $1,260,000. Their adjusted gross income in 2002 is expected to be $180,000. Because they have no net loss carryback, their contribution base is $180,000. Because the easement is long-term capital gain property, their charitable deduction limit is $54,000 (30% of $180,000). If their adjusted gross income stays at $180,000 for the next 5 years, their total deduction will be $324,000. Thus, $936,000, 74% of the value of the donation provides no income tax benefit.

The $5,000 they paid for appraisal and legal services directly related to the donation of the easement would be deducted as a miscellaneous itemized deduction on their Form 1040, Schedule A.

Like-Kind Exchange of Easement

You may be able to postpone paying income tax on any gain from the sale of a conservation easement by acquiring other real property, referred to as "replacement property."[4] The tax is postponed, not eliminated, because the basis of the easement sold becomes the basis of replacement property. If the fair market values of the easement and the replacement property are not exactly the same, the basis of the replacement property would be adjusted to reflect amounts paid in cash to complete the exchange. See IRS Publication 551, *Basis of Assets*, for details.

Donation of Easement

If a qualified easement is donated to a qualified organization, you may claim a charitable deduction for the fair market value of the easement. You must justify the fair market value claimed, determine if the organization qualifies under IRS regulations, determine the amount you can claim each year as a charitable deduction, and make necessary adjustments to your basis. Example 3 demonstrates the tax treatment of a donation of a conservation easement.

Qualified Easement

The easement must be perpetual. It must apply to you and all subsequent owners. The easement must be made for acceptable conservation purposes. These include:

1. Preservation of land areas for outdoor recreation by, or the education of, the general public;
2. Protection of a relatively natural habitat of fish, wildlife, or plants, or similar ecosystems;
3. Preservation of open space (including farmland and forestland) where such preservation is,
   a. For the scenic enjoyment of the general public; or
   b. Pursuant to a clearly delineated federal, state, or local government conservation policy, and will yield a significant public benefit; or
4. Preservation of an historically important land area or a certified historic structure.

Qualified Organization

IRS regulations[5] require that the organization have a commitment to protect the conservation purposes of the donation and

[4] IRS has ruled that exchanging an easement on one tract of land for a fee interest in other land is an IRC §1031 like-kind exchange. See Rev. Rul. 72-549, 1972- CB 472 (utility easement), Ltr. Rul. 200201007 (conservation easement for other land), Ltr. Rul. 9851039 (agricultural conservation easement for other farm land), Ltr. Rul. 9621012 (deferred exchange of scenic easement on ranch land for timberland, farm land, or ranch land), Ltr. Rul. 9215049 (conservation easement on farm for other farm land), Ltr. Rul. 9232030 (deferred exchange of agricultural conservation easement for other real property).

[5] IRC Reg. §1.170A-14(c)

have the resources to enforce the restrictions. An organization operated primarily or substantially for one of the conservation purposes listed above is generally considered to satisfy this requirement. The organization you work with will tell you whether they qualify. If in doubt, you can check with the Internal Revenue Service to confirm their statements to you.

Qualified organizations include units of federal, state, county, and local government, if the unit has adopted a conservation plan for their area of jurisdiction. The Indiana Forest Legacy Program, for example, is administered by the Department of Natural Resources, a unit of state government. Participation in this program, which is funded in part by the federal government, requires federal approval of the overall program and each property for which purchase funds are requested. Thus, it is a qualified program administered by a qualified organization.

All the major conservation organizations, such as The Nature Conservancy and American Farmland Trust, also qualify. Local and regional land trusts established specifically to acquire land and easements for conservation purposes qualify. If you are working with an organization that is just starting a conservation easement program, you should verify that they have officially incorporated this activity into their legal structure and have adopted a conservation plan to guide their activities.

Amount of Charitable Deduction Allowed

You will not be able to eliminate all of your taxable income with charitable deductions. You are limited to a fixed percentage of your so-called "contribution base." This is your adjusted gross income calculated without any net operating loss carryback. The limit is determined by whether you are donating cash or property. Also, the limit is different for individuals and corporations. In the case of property such as forestland, your deduction will be limited to your basis in the property unless you have held it for more than one year. This qualifies the property as "long-term capital gain property." The rest of this discussion assumes your forestland so qualifies.

Individual taxpayers. Your deduction in the year the donation is made is limited to the lesser of 30% of your contribution base or the fair market value of the donation. Any amount in excess of this limit can be carried forward to the next 5 tax years until fully used. If you are not able to fully utilize the deduction over the 6 years allowed, any remaining amount is lost. The 30% limit also applies in these later years. These rules also apply to charitable contributions passed through to you from partnerships, S corporations, limited liability companies, and other so-called "pass through" business structures.

Corporate taxpayers. The limit for corporate taxpayers, that is, a corporation not electing to be taxed as a partnership, is 10% of taxable income. A 5-year carry forward also applies.

Step-down election. You may qualify to deduct 50% of your contribution base if you elect to reduce the total amount of the charitable contribution by 40% of the amount of the capital gain that would have been realized if the easement was sold. This is demonstrated in Example 4. The decision to make this election should be based on the calculation of the tax benefits of the two options.

Example 4. Step-Down Election for 50% Limit

Because they can deduct only 26% of the value of their donation under the 30% rule, the Burkholders determine the total deduction they would qualify for if they make the step down election.

As shown in Example 2, the gain realized if they sold the easement was $1,115,314. Under the step-down rule, the total deduction is reduced by 40% of this gain. This would give them a deduction of $813,874 ($1,260,000 – $446,126). Under the step-down election, they can deduct up to 50% of their contribution base. This gives them an annual limit of $90,000 (50% of $180,000). Over the 6 years this would allow them to take a charitable contribution of $540,000, which is 43% of the value of the easement. In this case, it is to the taxpayer's advantage to make the step-down election.

Example 5. Bargain Sale of Conservation Easement

Assume the same circumstances as in Example 2.

In 2002 the Burkholders sold a conservation easement on their forestland in order to reduce its value for estate tax purposes and to provide retirement income. The easement applied to the 315 acres of forestland. Because the conservation organization requires a 20% match, the Burkholders agree to sell the easement for $1,008,000 (80 percent of $1,260,000). The value of their gift is $252,000 (20% of $1,260,000).

This easement has no effect on the $245,000 basis of the improvements or on the $101,024 basis of the timber. The basis of the land, however, must be allocated between the sale and donation portions.

The basis used to determine the gain on the sale is $111,749 (80% of $139,686, total basis in the land). The remaining $27,937 is the basis of the donation portion of the transaction. Likewise the expenses allocated to the sale are $4,000 (80% of $5,000). The remaining $1,000 is allocated to the donation.

The gain they report on Schedule D is $896,251 ($1,008,000 - $111,749 - $4,000). This gain would generally be taxed at a maximum rate of 20% as a long-term capital gain.

Again assuming their adjusted gross income is $180,000 and they do not take the step-down election, their annual charitable contribution limit is $54,000. Over 6 years they could deduct a maximum of $324,000, which is more than enough to cover their donation of $252,000. Thus, they would deduct $54,000 in 2002 through 2005 and the $36,000 balance in 2006. The $1,000 of expenses allocated to the donation is recovered as a miscellaneous itemized deduction on the Burkholders' Form 1040, Schedule A.

Gift Tax

A federal gift tax is imposed on donations made during your life if the total taxable donations you make exceed the annual excludable amount, currently $11,000 to each recipient. No tax is due, however, unless total taxable donations exceed $1,000,000. However, there is an unlimited gift tax exclusion for contributions to qualified charities or units of government. Donations of conservation easements that qualify as a charitable contribution for income tax purposes also qualify as such for gift tax purposes.

Bargain Sale of Easement

The bargain sale is the most common form of conservation easement transaction. It allows you to optimize your tax situation, usually in terms of matching the donation portion to the maximum amount of charitable contribution allowed given your adjusted gross income. The donation portion can also be claimed by the conservation organization receiving the easement as a match. Many of the government and private programs providing funds to conservation organizations and units of government require the conservation organization to match a certain portion of the purchase price of easements.

The bargain sale transaction is reported as both a sale and as a donation. The donation portion is the difference between the fair market value of the easement and the amount you receive as payment. If, for example, you receive $500,000 as payment for a conservation easement with a fair market value of $750,000, you have made a donation of $250,000. Your basis in the easement must be proportioned between the sale and donation elements.[6] Your expenses are also proportioned between the sale and donation components. The procedures are demonstrated in Example 5.

[6] IRC Reg. §1.1011-2

Federal Estate and Gift Tax Treatment

You need legal and tax counsel to adequately assess the impact of a conservation easement in your specific circumstances. The discussion here simply highlights the basic considerations related to the estate and gift tax. The fundamental consideration is that a conservation easement on your timberland generally reduces the value of your estate. At your death, the timberland would be appraised for estate tax purposes based on the uses allowed under the easement, not at its market-based highest and best use. This is the case whether you sold, donated, or made a bargain sale of the easement.

Federal Estate Tax

The federal estate tax is a tax on your right to transfer your assets to succeeding generations. It is assessed on the fair market value of your assets on the date you die. The executor of your estate, however, can elect to value your assets as of 6 months after your death. The total value of your assets is your gross estate. It includes any taxable donations you made since 1976. Your gross estate is reduced by funeral expenses, debts you owe, donations to charitable organizations, among other deductions. It is also reduced by the value of any assets left to your spouse, the so-called marital deduction. The balance is your taxable estate.

Table 1. Estate Tax Rates

If the taxable estate is:				
Row no.	Over (1)	But not over (2)	Tax on amount in column 1 (3)	Rate on amount over amount in column 1 (4)
1	$0	$10,000	$0	$18
2	10,000	20,000	1,800	20
3	20,000	40,000	3,800	22
4	40,000	60,000	8,200	24
5	60,000	80,000	13,000	26
6	80,000	100,000	18,200	28
7	100,000	150,000	23,800	30
8	150,000	250,000	38,800	32
9	250,000	500,000	70,800	34
10	500,000	750,000	155,800	37
11	750,000	1,000,000	248,300	39
12	1,000,000	1,250,000	345,800	41
13	1,250,000	1,500,000	448,300	43
14	1,500,000	2,000,000	555,800	45
15	2,000,000	2,500,000	780,800	49
16	2,500,000	3,000,000	1,025,800	53
17	3,000,000	. . . .	1,290,000	55[7]

[7] Top marginal rate is reduced to 50% for 2002, then decreases incrementally to 45 for 2007, 2008, and 2009.

The tentative tax on your taxable estate is calculated using the estate tax rates shown in Table 1, p. 7. This tentative tax is reduced by the unified tax credit, Table 2, p. 9. The balance is the estate tax due. The procedure is demonstrated in Examples 6 and 7. Most discussions of estate taxes refer to the "applicable exclusion amount" shown in Table 2. No estate tax is due until the taxable estate exceeds this amount. The estates of decedents dying in 2002 and 2003, for example, wouldn't owe any estate tax unless their taxable estate exceeded $1 million. Thus, there is no estate tax benefit from a conservation easement unless the value of your assets exceeds $1 million. There may be an Indiana inheritance tax benefit, however.

Partial Exclusion from Gross Estate for Conservation Easement

If there is a conservation easement on your land when you die, your executor may elect to exclude from your gross estate up to 40% of the value of the land subject to a qualified conservation easement.[8] For example, if such land had a fair market value of $250,000 when you die, your executor could add $150,000 ($250,000 - $100,000, where $100,000 is 0.4 x $250,000), instead of $250,000 to the value of the other assets you own to determine your gross estate. The maximum amount that can be excluded is $500,000.

The Economic Growth and Tax Relief Reconciliation Act of 2001 eliminated the requirement that the land be located within a specified distance of a metropolitan area, a national park or wilderness area, or an urban national forest. Unless Congress acts to continue the provisions of the Act of 2001, these distance requirements will be in effect for decedents dying after December 31, 2010.

Federal Gift Tax

The gift tax is briefly summarized to explain the relationship between the estate and gift tax. If you made a donation of an easement to an organization that is not a qualified charitable organization, the donation may be taxable. If

[8] IRC §2031(c)

Example 6. No Estate Tax Benefit Realized

Mr. Smith died on October 1, 2002. His executor determined that the value of everything he owned on October 1, 2002 was $1,250,000, his gross estate. This included $500,000, his half of timberland owned jointly with his wife. The total appraised value of the timberland was $1,000,000. He left the timberland and $250,000 in other assets to his wife; $250,000 to his children; and $250,000 to qualified charitable organizations. This made his taxable estate $250,000, the amount left to his children. Since this is less than the applicable excludable amount of $675,000, Mr. Smith's estate does not owe any federal estate tax. In this case, there would be no estate tax savings if the timberland's value was reduced by a conservation easement.

Example 7. Estate Tax Benefit Realized

A reasonable estimate is that Mrs. Smith may die in 2005. She estimates that her gross estate will be about $2,000,000. The timberland will be worth $1,250,000. After deductions, her estimated taxable estate would be approximately $1,750,000. If she leaves her entire estate to her children, her estate would owe $112,500. This is determined by multiplying the marginal tax rate of 45% times $250,000, the amount by which the taxable estate exceeds $1,500,000, the 14th row in Table 1. If Mrs. Smith executed a conservation easement that reduced the fair market value of the timberland by at least $250,000, her estate would not owe any estate tax.

Planning note: In Example 1, Mr. Smith did not fully utilize his "applicable excludable amount" of $675,000. As a result, his wife's estate was large enough to incur a tax. Depending on the specific circumstances of each situation, it's generally beneficial to use as much as possible of the applicable excludable amount of the first spouse to die. In Smith's situation, however, this would have meant either leaving Mrs. Smith with the timberland but no liquid assets, or reducing the charitable contribution.

made to a qualified charitable organization, you must file IRS Form 709 to claim the charitable deduction for gift tax purposes.

The gift tax is a tax on the lifetime transfer of anything of value to others. An annual exclusion of $11,000 applies to donations you make to any one individual. This limit applies to any number of individuals. For example, if you had three children with spouses, you could make donations totaling $66,000, that is, $11,000 to each. You and your spouse could elect to make a joint donation of $22,000 to each, for a total of $132,000. Donations to qualified charities are not taxable regardless of the amount. Also, donations to your spouse in any amount are not taxable. Exclusions also apply for most donations made to pay for educational and medical expenses. See IRS Publication 448, *Federal Estate and Gift Tax*, for details.

Taxable donations are reported on IRS Form 709. No tax is due, however, until the total amount of taxable donations made over your lifetime exceeds the applicable excludable amount for gift tax purposes for the years taxable donations were made. This amount was the same as the applicable excludable amount for estate tax purposes, Table 2. The exclusion amount for donations made in 2002 through 2010 is $1 million. This is the case even though the applicable exclusion amount is more than $1 million for estate tax purposes. The gift tax and estate tax are no longer "unified."

Indiana Tax Treatment

Gains from the sale of a conservation easement are subject to the Indiana personal income tax. A donation, however, does not provide an Indiana income tax benefit. The reduction in the value of an estate resulting from a conservation easement may reduce the inheritance tax.

State and Local Income Tax

The Indiana income tax is based on your federal adjusted gross income. Any capital gain realized from the sale of a conservation easement at fair market value or from a bargain sale increases your Indiana taxable income by this amount. The value of a donation of the entire value of the easement

Table 2. Estate Tax Credit and Applicable Excludable Amount

Year	Tax credit	Applicable exclusion amount
2000 – 2001	$220,550	$675,000
2002 – 2003	345,800	1,000,000
2004 – 2005	555,800	1,500,000
2006 – 2008	780,800	2,000,000
2009	1,565,000	3,500,000
2010	n.a.	n.a.
2011 and later	345,800	1,000,000

or the amount of the donation portion of a bargain sale does not, however, reduce your Indiana taxable income. This is because on the federal return charitable deductions reduce adjusted gross income to determine taxable income. Net Indiana taxable income is subject to the 3.4% Indiana income tax and to the applicable local income tax rate, if any.

Inheritance Tax

Indiana imposes an inheritance tax on certain transfers at death. An estate tax is also imposed to the extent of the state death tax credit allowed under the federal estate tax law. There is no Indiana gift tax. Thus, the only effect of the conservation easement is a reduction in any inheritance due because of reduction in the appraised value. The appraised value for federal estate tax purposes is used for Indiana inheritance tax purposes.

The amount of inheritance tax depends on your relationship to the person inheriting the property, Table 3, p. 10. Transfers to your spouse are totally exempt. Class A rates apply to lineal descendants and most adopted children. There is a $100,000 exemption for each recipient in this class. Class B includes siblings, their children, and spouses of your children. There is a $500 exemption for this class. Class C is for all other recipients. There is a $100 exemption for this class.

The calculation of the inheritance tax is demonstrated in Examples 8 and 9, p. 10.

Table 3. Indiana Inheritance Tax Rates

Value of share		Class A		Class B		Class C	
		Tax on column (1)	Rates on excess	Tax on column (1)	Rates on excess	Tax on column (1)	Rates on excess
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$0	$25,000	$0	1%	$0	7%	$0	10%
25,000	50,000	250	2%	1,750	7%	2,500	10%
50,000	100,000	750	3%	3,500	7%	5,000	10%
100,000	200,000	2,250	3%	7,000	10%	10,000	15%
200,000	300,000	5,250	4%	17,000	10%	25,000	15%
300,000	500,000	9,250	5%	27,000	10%	40,000	15%
500,000	700,000	19,250	6%	47,000	12%	70,000	15%
700,000	1,000,000	31,250	7%	71,000	12%	100,000	15%
1,000,000	1,500,000	52,250	8%	107,000	15%	145,000	20%
1,500,000	. . . .	92,250	10%	182,000	15%	245,000	20%

Example 8. No Inheritance Tax Benefit

Given the facts in Example 6, the inheritance tax would apply only to the $250,000 left to Mr. Smith's children. This amount is first reduced by the $100,000 exemption per recipient. Assuming Mr. Smith had two living children, the taxable amount would be $50,000. The tax due would be $750, Table 3, column 3.

Example 9. Inheritance Benefit Realized

Given the facts in Example 7, the inheritance without the conservation easement would apply to the $1,750,000 Mrs. Smith leaves to her two children. After the two $100,000 exemptions, the taxable amount would be $1,550,000, and the tax due would be $92,250 plus 10% of $50,000, for a total of $97,250. With the conservation easement, the taxable amount would be $1,300,000 after the $200,000 exemption. The tax would be $52,250 plus 8% of $300,000, for a total of $76,250. Thus, the conservation easement reduced the inheritance tax paid by $21,000.

Conclusion

The examples in this publication indicate only a few of the possible outcomes. They clearly indicate, however, the potential advantage of a bargain sale of a conservation easement. You should not apply these results to your situation. Rather, you and your tax advisor should conduct an analysis of the facts in your particular situation. A tax accountant is especially well suited to assist you in doing so.

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No. 551	Basis of Assets
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Acknowledgement

The author thanks Gerald A. Harrison, Purdue Professor of Agricultural Economics and Attorney at Law, for his helpful review.

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Determining Tax Basis of Timber

William L. Hoover, Professor of Forestry and Natural Resources, Purdue University

When an asset, such as timber, is sold or otherwise disposed of, income tax is due on the difference between the amount received for the timber and its "basis." Basis is the book value of the timber. It's usually determined by how much you paid for the timber. In the case of an inheritance, it is the fair market value of the timber on the date the person leaving it to you died. The estate's records must be reviewed to make this determination. If you acquired the timber as a gift, your basis is the basis of the timber in the hands of the person giving it to you at the time they made the gift. Their basis carries over to you. If the person making the gift didn't have a basis, then the recipient has no basis. There may be an increase in the basis of gifts for a portion of any gift tax paid.

This fact sheet focuses on what you should do if at the time you acquired the timber, you didn't determine the basis of the timber separately from the basis of the land underneath the timber and any other assets acquired at the same time. The law allows the basis determination to be made some time after the date of acquisition. Regardless of when it's done, the determination must be based on conditions on the date of acquisition. This makes it necessary to estimate the quantity and fair market value of the timber on the date of acquisition. It's also necessary to know the fair market value of the timberland and any other assets acquired for a lump-sum amount.

The simplest case is when only timberland and timber are acquired. Example 1 shows what to do once you know the necessary information.

Example 1

Joe Smith paid $23,000 for 35 acres of timberland in 1982. He also paid $800 for legal fees and other costs to acquire title to the property. He determined the basis of the timber shortly after buying it. The timberland itself, not considering the timber, had an approximate fair market value of $350 per acre in 1982. The total fair market value of the land was therefore $12,250. There were approximately 63 MBF[1] of average quality timber on the land in 1982. The value of timber in 1982 averaged $200 per MBF, giving a total value of $12,600 for the timber.

The basis of the timber is determined by calculating the percentage of the total fair market value attributable to the timber and applying this percentage to the total acquisition cost. The total fair market value of $24,850 is the sum of the fair market values for the individual assets $12,250 for the land plus $12,600 for the timber. The timber accounts for 51% of this total ($12,600 divided by $24,800). The basis of the timber is $12,068, 51% of the $23,800 acquisition cost (0.51 x* 23,800). The basis of the land is $11,732, 49% of the $23,800 acquisition cost (0.49 x* 23,800). The sum of the two percentages is 100 and the sum of the two bases is $23,800, the acquisition cost.

If the total basis is determined and allocated after the year of acquisition, it's necessary to "grow the timber in reverse" to determine the volume present at the time of acquisition. This requires knowing the volume present now and the growth rate for the timber. The volume present now is the total volume, not just the volume marked for sale. Hardwood timber volume typically increases between 2% (poor sites) and 4% (good sites) per year. The volume at the time of acquisition is determined by discounting the current volume at the applicable growth rate, as shown in Example 2.

Example 2

Joe Smith sold 28 MBF of timber in 1995. He had not determined the basis of the timber in 1982 when he bought the timberland. The total volume on the tract in 1995 was 93 MBF before the timber sale and his forester told him that the approximate volume growth rate on his site was 3% per annum. The volume in 1982 is determined by dividing the current volume by the discount factor of $(1 + r)^n$, where r is the assumed growth rate and n is the number of years the timber has grown since 1982. Dividing 93 MBF by $(1.03)^{13}$ gives an approximate volume in 1982 of 63 MBF. The value of the timber in 1982 was estimated using the *Indiana Forest Products Price Report*, published by Purdue's Department of Forestry and Natural Resources since 1957. The average price reported for 1982 was $201 per MBF. Joe Smith now has the information needed to determine the basis of the timber using the procedure shown in Example 1. The land value in 1982 would need to be estimated by consulting with a real estate agent or other person knowledgeable about land values in the area.

The law requires that the basis be determined using the best available information. Thus, if possible, the 1982 timber values used in Example 2 should consider the species and quality of timber, not just an overall average. Prices by species and log grade are reported in the *Indiana Forest Products Price Report*.

Also, note that Example 2 assumed timber hadn't been harvested between the time of purchase and the time when the basis is being determined (1982 and 1995) in this case. If the timber volume had changed because of a previous timber sale, for example, it's necessary to adjust the growth estimate accordingly. This may mean growing in reverse until the previous harvest, adjusting for the harvest volume, and then growing back until the acquisition date. A professional forester will most likely be needed to help with this process. Also note that the basis of timber sold is not the entire basis of the timber, unless the entire merchantable volume is sold. The basis of the timber sold is determined by calculating the "allowable basis" of the timber sold. This amount is determined by multiplying the number of MBF sold by the depletion unit for your timber. The depletion unit is the basis of the timber in the year sold divided by the total MBF of timber you own. This process is described in greater detail in the FNR-FAQ-3, *How to Treat Timber Sale Income*, or the National Timber Tax Website.

For Further Information see:

National Timber Tax Web site, www.timbertax.org

[1] MBF means thousand board feet, the standard unit of measure for logs and stumpage (trees standing on the stump). The Doyle log role is used to convert the diameter and length of a log to board feet.

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How to Treat Timber Sale Income

William L. Hoover, Professor of Forestry and Natural Resources, Purdue University

Reporting Timber Income on Federal Income Tax Return

Two basic determinations must be made to report the gain or loss from the sale of standing timber, called a stumpage sale. These are

(1) amount of the gain or loss, and

(2) type of gain or loss.

Amount of Gain or Loss

The amount of gain or loss is determined by reducing the amount received for the timber (sale proceeds) by the allowable basis of the timber and any expenses incurred in making the sale.

$$\text{Net gain (loss)} = \text{sale proceeds} - \text{allowable basis} - \text{sale expenses}$$

Example 1

Joe Smith sells all the merchantable timber, 105 MBF, on their 35 acres of forest land, the same year they purchased it. The amount paid by the buyer is $20,000. The allowable basis is determined as explained in FNR-FAQ-2, *Determining Tax Basis of Timber*. The costs for the services of a consulting forester, having a lawyer check the contract, and other selling expenses totaled $2,200. The net gain from the sale is as follows:

Sale proceeds $20,000

Less: Allowable basis (cost basis) . . . . ($12,068)

Sales expenses. . . . . ($ 2,200)

Net gain . . . . $ 5,732

Joe Smith would report $5,732 on his tax return as discussed next.

Timber Depletion

The determination of the net gain in Example 1 was simplified by the assumption that all of the merchantable timber was sold in the same year the forest land was purchased. This made it possible to reduce the sale proceeds by the entire cost basis of the merchantable timber. If only a portion of the timber is sold, only a similar portion of the cost basis can be recovered. The portion of the cost basis written off against a particular sale, known as the allowable basis or depletion allowance, is determined by multiplying the number of units (volume) sold by the depletion unit, as demonstrated in Example 2.

Example 2

Assume Joe Smith sells only 60 MBF, instead of the entire 105 MBF of merchantable timber as was assumed in Example 1. The depletion unit for the timber is $114.93 per MBF, obtained by dividing the $12,068 basis in the timber by 105 MBF. The allowable basis is 60 MBF times the depletion unit of $114.93 per MBF. Assume the selling expenses are $1,400 and they receive $12,000 for the 60 MBF of stumpage. The net gain is as follows:

Sale proceeds $12,000.00

Less: Allowable basis:

60 MBF x $114.93 per MBF. . . . . ($6,895.80)

Sales expenses. . . . .($ 1,400.00)

Net gain . . . . $ 3,704.20

Joe Smith would report $3,704.20 on his tax return.

The volume used to determine the depletion unit in the year timber is sold is the total volume of timber on your forest land in the year of sale, not the volume sold. Thus, it is necessary to estimate the total volume of timber as well as volume marked for sale. If some time has passed since you acquired your forestland, you may also need to adjust the basis of your timber for additional expenditures made to improve the timber or for previous losses.

Type of Gain or Loss

With rare exception, the net gain from the sale of standing timber in the Midwest qualifies as a capital gain or loss. If owned for more than one year, it would be a long-term gain or loss. If the timber had not been owned for more than one year, any net gain or loss would be a short-term gain or loss. Most forest owners in this region sell timber infrequently and don't depend on the timber as a primary source of income. In technical terms they "aren't holding the timber primarily for sale to customers in the ordinary course of a trade or business." However, if your timber is part of a business, then the gain or loss is reported differently. It goes on Form 4797, instead of Schedule D of your Form 1040. Note that the law was changed recently so that if your timber is part of a business, you owned it for more than one year, and you sell it on the stump for a lump sum amount you qualify for long-term capital gains treatment. Under prior law you would have had to sell it with a pay-as-cut contract to so qualify.

Qualifying and reporting gains from stumpage sales as a capital gain, long-term or short-term, provides an advantage because capital gains are not subject to the self-employment tax. And, if it qualifies as a long-term capital gain, it is taxed at a lower income tax rate. Stumpage sales are reported on Schedule D of Form 1040. If held for more than one year the sale is reported in Part II. The following information is reported in the columns: (a) "sale of standing timber," (b) date you acquired the forest land with timber, (c) date you sold the timber and received payment, (d) amount received from buyer, (e) add together your allowable basis and any selling expenses and insert the total here, (f) usually blank, (g) column d less e. It's rare to have a loss from a timber sale, but if your allowable basis and selling expenses exceed the amount received the net loss is reported in column(f). After reporting any other gains and losses follow the instructions on Schedule D to determine the amount to carry over to the front of Form 1040.

You do not need to know the allowable basis of timber you sell to report the proceeds as a capital gain. If you haven't made the determination described in FNR-FAQ-2 your allowable basis is zero and the only amount reported in column (e) would be any selling expenses.

Cautions

Profit from the sale of logs, lumber, or other products you produce from your timber, or pay someone else to produce for you does not qualify as capital gains. The revenues and expenses from such activities are reported on Schedule C or F as ordinary income. Capital gains treatment may be in question if you agree to a so-called "shares contract" with a logger. The usual agreement is for the logger to cut your timber and sell the logs to a mill or other buyer. The log buyer then pays the logger his "share" and writes a separate check to you for your share." The split is part of your agreement with the logger.

For more details go to the National Timber Tax Web site at: http://www.timbertax.org

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Cash for Carbon: A Woodland Owner's Guide for Accessing Carbon Markets

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Introduction

Carbon offset credits is a new market for landowners in the Central Hardwood Region who own woodlands or tree plantations, agricultural fields, grasslands, or a mixture of any of these land uses. Qualifying practices will not only yield financial returns, but they will help protect and enhance water quality, protect and restore topsoil, enhance wildlife habitat, and provide renewable resources for healthy, sustainable communities.

Why the interest in carbon dioxide?

Carbon dioxide (CO_2) is one of several atmospheric gases that have the ability to trap heat from the sun much like a greenhouse; hence the term, 'greenhouse gases'. The atmospheric concentration of this naturally-occurring gas has been gradually increasing for over a century. Suspected causes of this increase include the burning of fossil fuels and land use changes, such as deforestation.

The Intergovernmental Panel on Climate Change, a United Nations panel composed of scientists from around the world, released a report in 2007 indicating a 90 percent probability that human activities are contributing to global climate change. These and other scientific findings have prompted calls for a reduction of CO_2 emissions, and efforts to encourage practices that remove or sequester CO_2 from the atmosphere for long periods of time. Storage of carbon in soil organic matter and plants, e.g. trees, may be one method to achieve this reduction (Fig. 1).

Carbon dioxide emitters, such as industrial manufacturers and coal-fired power plants, are looking for ways to reduce their carbon footprint. The most obvious way is to simply reduce the amount of CO_2 released into the atmosphere. If companies or

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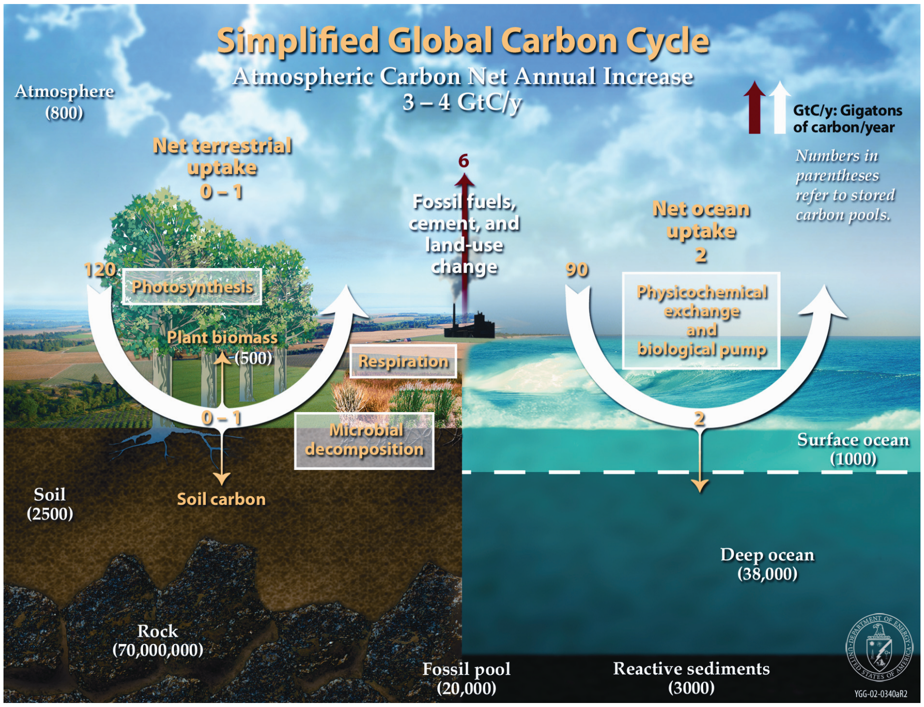

Figure 1. Simplified global carbon cycle. This diagram indicates the two primary means of carbon sequestration are plant and soil carbon accumulation based on photosynthesis, and ocean uptake of carbon. Adapted from Carbon Sequestration Research and Development (1999), Genome Management Information System, Oak Ridge National Laboratory. (Reproduced with permission)

industries are unable to reduce their emissions sufficiently through conservation measures or investment in emission-reducing technology, then they can offset their emissions by purchasing carbon credits from entities that are sequestering CO_2 from the atmosphere.

How are carbon offset credits bought and sold?

The primary trading platform for CO_2 currently available in the United States is the Chicago Climate Exchange (CCX). The CCX (http://www.chicagoclimateexchange.com) is a voluntary, legally binding rules-based greenhouse gas emission reduction and trading system. Carbon dioxide emitters, such as utilities, manufacturers, or municipalities, can join the CCX and agree to reduce their emissions by a certain percentage from year to year. If they are unable to reduce their emissions by the agreed-upon amount, they may purchase carbon offset credits from entities whose practices are sequestering CO_2.

Carbon offset credits are traded on the CCX in blocks of 10,000 metric tons gross annual accumulation. Since most woodland owners will not meet this minimum trading volume on their property, they will need to use the services of an aggregator registered with the CCX to sell their accumulated carbon. Aggregators act as brokers who pool and sell carbon offsets, similar to a stock broker who assists with the purchase and sale of stocks, assisting landowners in accessing the carbon markets. Some aggregators available to landowners in the Central Hardwood Region include:

The Delta Institute
53 West Jackson Boulevard
Suite 230
Chicago, IL 60604
Phone: 312-554-0900
http://www.deltacarbon.org

The National Farmers Union
P.O. Box 2136
Jamestown, ND 58402
Phone: 701-952-0116
http://www.nfu.org/issues/environment/carbon-credits

AgraGate Climate Credits Corporation
5400 University Avenue
West Des Moines, IA 50266
Phone: 866-633-6758
http://www.agragate.com/

FORECON EcoMarket Solutions
P.O. Box 837
Rockford, MI 49341
Phone: 616-874-9934
http://www.foreconinc.com/ecomarket/

The CCX web page (http://www.chicagoclimateexchange.com/about/members.html) under the "member" tab, lists all approved aggregators. Refer to this webpage regularly, as aggregators are being added frequently. Some state forestry agencies are looking into becoming carbon offset aggregators for public and private forests and tree plantings in their state, so new options for carbon marketing may be available in the future.

The CCX trading system includes a full portfolio of offset projects to reduce both methane and CO_2. These offset projects must undergo third party verification by a CCX-approved verifier. All verification reports are then inspected for completeness by the Financial Industry Regulatory Authority (FINRA).

Carbon offset credits are a new commodity. Verification and auditing are necessary for standardizing practices for evaluating carbon sequestered by natural processes as a commodity is acceptable on world commodity markets. By treating emissions as a market commodity, it becomes easier for businesses to understand and manage their activities, while economists and traders can attempt to predict future pricing using well understood market theories.

What types of offset projects exist for the woodland owner?

The term, 'offset projects', refers to various ways for not only reducing CO_2, but other greenhouse gases such as methane. This guide focuses on those projects applicable to the landowner who has tree plantings, woodlands, agricultural land, grasslands, or some mixture of these land uses.

Eligible agricultural soil carbon sequestration projects include no-till, strip-till, or ridge-till continuous conservation tillage (Fig. 2), and grass planting (Fig. 3). In order to receive credit for conservation tillage, the landowner must commit to a five-year contract on the enrolled acreage. Grass plantings must have been planted since January 1, 1999. Annual sequestration rates are between 0.2 and 1.0 metric tons per acre per year. The CCX or aggregators should be consulted for any updates to the maps and sequestration rates.

Afforestation projects (Table 1) are the conversion of non-forested or degraded areas into a forested

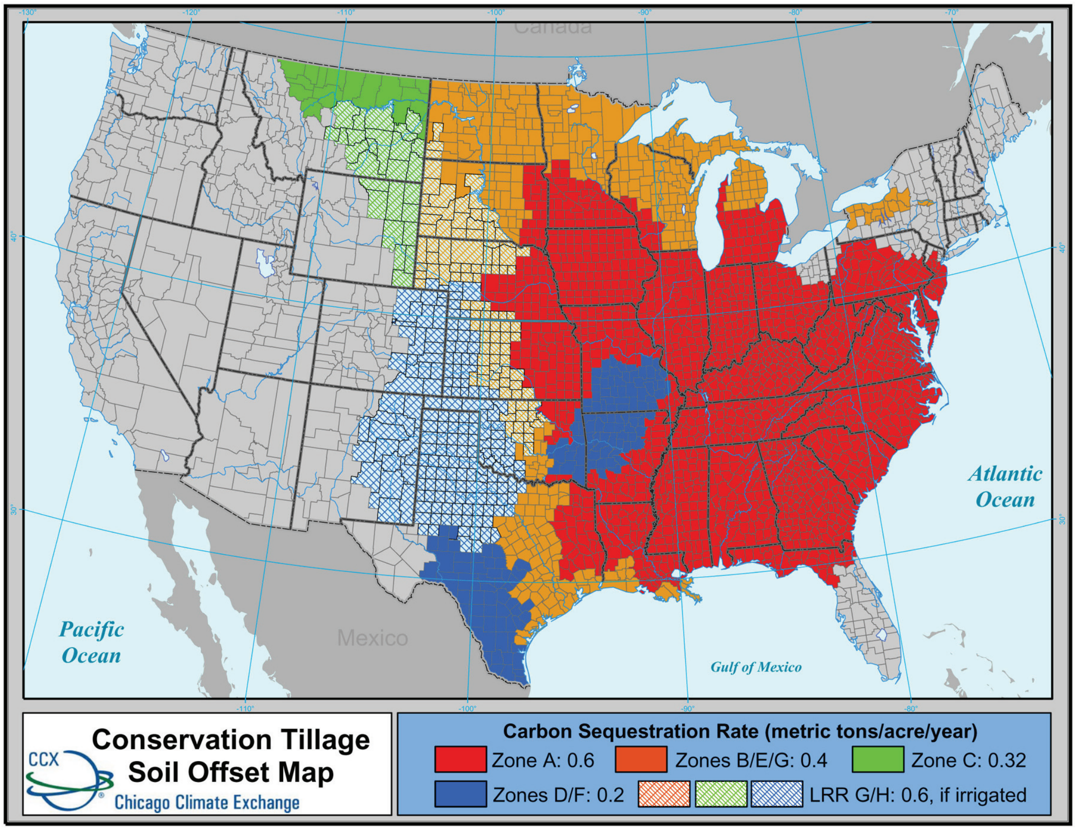

Figure 2. *Conservation tillage soil carbon offset zones and carbon sequestration rates (metric tons per acre per year). (Reproduced with permission)*

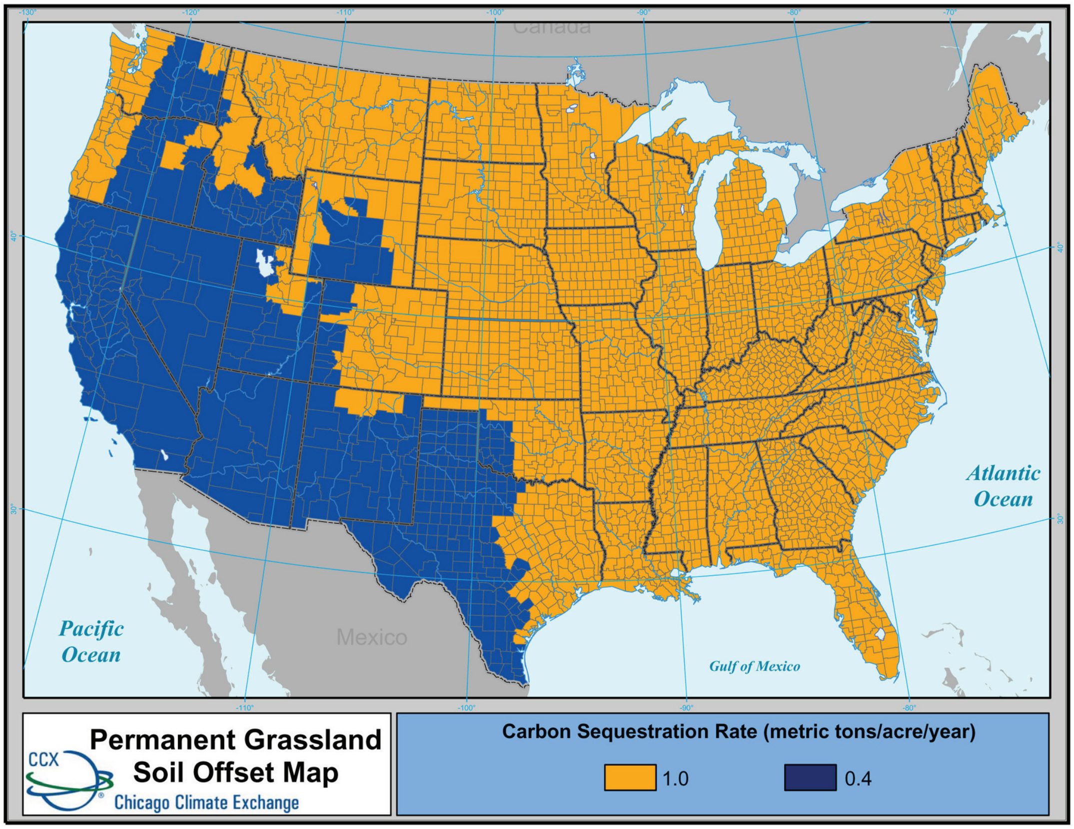

Figure 3. *Permanent grassland soil carbon offset zones and carbon sequestration rates (metric tons per acre per year). (Reproduced with permission)*

Table 1. *Regional estimates of tree annual carbon accumulation in live trees and soil organic carbon for afforestation (Metric tons CO_2 per acre per year and age of afforestation project in years).*

Region[1]	Species	1 to 5	6 to 10	11 to 15	16 to 20	21 to 25	26 to 30
Northeast	Aspen-birch	1.424	1.628	1.706	1.852	1.852	1.883
Northeast	Maple-beech-birch	1.571	2.199	2.702	2.638	2.481	2.449
Northeast	Oak-hickory	1.467	2.718	3.886	3.592	3.215	3.016
Northeast	Oak-pine	1.32	1.874	2.314	2.46	2.502	2.423
Northeast	Spruce-balsam fir	1.508	1.617	1.57	1.679	1.642	1.768
Northeast	white-red-jack pine	1.571	2.037	2.388	2.23	1.957	1.868
Northern Lake States	Aspen-birch	1.592	1.402	0.983	1.531	1.861	2.044
Northern Lake States	Elm-ash-cottonwood	0.921	1.098	1.024	1.483	1.661	1.802
Northern Lake States	Maple-beech-birch	1.131	1.24	1.14	1.788	2.239	2.379
Northern Lake States	Oak-hickory	1.466	1.429	1.266	1.752	2.082	2.16
Northern Lake States	Spruce-balsam fir	0.837	1.185	1.138	2.01	2.487	2.805
Northern Lake States	white-red-jack pine	0.146	0.679	1.036	2.26	3.297	3.396
Northern Plains States	Elm-ash-cottonwood	0.859	0.826	0.669	0.909	1.014	1.359
Northern Plains States	Maple-beech-birch	1.11	0.942	0.691	0.931	1.067	1.287
Northern Plains States	Oak-hickory	1.425	1.251	1.016	1.256	1.413	1.476
Northern Plains States	Oak-pine	1.089	1.063	0.984	1.419	1.801	1.916
Pacific Northwest, East	Douglas-fir	0.607	0.784	0.816	2.198	3.434	3.884
Pacific Northwest, East	Fir-spruce-mountain hemlock	0.691	0.581	0.397	0.868	1.235	1.742
Pacific Northwest, East	Lodgepole pine	0.419	0.628	0.754	1.361	1.884	1.905
Pacific Northwest, East	Ponderosa pine	0.712	0.691	0.586	0.91	1.162	1.177
Pacific Northwest, West	Alder-maple	1.739	2.272	2.638	5.193	7.572	6.932
Pacific Northwest, West	Douglas-fir	1.802	2.214	2.482	5.503	8.379	8.331
Pacific Northwest, West	Fir-spruce-mountain hemlock	0.712	0.89	0.994	2.277	3.456	4.079
Pacific Northwest, West	Hemlock-Sitka spruce	1.299	1.717	1.968	4.182	6.22	6.644
Pacific Southwest	Mixed conifer	0.901	0.738	0.502	0.722	0.858	0.962
Pacific Southwest	Fir-spruce-mountain hemlock	0.712	0.675	0.586	0.926	1.172	1.35
Pacific Southwest	Western oak	0.566	0.487	0.377	0.418	0.418	1.429
Rocky Mountain, North	Douglas-fir	0.587	0.544	0.439	1.12	1.749	2.167
Rocky Mountain, North	Fir-spruce-mountain hemlock	0.67	0.549	0.366	0.884	1.329	1.89
Rocky Mountain, North	Lodgepole pine	0.419	0.387	0.303	0.774	1.193	1.518
Rocky Mountain, North	Ponderosa pine	0.712	0.576	0.387	0.774	1.12	1.434
Rocky Mountain, South	Aspen-birch	0.67	0.622	0.471	0.774	0.994	1.261
Rocky Mountain, South	Douglas-fir	0.566	0.565	0.534	1.015	1.434	1.707
Rocky Mountain, South	Fir-spruce-mountain hemlock	0.398	0.366	0.293	0.638	0.942	1.214
Rocky Mountain, South	Lodgepole pine	0.461	0.387	0.283	0.466	0.607	0.774
Rocky Mountain, South	Ponderosa pine	0.377	0.34	0.251	0.481	0.68	0.885
Southeast	Loblolly-shortleaf pine	2.367	2.472	2.303	2.136	2.261	2.135
Southeast	Longleaf-slash pine	1.173	1.644	1.957	2.061	2.281	2.239
Southeast	Oak-gum-cypress	1.487	2.219	2.637	2.532	2.521	2.363
Southeast	Oak-hickory	1.739	2.262	2.43	2.136	2.178	2.041
Southeast	Oak-pine	1.571	2.157	2.44	2.22	2.083	1.968
South Central	Elm-ash-cottonwood	1.823	2	2.052	2.031	2.104	2.041
South Central	Loblolly-shortleaf pine	2.284	2.482	2.367	2.147	2.199	2.01
South Central	Oak-gum-cypress	1.152	1.948	2.534	2.419	2.345	2.104
South Central	Oak-hickory	2.053	2.252	2.22	2.073	2.042	1.958
South Central	Oak-pine	1.844	2.304	2.535	2.262	2.157	1.989

*[1] **Regions: Northeast:** Maine, Massachusetts, New Hampshire, New York, Vermont, Rhode Island, Delaware, Maryland, Pennsylvania, Ohio, West Virginia, New Jersey, Connecticut; **Northern Lakes States:** Michigan, Minnesota, Wisconsin; **Northern Plains States:** Indiana, Illinois, Iowa, Nebraska, Kansas, Missouri, North Dakota, South Dakota; **Pacific Northwest, East:** Interior Oregon and Washington; **Pacific Northwest, West:** Coastal Oregon and Washington; **Pacific Southwest:** California; **Rocky Mountains North:** Idaho, Montana; **Rocky Mountains South:** Colorado, New Mexico, Arizona, Utah, Nevada, Wyoming; **Southeast:** Florida, Georgia, North Carolina, South Carolina, Virginia; **South Central:** Alabama, Arkansas, Kentucky, Louisiana, Oklahoma, Mississippi, Tennessee, Texas.*

area by planting or natural regeneration. These projects have greenhouse gas sequestration benefits through increases in live-tree biomass and soil organic carbon. CCX aggregators acting on behalf of the enrolled landowners have the option of calculating these sequestration rates through carbon accumulation tables, or through measurement of growth- and- yield models.

Annual sequestration rates will depend on the species, age, and region of the afforestation project (see Table 1). The CCX or aggregators should be consulted for any updates to the sequestration rates. If the project involves afforestation on or after January 1, 1990, on non-forested or degraded land, eligible afforestation activity should not involve removal of tree biomass, including harvesting or thinning, during the CCX contract period. Finally, landowners must sign a contract with their aggregators attesting that the land will be maintained as forest for at least 15 years from the date of enrollment in CCX.

An additional carbon offset project is available for urban or other tree plantings that are classified as low-density plantings (less than 250 trees per acre). This program might be useful for public or private parks or for other landowners with large areas of low-density tree plantings. The soil, grass planting, and tree planting carbon offset programs are relatively simple and inexpensive to enter, so landowners with these practices in place or planned for the near future should seriously consider this opportunity. Contact an aggregator to get started.

Managed forest projects are available to owners of sustainably managed forests that lead to additional forest carbon stocks by planting after harvest or natural disturbances, engaging in harvest systems that maintain partial forest cover, reducing soil erosion, or avoiding destructive harvesting practices. Eligible projects earn offset credits for the additional net carbon sequestered in their forest from the previous year (i.e., carbon sequestered from additional forest growth less carbon lost as a result of harvesting activities or other losses). The CCX Committee on Forestry must review and approve all projects on a case-by-case basis.

Managed forest projects will require an inventory performed by a qualified forester to establish a carbon stock baseline for enrolled forests. Annual sequestered carbon is then determined using either a growth-and-yield model or by calculating growth on an annual basis. Some aggregators or professional foresters can provide this service. You can find a forester near you by contacting your county extension office, State Foresters' office, or Natural Resources Conservation Service office about a referral to a professional forester. Aggregators may also have lists of foresters who provide this service to landowners.

Foresters or landowners seeking guidance for planning a forest inventory to apply for managed forest carbon offset credits should contact their aggregator or the Chicago Climate Exchange to be sure the appropriate data is collected in a useable format. Several different formats of inventory may be useable, but specific data may be needed to maximize the verifiable carbon credits from your projects. A sample contract and specifications and guidance for the forest carbon baseline inventory format can be found at the following Website: http://deltacarbon.org/aggregation/documents/XFO-ManagedForestContractP2E2.pdf.

CCX rules require a long-term commitment to maintain the area in forest. There should be a forest stewardship or forest management plan in place for the tract and a conservation easement or signed letter of intent to maintain the carbon stocks on the property. Details on required documents are available from the aggregators. Certification of sustainable forest management is also required for the managed forest projects. Sustainable forest management certification systems provide forest landowners independent certification of sustainable management practices through compliance with specific management principles and practices. This certification process may be required for present or future carbon offset credit programs, and may provide other marketing and management advantages to landowners.

Programs such as the American Tree Farm Group Certification System, the Sustainable Forestry Initiative, the Forest Stewardship Council, or other certification programs meeting CCX specifications can provide this service to landowners. Indiana and Wisconsin offer sustainable forest management certification to landowners enrolled in their Classified Forest and Wildlands, and Managed Forest Law programs, respectively.

How do I enroll?

If you own fewer than 5,000 acres, it is safe to say that you will need the services of an aggregator. This is because your land will not accumulate the annual minimum of 10,000 metric tons of CO_2. If you own more than 5,000 acres, you might be able to sell directly to the CCX, but you still might want to consider using an aggregator to simplify administration of your carbon trading. Aggregators will provide you with the contract and documentation forms you will need to sell your accumulated carbon.

How much does it cost?

Up-front costs, such as planting grasses or trees, forest inventories, and preparing management or stewardship plans are the responsibility of the landowner. Only the managed forest project requires a forest inventory, management plan, and certification of sustainable management. While these can be significant expenses, they can also be extremely valuable tools for making informed management decisions. A well-planned and executed inventory can be used for planning management activities, forecasting estimated income and expenses, and managing tax liability.

Certification of your woodlands can ensure marketability of your wood products in this increasingly environment-conscious world market. The cost of an inventory or the lack of access to sustainable certification systems may make the managed forest carbon offset project unfeasible for some small forest owners. Be sure to evaluate the costs versus the potential income before entering the program. Your inventory and the forest growth model will determine how much carbon is sequestered annually in your forest. An estimate of one to three metric tons per acre per year for central hardwood forests would be a useful number for estimation of possible income, based on several biomass studies.

Most aggregators charge a fee to provide aggregation services. This is usually less than 20 percent, with 10 percent being a commonly quoted fee. As with any fee service, the best advice is to shop around and compare not only the cost of the service, but what services you will receive for that cost. Remember that this is a legally-binding contract between you, the landowner, and the carbon aggregator. So, read the contract thoroughly and make sure you understand everything before you sign on the dotted line. Some aggregators include verification fees in their percentage fee, while others charge an additional fee based upon the landowner's acreage in relation to the total acreage that is being traded in the aggregated pool of carbon being offered for sale. Again, read the fine print before signing! Finally, the CCX also charges $0.20 per ton CO_2 traded, as of 2008. Aggregator fees, verification fees, and CCX trading charges are not up-front costs. These costs are deducted from the carbon credit offset payments you receive from the CCX.

What are my risks?

Losses could result from fire, drought, storms, or other events that damage the management practice. As an insurance policy against these potential losses, 20 percent of the accumulated carbon credits are set aside in a carbon reserve pool to cover any loss of accumulated carbon through the term of the contract. Once the contract period ends, the balance left in that reserve is sold and the funds forwarded to the landowner.

How much could I earn?

The amount of income from selling carbon offset credits depends upon:

The type of project(s) you enroll

The amount of acres in each enrolled project

The market price at the time the pool is traded

Less any catastrophic losses

Less any penalties for harvesting more carbon than your woodland sequesters

Less your aggregator's administrative fee

Less verification fees

Less the CCX trading fees.

The amount of your income depends partly on the market skills of your aggregator. The timing of offset pool sales can influence your income, since the price of carbon offsets can vary widely. Prices in 2008 have ranged between $1.80 and $7.40 per metric ton. Catastrophic losses are usually limited to the 20 percent you have held in your reserve pool. However, if you harvest more carbon, either intentionally or unintentionally, than your woodlands sequesters, you not only forfeit your reserve pool, but you may be viewed as a CO_2 *emitter* and be charged accordingly at market prices! The CCX now allows for credits for long-lived wood products harvested from managed forests, so carefully planned sustainable harvesting can be compatible with selling carbon offset credits. Details on the various carbon offset programs are available from the Chicago Climate Exchange and registered aggregators.

Aggregators can assist you with determining your eligibility and obligations for carbon offset programs, and they will provide guidance on documents you will need to provide to meet application requirements. Copies of contracts and worksheets for CCX offset programs are available on-line or by request from aggregators. You can estimate your income from carbon offset credits by checking the market price of carbon at the CCX website and by using carbon calculators or rate tables available from most aggregators. Remember to deduct your expenses related to management and sale of the credits to find an estimated net value.

Let us look at a hypothetical example, using 80 acres in Illinois, that has 50 acres of no-till farmland, 10 acres of grasslands, 10 acres of 7-year-old oak and hickory tree plantings, and 10 acres of managed forest.

Carbon (C) sequestered:

50 acres no-till X 0.6 metric tons per acre per year = 30 metric tons

10 acres grasslands X 1.0 metric tons per acre per year = 10 metric tons

10 acres tree planting X 1.251 metric tons per acre per year = 12.51 metric tons

10 acres managed forest X 2 metric tons per acre per year = 20 metric tons

Total metric tons of C per year = 72.51

20% reserve pool = 14.50

Total metric tons C available to trade = 58.01

*Price per metric ton (from CCX as of July 2008) = $4.00

Gross annual payment = $232.04

Less aggregation fee (10%) = $23.20

Less CCX fee ($0.20 per ton = $11.60

Net annual contract payment = $197.24

Annual reserve pool value (available at end of contract period) = $58.00

* *Remember the income values change as the carbon market values change.*

What is the future of carbon offset credits?

The current CCX trading system is a pilot program with contracts set to expire between the years 2010 and 2012. CCX programs in North America have seen increases in membership and trading volume, despite the fact that this is a voluntary greenhouse gas reduction program. It is difficult to say what these programs will look like after this pilot program expires, but current interest in the public and private sector relating to carbon sequestration would suggest opportunities will continue to exist for landowners who actively sequester carbon on their properties. Much will depend on what, if any, legislation is passed concerning greenhouse gas emission policy at federal and state levels.

The carbon market is changing rapidly, with new programs and service providers entering the market regularly. Be aware that new opportunities may become available in the future. The following are some of the new developments at the time of this publication:

- A new trading market, called the Green Exchange (http://www.greenfutures.com), is scheduled to begin operations in early 2008. This exchange is a partnership between the New York Mercantile Exchange and several other organizations, and it will trade in a variety of environment-related areas including carbon markets.
- Several regional, multi-state initiatives, including the Midwestern Greenhouse Gas Reduction Accord (http://www.midwesterngovernors.org/govenergynov.htm) have been initiated to develop frameworks for regional CO_2 emission reduction schemes, most of which include plans to develop emission caps and associated emission reduction and sequestration offset markets.
- Several forms of legislation calling for carbon emission reductions utilizing cap-and-trade programs or carbon emission taxes have been proposed. Legislation could have a significant impact on the structure and value of carbon markets.

Collateral Benefits

The sale of carbon sequestration offset credits compliments existing conservation programs that provide financial and technical assistance for conservation plantings and sustainable land management. The Conservation Reserve Program (CRP), Environmental Quality Incentive Program (EQIP), forest property tax incentive programs, and certification systems such as the American Tree Farm System, Forest Sustainability Council, or Sustainable Forestry Initiative are examples of programs that could be paired with selling carbon offset credits as part of a management strategy.

An attractive aspect of this new market place is the opportunity for landowners who have practiced good land stewardship to be rewarded financially for their activities. Although the financial rewards at this time are not large, it is an extra revenue source that can provide an additional incentive to install and maintain these beneficial practices.

Other Resources and Reference Materials

Several resources are available to help you find out more about carbon offset credits and to monitor new developments as the science and policy associated with this issue progresses.

Refer to the CCX website under "membership" for an updated aggregator list. The Chicago Climate Exchange (CCX) is the primary market place for trading of carbon offset credits. Information on their policies and programs is available at the following Website: http://www.chicagoclimateexchange.com/

The USDA Forest Service - Northern Research Station has a site providing tools and information for inventory and estimation of carbon sequestration in forests and forest products, as well as continuing research in forests and the carbon cycle, available at the following Website: http://www.nrs.fs.fed.us/carbon/tools

This poster provides a summary of carbon sequestration rates from several Central Hardwood Region forest studies, available at the following Website: http://www.agriculture.purdue.edu/fnr/HTIRC/pdf/posters/MichaelN.pdf

These Purdue University publications provide a background on carbon cycles and carbon sequestration practices, available at the following Websites: http://www.agry.purdue.edu/soils/Csequest.pdf and http://www.agry.purdue.edu/soils/mgmtpract.PDF

The Role for Sustainably Managed Forests in Climate Change Mitigation was published in the September 2007 edition of the Journal of Forestry, available at the following Website: http://www.safnet.org/policyandpress/climate_change_mitigation.pdf

Carbon Trading: a Primer for Forest Landowners is a web site providing carbon trading and market information aimed at forest landowners, available at: http://carbon.sref.info/. Warnell School of Forestry and Natural Resources, University of Georgia, Athens, GA 30602-2152, Phone: 706-542-2686.

This Duke University site provides a frequently-asked-questions section as well as access to a guide book for farmers and forest landowners considering carbon offset programs, available at: http://www.nicholas.duke.edu/institute/ghgoffsetsguide/.

Nicholas Institute for Environmental Policy Solutions, Box 90328, Duke University, Durham, NC 27708, Phone: 919-613-8709, nicholasinstitute@nicholas.duke.edu

This University of Minnesota extension web page provides background and considerations for landowners interested in carbon offset credits, as well as access to the extension publication, *A Landowner's Guide to Carbon Sequestration Credits*, available at: http://www.myminnesotawoods.umn.edu/legal/lega_carbon.html.

Acknowledgements

The authors wish to thank Allen Pursell of The Nature Conservancy and Ron Rathfon of the Department of Forestry and Natural Resources, Purdue University, for their review of this document.

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9/08

FNR-187

A Landowner's Guide to
Sustainable Forestry
in Indiana

Part 8. Help!

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Allen Pursell, Project Manager, Blue River Project, The Nature Conservancy

The prospect of beginning to manage your forest may be a bit overwhelming. You may feel that you don't have the time, funds, or the knowledge and experience to do it. Well, don't worry! Read on to discover the help that is available to you in your quest to manage your forest in a sustainable manner. The contact information for all the organizations and programs listed here is summarized in the Forest Landowner's Help! Directory inside the back cover pocket. As contact information becomes outdated, this directory will be updated.

Checklist

Available Help

- ☑ Cost Share Grants and Land Rent Programs.
- ☑ Classified Forest and Wildlife Habitat.
- ☑ Conservation Easements and Land Trusts.
- ☑ Tax Incentives and Estate Planning.
- ☑ Forest Bank.
- ☑ Forest Cooperatives.
- ☑ Carbon Sequestration Programs.
- ☑ Forest Certification.
- ☑ Education and Technical Assistance.
- ☑ Landowner Conservation Organizations.

Cost Share Grants and Land Rent Programs

Spending time and money on your forest is a long-term investment. Landowners spending money to plant trees today will not see a financial return on their investment for at least 50 years. For this reason and recognizing the value of sustainably managed forests to all of society, a variety of **cost-sharing** grant programs are offered by federal and state agencies and by some private conservation organizations, such as Quail Unlimited, The Wild Turkey Federation, and Ducks Unlimited.

Land rent programs, such as the Conservation Reserve Program (CRP), pay a cash rent for taking qualifying marginal cropland out of production and putting it into conservation practices. Land can be entered into CRP on a 10-year contract, or, if you plant trees, on a 15-year contract. Cost-share grants and land rent programs are considered government handouts by some. Others view them as just-compensation for landowners, paid by the beneficiaries of sustainably managed forests: American citizens.

There are many types of conservation projects which may be eligible for cost-sharing grants. A partial listing includes:

- Tree planting to reforest open areas and streamsides.
- Construction of rural windbreaks.
- Planting wildlife food plots and wildlife shrub and grass habitats.
- Timber stand improvement work to encourage growth of valuable timber.
- Rehabilitation of eroding forest roads and trails.
- Fencing to keep livestock out of forest and streamside areas.
- Development of springs and watering holes for wildlife.
- Development of a long-term forest stewardship plan.
- Installation of wildlife brush piles and nesting boxes.
- Restoration or new construction of wetlands.
- Other forest, water and wildlife practices.

Many cost-share programs have limited funding. Demand for cost-share funding routinely exceeds the amount of money available. It is not uncommon for landowners to wait 2-3 years to get funding for certain types of projects, so plan and ACT early. Purdue Cooperative Extension publication FNR-87, *Forestry and*

Wildlife Management Assistance Available to Indiana Landowners, provides a comprehensive list of federal and state cost-share programs and contact information for the government agencies that administer them.

Classified Forest and Classified Wildlife Habitat Programs

Indiana has one of the premier forest land protection programs in the country. The **Classified Forest Program** began in 1921 through state legislation passed at a time when Indiana's forests were nearly depleted. It is administered by Indiana Department of Natural Resources, Division of Forestry. This long-standing and highly regarded program allows you to enroll your forest as Classified Forest and receive a property tax break. Enrolled acres are assessed at a value of $1.00 per acre. County property taxes are based on this lowered assessment. In most cases, landowners pay less than 10 cents per acre in property taxes for enrolled acreage. Additionally, you receive an annual forestry newsletter and periodic inspections of your forest by a State District Forester.

A professional forester, working in consultation with you, writes the Classified Forest management plan. This plan will be your guide in making forest management decisions (see Part 2 of the *Sustainable Forestry Series*, *Planning for the Future,* FNR-181). Other aspects of the Classified Forest program include:

- A minimum of 10 contiguous acres is required for enrollment.
- New tree plantings may qualify for enrollment.
- Enrolled lands are <u>**not**</u> required to be open to the public.
- Hunting is allowed (with your permission).

Contact Information

Classified Forest:

IDNR Division of Forestry
402 W. Washington St., Rm. W296
Indianapolis, IN 46204
(317) 232-4105
www.state.in.us/dnr/forestry

Classified Wildlife Habitat:

IDNR Division of Fish & Wildlife
402 W. Washington St., Rm. W273
Indianapolis, IN 46204
(317) 232-4080
www.state.in.us/dnr/fishwild

- Firewood and timber may be harvested within certain broad guidelines.

You incur certain obligations in return for the benefits received from classifying your forest. You agree to:

- Complete a short annual report.
- Follow standards of good forestry.
- Protect the forest from grazing livestock.
- Not construct any buildings in the forest.
- Not subdivide the forest into smaller tracts for development purposes.

Once classified, your forest remains in the program until you or a subsequent owner withdraw it. The State may also withdraw your forest from the program if you fail to adhere to its requirements. When land is withdrawn from the program, you are required to pay back the taxes, plus a 10% penalty, to the county at the rate you would have paid if the land had not been classified. No more than 10 years of back taxes may be assessed.

Despite the restrictions and potential penalties, this program now has over 400,000 acres owned by 7,500 landowners enrolled. Classified Forest owners are the largest forest owning group in Indiana.

The Classified Wildlife Habitat program is similar to its forest counterpart, providing the same tax abatement. It is administered by Indiana Department of Natural Resources, Division of Fish and Wildlife. A minimum of 15 contiguous acres is required for enrollment of which no more than 10 acres may be forest. Grasslands, wetlands, wildlife openings, brushlands, and other habitat-rich lands may qualify. Cash crops may not be grown on Classified Wildlife Habitat.

Leaving a Forest Legacy - Permanent Forest Protection through Conservation Easements

Many landowners develop a deep and abiding love for their forests and lands. This affection runs so deep that they wish to see them preserved and conserved for the benefit and enjoyment of future generations. However, short of selling the forest to the state or federal government, there were no real options to insure the forest would always be there— until recently. **Conservation easement** programs, such as the Forest Legacy Program, now enable you to set aside your forests to remain as forests forever.

The conservation easement is a legal transfer of certain property rights to a second qualifying landowner, who becomes the holder of the conservation easement. The rights most often transferred are development rights. In

Land Trust and Protection Contact Information:

Land Trusts:

The Nature Conservancy
1330 W. 38th Street
Indianapolis, IN 46250
(800) 937-5263
www.tnc.org/states/indiana

Indiana Natural Resources Foundation
402 W. Washington Street, Rm. W256
Indianapolis, IN 46204
(317) 233-1002
www.state.in.us/dnr/nrf

The Land Trust Alliance
1331 H Street NW, Suite 400
Washington, D.C. 20005-4711
(202) 638-4725
www.lta.org

American Farmland Trust
1200 18th St., NW, Suite 800
Washington, D.C. 20036
(202) 331-7300
www.farmland.org

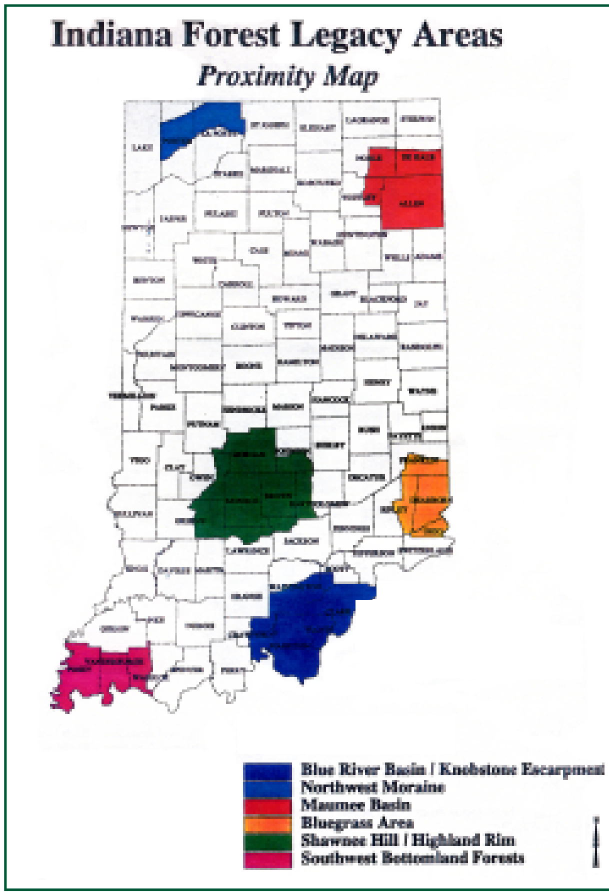
Forest Legacy:

IDNR Division of Forestry
402 W. Washington St., Rm. W296
Indianapolis, IN 46204
(317) 232-4105
www.state.in.us/dnr/forestry

Indiana Heritage Trust
402 W. Washington St., Rm. W160
Indianapolis, IN 46204-2472
(317) 232-4200
www.state.in.us/dnr/heritage

the simplest terms, this means that no owner, present or future, may develop or convert the land to a non-forest use. The holder of the easement must be a qualified land trust or unit of government for favorable tax treatments to apply. Such easement holders themselves are not permitted to develop the property.

Other rights may also be conveyed or given up through a conservation easement. Some easements are preservation easements stipulating that no land disturbance may occur, including tree harvesting. At first glance, some landowners may be inclined to agree to these provisions and in some situations protection of significant natural features may warrant this extra protection. However,



IDNR, Division of Forestry

Indiana Forest Legacy Areas.

easements prohibiting any resource use and management are becoming less popular and are being replaced by easements which allow, and in fact encourage, sustainable forest management. Mineral rights, protection of unique features and the right of public access are other negotiable rights.

Land Trusts are private organizations formed for specific natural resource protection purposes. They normally operate in a designated area of the state, which may be many counties in size. The Nature Conservancy and the Indiana Forest Education Foundation function as state-wide land trusts. While some land trusts have the financial means to pay for development rights or other easement terms, most rely on donations to acquire easements and to support their operations. The Land Trust Alliance maintains a directory of land trusts for each state. Shop around for the land trust that best meets your needs.

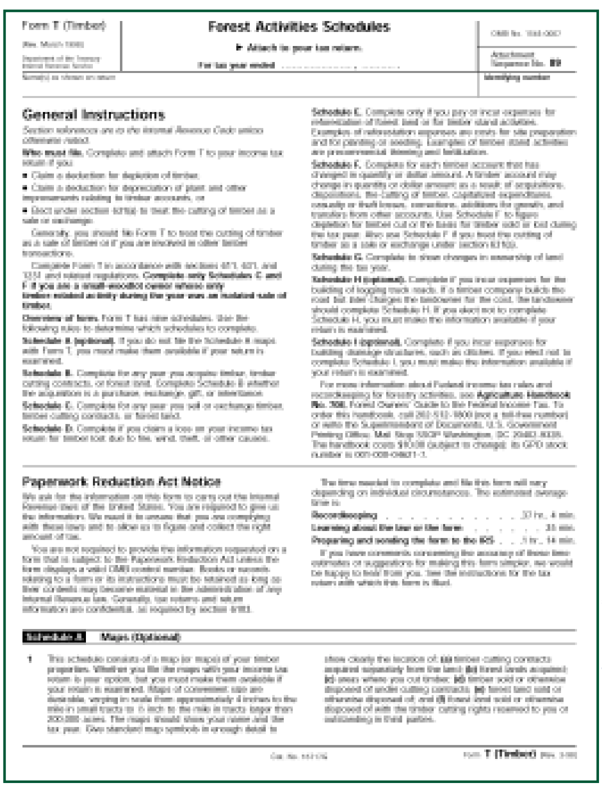
The State of Indiana administers two conservation easement programs: **The Forest Legacy Program** and the **Indiana Heritage Trust Program**. The first is primarily a conservation easement program to protect environmentally important forestlands and retain them as working parts of the landscape. This program keeps land in private ownership and encourages environmentally sound forest management. The program accepts donated conservation easements of environmentally important forests throughout most of Indiana and utilizes federal funds to purchase development rights or fee title on important forests in six designated Indiana "Forest Legacy Areas." Funds are limited and projects are selected on a scoring system based on a number of ecological and other criteria. Applications for the Forest Legacy Program can be obtained from the Indiana Division of Forestry.

The **Indiana Heritage Trust Program** is primarily a land acquisition program with the purchased areas designated as State Forest, Parks, Nature Preserves, or Fish and Wildlife Areas. However, they too occasionally acquire conservation easements when projects meet program criteria. This program is funded primarily through state appropriations and the sale of Indiana environmental license plates. Lands adjoining existing state-owned lands or potential nature preserves are preferred Heritage Trust projects.

Tax Incentives and Estate Planning

The Classified Forest and Wildlife Habitat property tax abatement programs have already been discussed. Other incentives that recognize the long-term nature of forestry investments and the associated conservation benefits to all of society are in the federal income tax code.

Capital Gains: If you purchase forest land and wait at least one year, you can treat the timber sale income as a long-term capital gain. Capital gain income is taxed at a lower rate than ordinary income. In addition, you can subtract from the timber sale proceeds your investment in the timber sold; that is, its book value. This book value is based on the purchase price or date of death fair


Form T (Timber)

Forest Activities Schedules

General Instructions

Paperwork Reduction Act Notice

Schedule A Maps (Optional)

Internal Revenue Service

Forest Taxation Information:

National Timber Tax Website
www.timbertax.org

Timber Tax Management for Tree Farmers,
William L. Hoover, Purdue University Cooperative Extension Service, FNR-80.
Order from:
Ag. Communication Service,
Media Distribution Center
1187 SERV Building
West Lafayette, IN 47907-1187
1-888-398-4636

Forest Landowners' Guide to the Federal Income Tax,
H.L. Haney, W.L. Hoover, W.C. Siegel, and J.L. Greene, USDA Forest Service, Agricultural Handbook No. 718, GPO Stock No. 001-000-04621-7.
Order from:
U.S. Government Printing Office,
Superintendent of Documents
Mail Stop: SSOP
Washington, D.C. 20402-9328
(202) 512-1800
http://bookstore.gpo.gov
$20.00

Estate Planning Information:

Legal Aspects of Owning and Managing Woodlands,
Thom J. McEvoy, Island Press
ISBN: 1-55963-638-6.
Order from:
Island Press
Dept. 5AU, P.O. Box 7
Covelo, CA 95428
www.islandpress.org

Estate Planning for Forest Landowners*,*
Harry L. Haney, Jr., and William C. Siegel. USDA Forest Service, Southern Forest Experiment Station, Gen. Tech. Rep. SO-97.
Order from:
USDA Forest Service
Southern Research Station
P.O. Box 2680
Asheville, NC 28802
www.srs.fs.fed.us/pubs

market value if you inherited it. To top all that off, neither short-term nor long-term capital gain income is subject to the 15.3% social security tax. This provides a substantial tax savings to forest owners and a powerful incentive to invest in sustainable forest management.

Reforestation Tax Credit and Amortization: Expenses directly related to any type of reforestation activity may qualify you for a tax credit on your federal income tax return. Ten percent of qualifying reforestation expenses not exceeding $10,000 per year may be subtracted from your tax liability in the year you incurred the expenses. Up to $9,500 of qualifying expenses may be amortized over an eight year period and subtracted from gross income as an adjustment or a business expense. Reforestation expenses include cost of seedlings or seed, site preparation, labor, fencing for protection from wildlife, removal of non-commercial overstory trees, and weed control.

The federal tax code is complex and ever-changing. Therefore, you should consult with your tax preparer about timber income and reforestation expense provisions. However, don't take it for granted that your tax preparer is well acquainted with the timber-specific provisions of the Internal Revenue Code — most are not. You may need to direct them to the sources of information listed in this publication.

Some professional foresters provide timber tax services. A forester may at least be needed to help you establish timber values at the time you acquired the property, so you can determine the **basis** of your timber for capital gains and other tax purposes. Purdue University maintains a timber tax web site, and periodically conducts timber taxation workshops. Forest landowner organizations such as Indiana Forestry and Woodland Owners Association and American Tree Farm System provide tax information in their meetings and periodicals. See Purdue Cooperative Extension publication FNR-80, *Timber Tax Management for Tree Farmers*, and the *National Timber Tax Web site* listed here for detailed information on timber taxation.

Estate Taxes and Planning: All too many family farms and forests end up on the chopping block because of the lack of good estate planning. In order to fairly distribute the value of a land inheritance to multiple heirs, all merchantable timber is cut and the land parceled and sold off as individual lots to maximize the proceeds. Or, in another scenario a cash-poor but land-rich heir, who has the best of intentions to carry on the family legacy of good forest stewardship, is forced to either cut the timber extremely hard or to sell off part of the land to pay the federal and state estate taxes.

The Economic Growth and Tax Relief Reconciliation Act of 2001 phases out the federal estate tax by 2010. However, unless Congress changes the law the estate tax will return to its 2001 level in 2011 and later years. In addition, the gift tax is still in effect as is state estate taxes. Reducing the federal estate tax burden will help many families pass on their farms and forests intact to their heirs.

Even with the reduction of the federal estate tax, good estate planning is still essential to ensure that your forest continues to be managed sustainably after you are gone. Conservation easements (discussed earlier in this chapter), family partnerships, trusts, and other gift-giving strategies can help you reduce your heir's estate tax burden. Some of these strategies also remove the temptation by your heirs to subdivide the land and help ensure that the forest continues to be managed sustainably. You may be able to write covenants into the land title that provide guidance on how the land will be managed after your death.

Good estate planning also identifies your hand-picked successor to manage your forestland. It means involving your heirs in the management of your forest while you are still alive. Their early participation will help instill in them a love and reverence for the land, wood, water, and wildlife that you so cherish. They will then be more likely to carry on your legacy of good stewardship.

Estate planning is very much a legal process. Seek legal counsel from a competent attorney who specializes in estate planning. And above all else, don't procrastinate!

The Forest Bank

A new option for managing and conserving private forest lands known as The Forest Bank has recently become available in limited areas of Indiana. The Bank offers forest owners a guaranteed annual income and quick access to the cash value of their standing timber without the need to liquidate the entire forest. In return for these financial benefits The Forest Bank receives from the forest landowner a permanent conservation easement that will keep the land as forest for all time.

For example, if you have 40 acres of timber appraised at $500 per acre, you could deposit the total value of

Forest Bank Contact Information:

The Nature Conservancy
227 N. Mulberry St, P.O. Box 5
Corydon, IN 47112
(812) 738-2087
www.tnc.org/states/indiana

your timber in The Forest Bank. Your deposit value would then be $20,000. The bank would pay annual payments of 4%, or in this case $800 per year, each and every year. While the timber is deposited in the bank neither you nor The Forest Bank may harvest the timber unless both parties agree it will improve the vigor and health of the forest. After twenty years, the bank may harvest timber without mutual agreement. When it harvests timber, it will use sustainable forestry practices.

At some point in time, however, you may decide to withdraw your deposit of $20,000 for some financial need. If so, The Forest Bank will pay you, in cash, the full value of the deposit. At this point, the annual payments cease and The Forest Bank receives the right to prudently manage the forest and harvest timber in the future. You, the depositor, continue to have all other rights to your land including hunting, hiking, firewood cutting or any other activity consistent with conserving the forest.

Forest Cooperatives

Cooperatives help small landowners achieve economies of scale when they market their products, purchase supplies and equipment, and hire services. An association of landowners pooling their resources may accomplish profitably what is not cost-effective or feasible for one single landowner to achieve. Cooperatives have been very successful in developing value-added markets for new or alternative crops. More small family farms are producing value-added products for niche markets with the help of cooperatives.

Forest cooperatives hire foresters and other natural resource professionals to develop and help cooperative members implement sustainable forest management plans. Professional, well-trained logging crews can also be hired. Cooperatives encourage developing long-term relationships of trust between cooperative land owners and hired resource professionals.

Small forest tracts can be harvested and managed more efficiently within a cooperative. Cooperatives can sell standing timber, cut logs, or value-added products such as kiln-dried lumber. Other niche markets could be developed for value-added wood products or alternative forest products.

Cooperatives can promote good relations between neighbors. This can be done through information and education programs, cooperative work parties, and social activities centered around landowners' common interest in sustainable forestry and a common love for the forest.

For landowners who can build trust and work well with other people, forest cooperatives can be financially and socially rewarding.

Forest Cooperatives Contact Information:

Community Forestry Resource Center
Institute for Agriculture & Trade Policy
2105 First Avenue South
Minneapolis, MN 55404
(612) 870-3456
www.forestrycenter.org

Carbon Sequestration Programs

Concern over the role "greenhouse gases" like carbon dioxide play in global warming has spawned great interest in **carbon sequestration.** Very simply defined, carbon sequestration is the long term removal of carbon dioxide from the earth's atmosphere by chemical or biological processes. Trees absorb carbon dioxide as they photosynthesize and are therefore natural carbon sequesterers. Fossil fuel-driven industries, such as electric utilities, are interested in increasing carbon sequestration to help offset carbon dioxide emissions from the combustion of fossil fuels such as coal or oil.

Some industries have developed pilot projects where they help fund tree planting in exchange for the rights to the carbon dioxide that these trees sequester over their life. If and when carbon dioxide emissions are regulated or capped, these industries can use this sequestered carbon to help offset their own emissions. For example, an electric utility in Indiana partnered with The Nature Conservancy, Ducks Unlimited, and The National Wild Turkey Federation to plant trees, paying all the tree planting costs. In exchange, the utility maintains the rights to all carbon that is sequestered in the trees. In order to guarantee their rights to the sequestered carbon, they require the land to be permanently protected from development. The land is owned or encumbered by an easement held by government agencies, private conservation organizations, or land trusts. However, private landowners willing to put their land in a permanent conservation easement, may be able to take advantage of carbon sequestration programs in the future.

Forest Certification

Forest certification is a market-based, voluntary approach to forest conservation that is driven by consumer preferences. Landowners, forest managers, and wood products manufacturers can all participate in a "forest-to-consumer" certification chain that assures the purchaser that "this wood product came from a forest that was managed in a sustainable, environmentally-friendly manner."

Having "certified sustainable" wood products presumably provides a marketing advantage to manufacturers and retailers. The whole concept of certification assumes that a large enough share of consumers are willing to pay a premium for certified wood products. In theory, higher prices paid by consumers translates into higher prices paid to landowners for their sustainably-managed timber.

For forest landowners, certification usually entails having your forest inspected by forestry and wildlife experts representing a **third-party** certifying organization. Third party means an organization that has no vested interest in the outcome of the certification process. The certification process ensures that your forest management practices meet set standards of sustainable forestry. Another option for small landowners is to hire a forester who has been certified under one of these certification programs. Forest cooperatives and forest banks previously discussed can also be certified.

Forest certification usually costs money. Fees vary among the organizations involved in certification. Landowners benefit from certification by knowing that their forests are being managed in an environmentally conscious manner. Promoters of certification hope emerging markets for certified wood products will translate into higher prices paid to landowners for their timber.

Forest Certification Programs:

Forest Stewardship Council
1155 30th Street, NW, Suite 300
Washington D.C. 20007
(877) 372-5646
www.fscus.org

Scientific Certification Systems
1939 Harrison Street, Suite 400
Oakland, CA 94612-3532
(510) 832-1415
www.scs1.com

Rainforest Alliance Smart Wood
#61 Millet St., Goodwin Baker Bldg.
Richmond, VT 05477
(802) 434-5491
www.smartwood.org

American Tree Farm System
American Forest Foundation
1111 19th Street, NW, Suite 780
Washington, D.C. 20036
(202) 463-2462
www.treefarmsystem.org

Education & Technical Assistance

No one can claim ignorance as an excuse for poor forest management in Indiana. Forestry knowledge and opportunities for education abound. **Purdue University Cooperative Extension Service** foresters and wildlife specialists provide 60 to 80 workshops, short courses, and other education programs for Indiana landowners and other audiences each year. In addition, they publish useful books, bulletins, internet WEB site information, and videos. Each county in Indiana has a Cooperative Extension Service office to serve the agriculture and natural resource information needs of its citizens. If they don't have the needed information, they can usually find out where to get it.

Government Technical Assistance: Indiana Department of Natural Resources (IDNR) has a number of divisions equipped to provide forestry, wildlife, and soil and water conservation assistance to landowners. District Foresters with the **Division of Forestry** provide information, cooperate with Purdue University staff to provide education programs, work one-on-one with landowners to provide technical assistance and guidance with their forest management, and help them enroll in many of the government cost share programs mentioned earlier in this chapter. District wildlife biologists with IDNR's **Division of Fish and Wildlife** work one-on-one with landowners, providing technical assistance for wildlife habitat management projects. The **Division of Nature Preserves** can answer questions regarding unique habitats and rare, threatened, or endangered species.

Other government agencies providing technical assistance and administering cost share for soil erosion control and water protection projects, include IDNR **Division of Soil Conservation** and **U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS)**. NRCS produces the county soil surveys that describe and map soil resources. These surveys, available from your local NRCS office, provide a wealth of information about the productive potential and the possible limitations of the soils on your land.

The U.S. Forest Service, in cooperation with universities and state agencies, conducts research and produces information that is useful for forest and wildlife managers and forest landowners. Their **Northeast Area State and Private Forestry (**NAS&PF) division cooperates with state forestry agencies to administer forest health protection, fire protection, urban and community forestry programs, and the Forest Legacy program discussed earlier. Gypsy moth and other major forest insect and disease control programs are funded and coordinated through NAS&PF.

Some county **Soil and Water Conservation Districts (SWCD)** are very active in promoting forestry education and providing information. Many of the **Resource Conservation and Development Districts (RC&D)** located throughout the state support active forestry committees that provide education programs, forest tours, and literature.

Private Organizations: The Woodland Steward Institute is a coalition of Indiana organizations interested in promoting good forest management. They publish an informative quarterly newsletter directed principally to forest landowners. Other organizations founded to promote forest stewardship and meet the needs of forest landowners are the **Indiana Forestry** and **Woodland Owners Association (IFWOA)** and the **American Tree Farm System**. IFWOA promotes forest landowner education through informative annual meetings. They also publish a Directory of Professional Foresters. Enrolling your forest as a Tree Farm in the American Tree Farm System provides you further opportunities for getting the information you need. They publish a bi-monthly magazine and host an annual convention. State chapters organize volunteers who inspect Tree Farms to ensure they maintain standards of good forestry. Both IFWOA and American Tree Farm System sponsor landowner recognition programs that encourage and reward excellent forest stewardship.

Natural Areas Association and **The Nature Conservancy** can provide information on how to identify and manage unique habitats and plant communities on your property. Organizations like **The Audubon Society** attract people who share a love for nature while providing valuable information on wildlife management. Their annual Christmas bird count, conducted by thousands of bird watching enthusiasts nationwide, provides valuable information on bird population trends.

Numerous environmental organizations promote their own philosophies of forest sustainability. Many of them advocate forest preservation; i.e., allowing nature to take its course with minimal human intervention. Preservation of your forest is a management option. Keep in mind that preservation does not equate to a forest that never changes. Change in the forest is relentless, with or without human influence. Preservation of a severely degraded or decaying forest may not fulfill your long term expectations of forest health and beauty, nor those of your heirs. It may also be inconsistent with sustainable forestry principles.

Private Consultants: Government agency foresters and wildlife professionals are often limited by time and agency policy in the services they provide to landowners. Private consulting foresters and other private natural resource professionals provide more comprehensive forest and wildlife management services for a fee. They will do the actual work for you. Some timber companies provide forest management services through their own staff foresters. The type, quality, and sustainability of services and practices may vary between private natural resource professionals, as do their fees. Shop for forestry and wildlife management professionals. Check on their credentials and ask for references. Choose the professional that will best help you achieve your sustainable forest management goals. The Indiana Forestry and Woodland Owners Association publishes the *Directory of Professional Foresters*.

Internet Resources: The internet has greatly expanded the information resources available to forest landowners. Purdue University, IDNR, The Woodland Steward Institute and many other in-state and out-of-state organizations have set up user-friendly WEB sites that you may find helpful. Bear in mind that not all WEB sites may be reliable sources of accurate information. Anyone can set up a WEB site and publish inaccurate or misleading information on the internet. The main problem in the future will not be a lack of information, but sorting through an overwhelming abundance of information to find what you need. The *Forest Landowner's Help! Directory* in the back cover pocket contains a partial list of useful WEB sites.

Additional Information

Bick, S. and H.L. Haney, Jr. 2001. *A Landowner's Guide to Conservation Easements*. Kendall/Hunt Publishing Co., Dubuque, IA. 179 p. ISBN 0-7872-7641-3.

Hoover, W.L. 2000. *Timber Tax Management for Tree Farmers*, Purdue University Cooperative Extension Service, FNR-80. 210 p.

Haney, H.L., W.L. Hoover, W.C. Siegel, and J.L. Greene. 2001. *Forest Landowners' Guide to the Federal Income Tax*, USDA, Forest Service, Agricultural Handbook No. 718. 157 p.

Haney, H.L. and W.C. Siegel. 1993. *Estate Planning for Forest Landowners*. USDA, Forest Service, Southern Forest Experiment Station, Gen. Tech. Rep. SO-97. 186 p.

MacGowan, B., B. Miller, and J. Siefert. 2001. *Forestry & Wildlife Management Assistance Available to Indiana Landowners: Providers, Organizations and Programs*. Purdue University Cooperative Extension Service, FNR-87. 11 p.

McEvoy, T.J. 1998. *Legal Aspects of Owning and Managing Woodlands*. Island Press, Covelo, California. 208 p. ISBN 1-55963-638-6.

Small, S.J. 1992. *Preserving Family Lands, Essential Tax Strategies for the Landowner*. Landowner Planning Center, Boston, MA. 99 p. ISBN 0-9624557-1-7.

Small, S.J. 1997. *Preserving Family Lands: Book II, More Planning Strategies for the Future*. Landowner Planning Center, Boston, MA. 119 p. ISBN 0-9624557-3-3.

Notes

A Landowner's Guide to Sustainable Forestry in Indiana

Disclaimer: *The listing of private organizations within this publication does not imply endorsement by Purdue University.*

Knowledge to Go
Purdue Extension

2/2002

Forest Landowner's *Help!* Directory

Cost Share Grants and Land Rent Programs

Public:

IDNR, Division of Forestry
402 W. Washington St., Rm. W296
Indianapolis, IN 46204
(317) 232-4105
www.state.in.us/dnr/forestry

IDNR Division of Fish & Wildlife
402 W. Washington St., Rm. W273
Indianapolis, IN 46204
(317) 232-4080
www.state.in.us/dnr/fishwild

IDNR, Division of Soil Conservation
402 W. Washington St., Rm. W265
Indianapolis, IN 46204-2739
(317) 233-3870
www.state.in.us/dnr/soilcons

U.S. Department of Agriculture
Natural Resources Conservation Service
6013 Lakeside Boulevard
Indianapolis, IN 46278-2933
(317) 290-3200
www.in.nrcs.usda.gov

U.S. Department of Agriculture
Farm Service Agency
5981 Lakeside Boulevard
Indianapolis, IN 46278
(317) 290-3030
www.fsa.usda.gov/in/

U.S. Fish and Wildlife Service
620 S. Walker St.
Bloomington, IN 47403
(812) 334-4261
www.fws.gov

Private:

Quail Unlimited
10364 South 950 E.
Stendal, IN 47585
www.qu.org

Ducks Unlimited
100 Rothwell Dr.
Columbia, MO 65203
(573) 445-6770
www.ducks.org

Land Classification/Property Tax Abatement Programs

IDNR, Division of Forestry
402 W. Washington St., Rm. W296
Indianapolis, IN 46204
(317) 232-4105
www.state.in.us/dnr/forestry

IDNR Division of Fish & Wildlife
402 W. Washington St., Rm. W273
Indianapolis, IN 46204
(317) 232-4080
www.state.in.us/dnr/fishwild

Conservation Easements and Land Trusts

Indiana Natural Resources Foundation
402 W. Washington St., Rm. W256
Indianapolis, IN 46204
(317) 233-1002
www.state.in.us/dnr/nrf

IDNR Division of Forestry
402 W. Washington St., Rm. W296
Indianapolis, IN 46204
(317) 232-4105
www.state.in.us/dnr/forestry

Indiana Heritage Trust
402 W. Washington St., Rm. W160
Indianapolis, IN 46204-2472
(317) 232-4200
www.state.in.us/dnr/heritage

The Land Trust Alliance
1331 H. Street NW, Suite 400
Washington, DC 20005-4711
(202) 638-4725
www.lta.org

American Farmland Trust
1200 18th Street, NW, Suite 800
Washington, DC 20036
(202) 331-7300
www.farmland.org

The Nature Conservancy
1330 W. 38th St.
Indianapolis, IN 46250
(800) 937-5263
www.tnc.org/states/indiana

Taxes and Estate Planning

National Timber Tax Website
www.timbertax.org

Purdue University Cooperative Extension Service
Department of Forestry & Natural Resources
1159 Forestry Building
West Lafayette, IN 47907-1159
(765) 494-3583
www.fnr.purdue.edu

USDA Forest Service
Southern Research Station
P. O. Box 2680
Asheville, NC 28802
www.srs.fs.fed.us/pubs

Forest Financing and Marketing Alternatives

Forest Bank:

The Nature Conservancy
227 N. Mulberry St., P. O. Box 5
Corydon, IN 47112
(812) 738-2087
www.tnc.org/states/indiana

Forest Cooperatives:

Community Forestry Resource Center
Institute for Agriculture & Trade Policy
2105 First Avenue South
Minneapolis, MN 55404
(612) 870-3456
www.forestrycenter.org

Forest Certification:

Forest Stewardship Council
1155 30th St., N.W., Suite 300
Washington D.C. 20007
(877) 372-5646
www.fscus.org

Scientific Certification Systems
1939 Harrison St., Suite 400
Oakland, CA 94612-3532
(510) 832-1415
www.scs1.com

Rainforest Alliance Smart Wood
#6 Millet St., Goodwin Baker Bldg.
Richmond, VT 05477
(802)434-5491
www.smartwood.org

American Tree Farm System
American Forest Foundation
1111 19th St., N.W., Suite 780
Washington, DC 20036
(202) 463-2462
www.treefarmsystem.org

Education and Technical Assistance

Purdue University Cooperative Extension Service
Department of Forestry & Natural Resources
1159 Forestry Building
West Lafayette, IN 47907-1159
(765) 494-3583
www.fnr.purdue.edu

IDNR, Division of Forestry
402 W. Washington St., Rm. W296
Indianapolis, IN 46204
(317) 232-4105
www.state.in.us/dnr/forestry

IDNR Division of Fish & Wildlife
402 W. Washington St., Rm. W273
Indianapolis, IN 46204
(317) 232-4105
www.state.in.us/dnr/fishwild

IDNR, Division of Soil Conservation
402 W. Washington St., Rm. W265
Indianapolis, IN 46204-2739
(317) 233-3870
www.state.in.us/dnr/soilcons

U.S. Department of Agriculture
Forest Service, Northeast Area State and
Private Forestry
1992 Folwell Avenue
St. Paul, MN 55108
(651) 649-5276
www.na.fs.fed.us/spfo

U.S. Department of Agriculture
Natural Resources Conservation Service
6013 Lakeside Boulevard
Indianapolis, IN 46278-02933
(317) 290-3200
www.in.nrcs.usda.gov

U. S. Fish and Wildlife Service
620 S. Walker St.
Bloomington, IN 47403
(812) 334-4261
www.fws.gov

Private:

Indiana Woodland Steward Institute
P.O. Box 216
Butlerville, IN 47223
(812) 458-6978
www.inwoodlands.org

Indiana Forestry and Woodland Owners Association
www.inwoodlands.org

American Tree Farm System
American Forest Foundation
1111 19th St., N. W., Suite 780
Washington, DC 20036
(202) 463-2462
www.treefarmsystem.org

Quail Unlimited
10364 South 950 E.
Stendal, IN 47585
www.qu.org

The National Wild Turkey Federation
8818 North 400 W.
Roann, IN 46974
(219) 982-7935
www.nwtf.org

Ducks Unlimited
100 Rothwell Dr.
Columbia, MO 65203
(573) 445-6770
www.ducks.org

Indiana Audubon Society
3499 S. Bird Sanctuary Road
Connersville, IN 47331
(756) 825-9788
www.indianaaudubon.org

Indiana Wildlife Federation
950 N. Rangeline Road, Suite A
Carmel, IN 46032
(317) 571-1220
www.indianawildlife.org

Indiana Forest Landowner's Web Site Directory

Purdue University Cooperative Extension Service
Department of Forestry and Natural Resources
www.fnr.purdue.edu

Purdue Extension-*Knowledge to Go!*
www.ces.purdue.edu

Government Agencies

Federal:

Forest Landowner's Guide to Internet Resources
www.na.fs.fed.us/pubs/misc/ir/index.htm

USDA Farm Service Agency
www.fsa.usda.gov/in/

USDA Forest Service
Northeast Area State & Private Forestry
www.na.fs.fed.us/spfo

USDA Forest Service Publications Index
www.fs.fed.us/news/publications

USDA Natural Resources Conservation Service
www.in.nrcs.usda.gov

U.S. Fish and Wildlife Service
www.fws.gov

U.S. Government Printing Office, Bookstore
http://bookstore.gpo.gov

State:

Indiana Department of Environmental Management
www.in.gov/idem

Indiana Department of Natural Resources
www.state.in.us/dnr

IDNR Division of Fish & Wildlife
www.state.in.us/dnr/fishwild

IDNR Division of Forestry
www.state.in.us/dnr/forestry

Private Organizations

American Tree Farm System
www.treefarmsystem.org

Association of Consulting Foresters of America
www.acf-foresters.com

Indiana Woodlands Information Home Page
www.inwoodlands.org

The Complete Forestry Home Page
www.forestry.about.com

The New Forestry Index
www.forestryindex.net

Tree Link
www.treelink.org

FNR-214

Planting and Care of Fine Hardwood Seedlings

Hardwood Tree Improvement and Regeneration Center
North Central Research Station
USDA Forest Service
Department of Forestry and Natural Resources
Purdue University

Financial and Tax Aspects of Tree Planting

William L. Hoover
Department of Forestry and Natural Resources, Purdue University

Trees are planted for many reasons, including soil and water conservation, wildlife habitat, nut and timber production. Altruism motivates many landowners to plant trees. There are, however, those who plant with the expectation of increasing their family's wealth. In this publication I discuss the financial and tax aspects of tree planting projects. The focus is on trees planted for timber production, although other purposes are mentioned to distinguish their treatment with the tax treatment of timber. Internal Revenue Code and associated regulations are cited as authorities for use by tax professionals.

Financial Analysis of Tree Planting

The financial implications of the long time periods involved in recovering tree planting costs and earning an acceptable rate of return on the investment are significant. Money spent on tree planting may not be returned by the sale of timber products for decades. In many cases the cost is borne by one generation and the income received by a later generation. If you do not expect to receive income from a tree-planting project during your lifetime, it is important to ask if planting trees is justified economically. Decisions can also be viewed in broader societal terms, i.e., will society benefit if you plant trees, or would it be better to use your resources on some other project?

The traditional way to answer this question is to conduct a detailed discounted cash flow analysis (DCFA). Such an analysis estimates the net present value of a project using the alternative rate of return, or estimates the rate of return actually earned by the project, referred to as the internal rate of return. DCFA requires you to estimate expenses and revenues many years into the future. You also have to estimate timber growth rates, number of trees per acre, and best years to harvest, among many other assumptions. Benjamin (1996) conducted such an analysis for black walnut plantations and agroforestry projects in Indiana.

A quick way to determine the financial viability of a project is to compare $1 invested in tree planting today, with the value of timber that this $1 would need to grow into in order to cover the cost of tying

up the $1 in trees instead of an alternative use. Economists call this cost an opportunity cost, and for timber it is the opportunity cost of time. What the $1 would have returned if it were invested somewhere other than tree planting is measured using an assumed interest rate, usually referred to as the alternative rate of return. This rate depends on the other opportunities for investing an additional dollar.

In this discussion, the opportunity cost of time is assumed to be 3 percent per year. This should be considered to be a real rate of return, that is, the return assuming no inflation.

Table 1 (see page 2) shows the amount by which $1 would have to increase to cover the opportunity cost measured by interest rates from 1 to 10 percent per year. For example, if you are satisfied with a 3 percent real rate of return on your investments, the value of timber produced by each $1 of tree planting would have to be $10.64 in 80 years, more than a 10 fold increase. Example 1 demonstrates how Table 1 could be used.

There are no published estimates of stocking and growth rates for well-managed mixed species hardwood forests initiated by planting in the Central states. Mixed species hardwood plantings are relatively recent developments. The best information is available for black walnut plantations, such as the analysis by Benjamin (1996). There is some published information for natural second growth

Table 1. *Value of one dollar at various interest rates after 5 to 100 years.*

	Interest rate									
Years	**0.01**	**0.02**	**0.03**	**0.04**	**0.05**	**0.06**	**0.07**	**0.08**	**0.09**	**0.1**
5	$1.05	$1.10	$1.16	$1.22	$1.28	$1.34	$1	$1	$2	$2
10	$1.10	$1.22	$1.34	$1.48	$1.63	$1.79	$2	$2	$2	$3
15	$1.16	$1.35	$1.56	$1.80	$2.08	$2.40	$3	$3	$4	$4
20	$1.22	$1.49	$1.81	$2.19	$2.65	$3.21	$4	$5	$6	$7
25	$1.28	$1.64	$2.09	$2.67	$3.39	$4.29	$5	$7	$9	$11
30	$1.35	$1.81	$2.43	$3.24	$4.32	$5.74	$8	$10	$13	$17
35	$1.42	$2.00	$2.81	$3.95	$5.52	$7.69	$11	$15	$20	$28
40	$1.49	$2.21	$3.26	$4.80	$7.04	$10.29	$15	$22	$31	$45
45	$1.56	$2.44	$3.78	$5.84	$8.99	$13.76	$21	$32	$48	$73
50	$1.64	$2.69	$4.38	$7.11	$11.47	$18.42	$29	$47	$74	$117
55	$1.73	$2.97	$5.08	$8.65	$14.64	$24.65	$41	$69	$114	$189
60	$1.82	$3.28	$5.89	$10.52	$18.68	$32.99	$58	$101	$176	$304
65	$1.91	$3.62	$6.83	$12.80	$23.84	$44.14	$81	$149	$271	$490
70	$2.01	$4.00	$7.92	$15.57	$30.43	$59.08	$114	$219	$417	$790
75	$2.11	$4.42	$9.18	$18.95	$38.83	$79.06	$160	$321	$641	$1,272
80	$2.22	$4.88	$10.64	$23.05	$49.56	$105.80	$224	$472	$987	$2,048
85	$2.33	$5.38	$12.34	$28.04	$63.25	$141.58	$315	$693	$1,518	$3,299
90	$2.45	$5.94	$14.30	$34.12	$80.73	$189.46	$441	$1,019	$2,336	$5,313
95	$2.57	$6.56	$16.58	$41.51	$103.03	$253.55	$619	$1,497	$3,593	$8,557
100	$2.70	$7.24	$19.22	$50.50	$131.50	$339.30	$868	$2,200	$5,529	$13,781

mixed hardwood stands. Using this information makes it necessary to assume that a well-managed hardwood plantation will emulate a natural stand of timber by the time of the final harvest. With the right management this is possible. A key consideration is emulating natural stand conditions by keeping the number of trees per acre high enough for the trees to self-prune and have trunks with the degree of taper typical for forest-grown trees.

Fisher and Kershaw (1985) reported growth as a function of stocking levels for upland hardwood stands in central and southern Indiana. The maximum growth of 270 board feet per acre per year for heavily stocked stands was 100 trees and 120 sq. ft. basal area per acre. Basal area is a measure of tree density. The productivity of stands in the glaciated regions of northern Indiana is assumed by foresters to be higher than this figure. The upper end of stocking and growth estimates for well-stocked intensively managed stands is approximately 6 MBF per acre and 300 board feet per acre per year. Well-managed stands should produce higher quality timber, providing an average value of $600 or more per MBF, compared to the $330 average assumed in Example 1. Using 6 MBF and $600 per MBF provides a timber liquidation value of $3,600 per acre, approximately what is required for a 3 percent rate of return (discussed in Example 1). Thus, an optimist might be willing to argue that a really good planting on a very good site with management for 80 years could provide a 3 percent real rate of return. But what if the timber is not liquidated in year 80?

An alternative valuation approach is to not assume that stands are liquidated at year 80, but instead are converted to uneven aged stands using a 10-year cutting cycle. This means that every 10 years the stand is evaluated and trees marked for harvest based on financial maturity.[2] This requires estimating the value in year 80 of a harvest every 10 years of 2 to 3 MBF per acre worth $600 per MBF. These values are approximately $3,500 and $5,300.[3] Thus, a growth rate of 300 board feet per acre per year is more than adequate to provide a 3 percent rate of return for a well-managed stand, based on the average values per acre (discussed in Example 1). A growth rate of 200 board feet per acre per year barely provides a 3 percent rate of return.

Example 1. John Jones is considering the establishment of a forest on land that is now pastured. The consulting forester told John that the initial cost would be $250 per acre and $40 per acre in the next 2 years to control grass and herbaceous vegetation. John is satisfied with a 3 percent real rate of return on his investments. We can express the costs for the first 3 years as of the date of planting by discounting the two $40 expenditures back to the time of planting. This makes the total cost of regeneration $327[1] per acre. Assuming the timber would be liquidated in 80 years, and the 3 percent rate of return applies, the appropriate value from Table 1 is $10.64. Multiplying this value from Table 1 by $327 indicates that the timber on each acre of forest would have to be worth at least $3,475 in 80 years. John evaluates the conditions under which an existing stand of timber is worth at least $3,475 per acre and compares these conditions to his situation.

The most recent forest inventory conducted by the U. S. Forest Service reports that the average acre of timberland in Indiana contains 3.95 thousand board feet of timber large enough to be harvested for sawlogs (Schmidt et. al., 2000). This average reflects the balance between total annual growth and annual harvest for the entire state. The volume in 80 years for a well-managed stand would be higher. If the stand grew an average of 120 board feet per acre per year the volume in 80 years would be 9.6 million board feet (MBF). An average price for timber sold standing in the forest (stumpage) in 2002 was $330 per MBF (Hoover 2002). This means that on average there is between $1,304 (3.95 MBF x $330 per MBF) and $3,168 (9.6 MBF x $330) worth of timber per acre. John's planting project and timber management program would have to result in a forest in 80 years that is worth about three times the average current forest in Indiana, or about equal to a managed forest that captures an average growth of 120 board feet per acre per year. This is without considering all the other holding and management costs incurred over the 80 years. By using the appropriate tax treatments, however, John's planting project can be made more financially attractive.

Taxes affect many decisions. The favorable tax treatment of tree planting projects helps justify them financially. The tax rules for tree planting are discussed next, followed by estimates of the timber values needed to justify tree planting on an after-tax basis.

Basic Tax Treatment of Tree Planting Expenses

The tax treatment of tree planting expenses depends on the primary purpose for which they are planted.

Landscaping

If trees are planted for residential landscaping, the cost is added to the cost of the property improved (Example 2). The cost of property is referred to as its basis for income tax purposes. The basis of purchased residential property is the price paid plus the cost of improvements, such as landscaping. The basis is not recovered until the property is sold or suffers a casualty loss.

Conservation

The cost for trees planted strictly for conservation purposes would also be added to the basis of the property on which they were planted. The only exception is if the property is a farm and the tree planting was part of a conservation practice approved by the Natural Resources Conservation Service (NRCS), Example 3.[4] For this purpose a farm is property that produces farm income. Gains from the sale of timber are not included in the definition of farm income for purposes of qualifying for the deduction of conservation expenses.[5]

Orchards, Agroforestry, and Silvopastural

Trees planted as an orchard for nut or fruit production are subject to the uniform capitalization (UNICAP) rules.[6] This means that all the costs incurred until the trees start to produce a salable crop must be added to the basis of the trees. At this point these costs are depreciated, i.e., deducted over a period of years. If trees are

Example 2. The Brown's, a married couple, purchased five acres of land in 2000 for $50,000. They built a house on the land at a cost of $150,000. In addition, they paid $2,500 for landscaping, including approximately $600 for 300 trees to provide a wind break and bird habitat. The total basis of the Brown's residential property is $202,500 ($50,000 + $150,000 + $2,500). This basis would be used to determine the gain if the property was sold. For example, if they sold the property for $250,000 they would have a gain of $47,500 ($250,000 - $202,500). In this situation, however, no capital gains tax would have to be paid if they lived in the house because of the exclusion of up $500,000 for owner occupied residential property for a married couple filing a joint return.

The basis is also used to determine the deduction for a casualty loss. Assume that a tornado uprooted most of the trees on the lot. The Brown's hire a real estate appraiser who determined that immediately before the tornado the fair market value of the entire property (house and landscaping) was $280,000, but afterwards its fair market value was $240,000. The Brown's tax preparer compares the $40,000 decline in the fair market value of the property to the $202,500 basis of the property. Since the decline in value is less than the basis of the property, the Brown's deductible loss is $40,000. How much they can actually deduct depends on other factors.

Example 3. The Black's, a married couple, jointly operate a cash grain farm. Their gross income in 2003 from the sale of grain was $60,000. Their Soil and Water Conservation District has a watershed program that encourages farmers to install riparian buffer strips of trees and grass. Their NRCS District Conservationist developed a site plan for the stream running through their property. The cost to install this project in 2003 was $18,000. On their 2003 return the Black's can deduct only $15,000 as a soil and water conservation expense because the maximum deduction is 25 percent of gross income from farming. The balance of $3,000 can be carried over for deduction on their 2004 tax return.

planted for both nuts and timber, it is necessary to declare whether the primary purpose is nuts or timber and treat expenses consistently with this primary purpose. Godsey (2001) discusses the tax treatment of agroforestry projects. These projects combine timber and or nut production with row crop agriculture or grazing. Silvopastural systems may combine timber production with livestock grazing and in some cases species of trees that provide browse. Rotational grazing systems are used to reduce soil compaction. If the trees used in the system were for timber production then they would be treated as timber for tax purposes.

Commercial Timber Production

Trees planted for timber production as an investment or business are not subject to the UNICAP rules;[7] however, the costs must be added to the basis of the trees and kept in this basis account until the trees are large enough to be marketable.[8] These accounts are given special names. From the time of planting until the trees are big enough to be sold (merchantable), the account is called the plantation or deferred reforestation account. Once the trees are merchantable, the dollars in the plantation account are transferred to the merchantable timber account. Then, when timber is sold, the depletion allowance for the timber sold is determined using the merchantable timber account, as demonstrated in Example 4. This is also the account used to determine the deduction allowed when timber is stolen, or destroyed in a storm or fire.

Tax Treatment for Commercial Timber Production

Reforestation Tax Credit and Amortization

There is an exception to the basic tax treatment of trees planted for timber demonstrated in Example 4. This exception applies to no more than $10,000 of qualified tree planting expenses per year and consists of a 10 percent tax credit,[10] and an 84-month (8 years with a ½-year convention) amortization of the qualified expenses[11] reduced by one-half of the tax credit claimed.[12]

Election Required

This treatment is an election that must be properly made on a timely filed tax return. For any year in which you claim qualified expenses, the regulations require that you attach a statement to your tax return stating that you are electing to treat qualified expenditures.[13] The statement should specify the amounts of the expenditures, describe the nature of the expenditures, and give the date when each was incurred. It should also state the type of timber being grown and the purpose for which it is being grown. A separate statement must be included for each property where reforestation expenditures are being amortized under Section 194. The election may only be made on a timely return (taking into account extensions of the time for filing) for the taxable year when the amortizable expenditures were made.

Example 4. The Smith's planted fast-growing hybrid poplar trees for timber production. The total cost for establishment of the 40-acre plantation in 1985 was $10,000. This $10,000 expense was placed in a plantation account. Operating and management expenses were deducted annually from other income. For simplicity, the cost of fertilizer treatments of $600 in 1990 and $800 in 1995 were added to the balance in the plantation account.[9] The trees were thinned in 1993 at a cost of $2,500. In 2000 another thinning was made, but this time the trees were big enough to sell as pulpwood. At this time the total amount in the plantation account was $13,900. The volume of timber in the plantation at this time was determined to be 1,200 cords based on a timber cruise, i.e., a statistically based sampling of the size and number of trees in the plantation.

Since the timber was now merchantable, the plantation account was closed out to the merchantable timber account with a dollar balance of $13,900 and a volume balance of 1,200 cords. The logger doing the thinning harvested 400 cords for which he paid $5,300. The depletion unit is $11.58 per cord, determined by dividing $13,900 by 1,200. The taxable gain on the sale would be $668, determined by subtracting the depletion allowance of $4,632 from $5,300. The depletion allowance is determined by multiplying the 400 cords harvested by the depletion unit of $11.58 per cord.

Qualifications

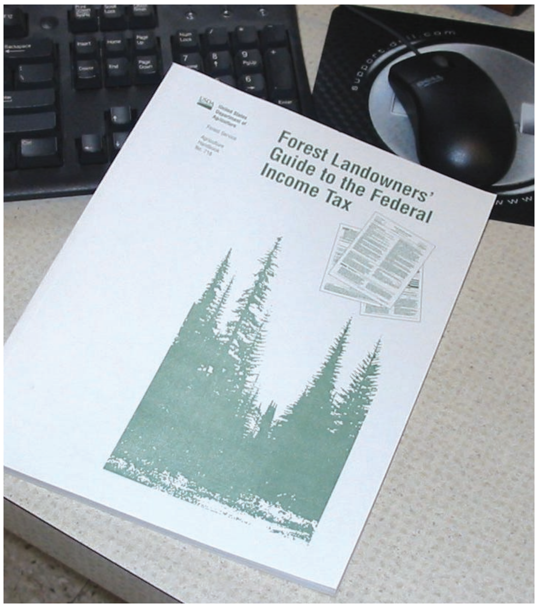
To qualify for the 10 percent tax credit and 84 month amortization, the reforestation must be for the commercial production of timber. This means that eventually you must expect to sell standing timber (stumpage), logs produced from the timber, or process these logs in your own business. The tract planted must be at least one acre, and located in the United States. Trusts do not qualify for the tax credit and amortization deduction.

Expenses that Qualify

Expenses that qualify are any activity directly related to the establishment of a new stand of timber. Although usually referred to as the reforestation tax credit and amortization provisions, these benefits are not limited to reforestation activities, that is, planting on cutover forest land. Expenses for trees planted on land not previously forested qualify. In this case the activity is referred to as afforestation.

Both natural and artificial regeneration qualify. For natural regeneration, the cost of fencing, repellents, or other means of reducing deer browse damage would qualify. Qualified expenses also include mechanical barriers or poison to reduce winter damage from rodents, and herbicide, mulch, or other measures to reduce competition from grass and herbaceous plants. For artificial regeneration, the cost of seeds, seedlings, planting, weed control, and other necessities qualify. The number of years expenses qualify is usually one or two. It could be longer if weed control is necessary for the survival of the seedlings. The cost for direct seeding also qualifies.

Although trusts do not qualify for the credit and amortization deduction, estates do qualify. The benefits must be apportioned among the estate and the beneficiaries. If there is a remainder interest in the property only the life tenant qualifies.



As the owner you cannot pay yourself and count this as a qualifying expenditure. This also applies to your spouse if he or she is a joint owner. Assuming that they are not also owners, you can pay your children to help with this work, assuming they actually provide meaningful labor.

Annual Limitation

The total amount that qualifies in any one year is $10,000 per taxpayer, but the limit also applies to a corporation, partnership, or other type of business, as demonstrated in Example 5. Amounts above $10,000 are placed in the plantation account, as demonstrated in Example 4.

One of the brothers (in Example 5), Marty, spent $8,000 for reforestation on his own land. Since he is individually subject to the $10,000 limit he would claim the credit and amortization on $10,000, consisting of $2,500 from the partnership and $7,500 from his own project. The $500 balance from his project would be placed in his individual plantation account. Thus, he would have a $1,000 tax credit and an amortization deduction of $678.57 on his 2003 Form 1040. The amortization deduction for the next 6 years would be $1,357.14 and the final $678.57 would be deducted in the final year.

Example 5. John Jones and his three brothers Marty, Jack, and Bruce own forestland together as tenants in common. They operate as a partnership and allocate all items of income and expense equally. Each brother also owns tracts of timberland individually. In 2003, the partnership incurred $12,000 of reforestation expenses that qualified for the credit and amortization. However, the partnership is limited to $10,000. The partnership would pass through to each partner $2,500 of reforestation expenses. The $2,000 balance would be put in the partnership's plantation account.

Table 2. Value of one dollar after reforestation tax credit and amortization deduction[1] at various interest rates for 5 to 100 years for a taxpayer in the 25 percent income tax bracket.

	Interest rate									
Years	**0.01**	**0.02**	**0.03**	**0.04**	**0.05**	**0.06**	**0.07**	**0.08**	**0.09**	**0.1**
5	$0.55	$0.58	$0.61	$0.64	$0.67	$0.71	$1	$1	$1	$1
10	$0.58	$0.64	$0.71	$0.78	$0.86	$0.95	$1	$1	$1	$1
15	$0.61	$0.71	$0.82	$0.95	$1.10	$1.26	$1	$2	$2	$2
20	$0.64	$0.78	$0.95	$1.16	$1.40	$1.69	$2	$2	$3	$4
25	$0.68	$0.87	$1.11	$1.41	$1.79	$2.27	$3	$4	$5	$6
30	$0.71	$0.96	$1.28	$1.71	$2.28	$3.03	$4	$5	$7	$9
35	$0.75	$1.06	$1.49	$2.08	$2.91	$4.06	$6	$8	$11	$15
40	$0.79	$1.17	$1.72	$2.53	$3.72	$5.43	$8	$11	$17	$24
45	$0.83	$1.29	$2.00	$3.08	$4.74	$7.27	$11	$17	$26	$38
50	$0.87	$1.42	$2.31	$3.75	$6.05	$9.72	$16	$25	$39	$62
55	$0.91	$1.57	$2.68	$4.56	$7.73	$13.01	$22	$36	$60	$100
60	$0.96	$1.73	$3.11	$5.55	$9.86	$17.41	$31	$53	$93	$161
65	$1.01	$1.91	$3.61	$6.76	$12.58	$23.30	$43	$79	$143	$259
70	$1.06	$2.11	$4.18	$8.22	$16.06	$31.18	$60	$115	$220	$417
75	$1.11	$2.33	$4.84	$10.00	$20.50	$41.73	$84	$170	$338	$671
80	$1.17	$2.57	$5.62	$12.17	$26.16	$55.84	$118	$249	$521	$1,081
85	$1.23	$2.84	$6.51	$14.80	$33.39	$74.73	$166	$366	$801	$1,741
90	$1.29	$3.14	$7.55	$18.01	$42.61	$100.01	$233	$538	$1,233	$2,804
95	$1.36	$3.46	$8.75	$21.91	$54.38	$133.83	$327	$790	$1,897	$4,516
100	$1.43	$3.82	$10.14	$26.66	$69.41	$179.09	$458	$1,161	$2,918	$7,274

[1] One dollar of qualified expenditure saves $0.10 from the tax credit. The after-tax cost considering the amortization deduction was calculated for the 25 percent tax bracket and 3 percent rate of interest as the present value of the annual after-tax cost over 8 years. This calculation is $(0.75 \times 0.067857)/1.03^1 + (0.75 \times 0.135714)/1.03^2 + (0.75 \times 0.135714)/1.03^3 + (0.75 \times 0.135714/1.03^4 + (0.75 \times 0.135714)/1.03^5 + (0.75 \times 0.135714)/1.03^6 + (0.75 \times 0.135714)/1.03^7 + (0.75 \times 0.067857)/1.03^8$. Reducing this by the $0.10 tax credit makes the after-tax cost as of the time of planting $0.53. For discounting purposes the time of planting was considered to be the beginning of year one.

The other brothers would have a $250 tax credit and $169.64 amortization deduction in 2003. Their amortization deduction would be $339.29 for the next 6 years and $169.64 in the final year.

Claiming the Amortization Deduction

The amortization deduction is a deductible business expense if you report timber activities on a business tax return such as Schedule C, F, partnership, or corporate form. If timber activity is not large enough to be a business, file as an investor. This means you report expenses as itemized deductions on Schedule A of your Form 1040. In this case, the amortization deduction is taken as an adjustment to gross income.[14] This means you benefit if you do not itemize your deductions, and if you do itemize it is not subject to the limit for miscellaneous itemized deductions. Miscellaneous itemized deductions contribute to total itemized deductions only to the extent they exceed 2 percent of adjusted gross income.

The total amount amortized is total qualified expenses, up to $10,000, minus one-half of the tax credit claimed. Thus, if the maximum $10,000 expenditure were made, the amount qualifying for amortization would be $9,500. The amortization deduction/adjustment is 1/14 of the total qualified amount in the year of the expenditure, 1/7 for the next 6 years, and 1/14 again the 8th year. The tax savings depends on your marginal income tax rate. For example, if you are in the 25 percent tax bracket, then a dollar spent on reforestation saves you $0.25 in taxes you would otherwise have to pay. This makes the after-tax cost 75 percent of what you spend.

Up-to-date details, including the specific procedures for claiming the tax credit and amortization deduction are on the National Timber Tax Website (NTTW) at http://timbertax.org.

After-Tax Financial Analysis of Tree Planting

Using the reforestation tax credit and amortization provisions makes it easier to justify tree-planting projects financially. Any action that reduces up-front costs helps significantly. Revisiting Example 1, if John was in the 25 percent tax bracket and used the tax credit and amortization provisions his after tax cost in 2003 would be approximately $0.53 on each $1 spent on tree planting. After-tax values for $1 spent by someone in the 25 percent tax bracket are shown in Table 2. After tax, $1 spent on tree planting has to produce timber worth at least $5.62 in 80 years with a 3 percent opportunity cost. This is significantly less than the $10.64 needed on a before tax basis. Applying $5.62 to the $327 cost per acre means the acre must be worth $1,838. The average stand is worth between $1,304 and $3,168, so the plantation must be a little better than average to justify the expenditure on an after-tax basis. Again, we have only considered the 3 years of establishment costs.

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Footnotes

[1] Total cost of regeneration = $\$250 + \$40/(1.03)^1 + \$40/(1.03)^2$

[2] See Mills and Callahan, 1981.

[3] Capital values of a perpetual series of periodic payments of $1,200 and $1,800. The calculations are $\$1,200/(1.03^{10}-1)$ and $\$1,800/(1.03^{10}-1)$.

[4] Internal Revenue Code (IRC) §175.

[5] IRC Reg. §1.175-3: . . . A taxpayer engaged in forestry or the growing of timber is not thereby engaged in the business of farming. A person cultivating or operating a farm for recreation or pleasure rather than a profit is not engaged in the business of farming.

[6] IRC §263A.

[7] IRC §263A(c)(5).

[8] IRC §611(a), and Reg §1.611(3)(a).

[9] The treatment of fertilization costs is an issue under consideration by the IRS. The recommended treatment is to amortize the cost over the number of years the fertilizer is expected to have an affect on the growth rate.

[10] IRC §48(b)(1).

[11] IRC §194.

[12] IRC §50(c)(1), and IRC §50(3)(c)(A).

[13] IRC §1.194-4.

[14] §1.62-1(c) & §1.62-1T(12).

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NATURAL RESOURCE ENTERPRISES

Wildlife and Recreation

Hunting Leases: Considerations and Alternatives for Landowners

Interest is growing in the South and throughout the United States for landowners to provide recreational access to their land for sportsmen and others to hunt, fish, and enjoy other types of outdoor recreation. For many farm, ranch, forest, and other landowners, alternative enterprises may provide an opportunity to sustain their natural resource base, maintain their quality of life, and increase annual profits.

Offering access to private land for recreational uses by the public can be a viable alternative enterprise. Natural resource-based alternative enterprises on private land range from producing products such as pine straw for mulching, to providing access for bird watching, trail riding, and hunting and fishing.

Recreational hunting and fishing leases have become an important source of supplemental income for many landowners in recent years, and the demand for access to private lands for recreational uses continues to grow. When these enterprises are appropriately developed and implemented, they will contribute to local community economies in many ways. However, there are many things to consider before implementing a hunting lease.

Not all private landowners will want to open their lands for such access and use, but for those who feel they would like to explore such