Estimating The Cost of Forest-based Income Tax Incentives to Promote Clean Water
by
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Abstract
Conversion of flood-prone cropland to flood-tolerant uses provides numerous environmental and wildlife benefits. Among flood-tolerant uses, forest cover provides the most wildlife benefits and filters out the greatest proportion of most agricultural pollutants. Unfortunately, converting even flood-prone cropland to forest cover usually causes its value to decrease. While farmers generally are interested in converting flood-prone land to more environmentally beneficial uses, most are able to do so only if an incentive is provided. The Tax Incentives Team for the Clean Water Action Plan, composed of research economists and senior staff members from seven federal agencies, developed three policy recommendations to promote conversion of flood-prone cropland to forest cover: (1) provide uniform tax treatment for government cost-share payments to establish trees, (2) update the reforestation tax credit and amortization provisions, and (3) provide “stewardship investment” tax deductions for qualified conservation-related investments in forest management. All three recommendations would benefit rural landowners. All three would make use of existing regulatory systems and avoid increasing the administrative burden on public agencies. The revenue impacts of the recommendations are estimated at $17 million over five years or $28 million over 10 years for the first, $181 million over five years or $340 million over 10 years for the second, and $66 million over five years or $153 million over 10 years for the third.

INTRODUCTION
Conversion of flood-prone cropland to flood-tolerant uses—forest cover, hay, or grassland, for example—provides numerous environmental and wildlife benefits. It reduces soil erosion, improves water quality, creates habitat for both land- and water-dwelling species of wildlife and plants, provides travel corridors for wildlife, and moderates the extremes of flood and drought. The improvement in water quality stems from the fact that the converted cropland no longer contributes to the load of agricultural pollutants—suspended sediment, nitrogen, and phosphorus—as it once did. It also serves as a filter, preventing pollutants from adjacent cultivated land from entering the waterway (Amacher et al. 1998, Faber 1999).

Forest cover provides greater wildlife benefits than hay or grass. For example, a well-managed 160-acre poplar stand supports up to 38 species of birds, twice the number for an equal area of hay or grass, and eight times the number for cultivated cropland. Forest cover also filters out a larger proportion of most agricultural pollutants than hay or grass (Faber 1999).

Unfortunately, the economics of converting even flood-prone cropland to forest cover are problematic. Amacher et al. (1998) used IMPLAN to assess the regional economic impacts of converting flood-prone cropland in the Mississippi Delta to forest cover. At the farm level, conversion caused industry output, employee compensation, total income, value added, employment, and taxes all to decline on a per-acre basis. The results improved when secondary processing was considered, because processing adds proportionately more value to forest products than to agricultural products. For the poorest soils, however, the measures for conversion remained negative.

While farmers generally are interested in converting frequently-flooded cropland to more flood-tolerant uses, most are willing to make the switch only if the converted acres continue to provide some income or if an incentive is offered (Faber 1999).

POLICY RECOMMENDATIONS
The Tax Incentives Team for the Clean Water Action Plan—composed of research economists and senior staff members from four agencies of the Department of Agriculture, the Department of the Interior, the Department of the Treasury, and the Environmental Protection Agency—met over a two-year period to develop and evaluate federal income tax incentives designed to reduce pollution or enhance resource values in U.S. waterways. Three of the policy recommendations the Team developed would

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promote conversion of flood-prone cropland to forest cover:

1. Provide uniform tax treatment for government cost-share payments to establish trees,

2. Update the reforestation tax credit and amortization provisions, and

3. Provide “stewardship investment” tax deductions for qualified conservation-related investments in forest management.

Implementing each of the recommendations would require changes to the Internal Revenue Code (IRC) or the way it is administered. The changes, their effect on taxpayers and administrative agencies, and their estimated impact on federal revenue are discussed below. Each recommendation is considered separately.

RECOMMENDATION 1: PROVIDE UNIFORM TAX TREATMENT FOR GOVERNMENT COST-SHARE PAYMENTS TO ESTABLISH TREES

The Conservation Reserve Program (CRP), established by the 1985 Food Security Act, has motivated large numbers of rural landowners to convert flood-prone and erosive cropland to tree cover. The USDA Farm Service Agency estimates that through the end of 1998, 2.85 million acres of flood-prone cropland on some 70,000 farms were converted to tree cover under CRP (Personal communication, Alexander Barbarika, USDA Farm Service Agency, Natural Resources Analysis Group, September 13, 1999).

Unfortunately, landowners who use CRP cost-share payments to help defray the cost of establishing trees cannot exclude a calculated portion of the payments from their gross income, as can recipients of similar payments from other federal and state cost-share programs. CRP payments must be included in the owners’ gross income, where they are subject to self-employment taxes and federal and state income taxes.3

Moreover, landowners who receive payments from other government cost-share programs to establish trees cannot always exclude the entire amount of the payments from their gross income. Due to the way the excludable amount is calculated, landowners who use a cost-share payment to establish trees on land that has provided little or no income in recent years—as may occur with flood-prone cropland—find they can exclude only a small part of the payment.

Implementing the Recommendation

Two changes in the way the Internal Revenue Code is administered would provide for uniform tax treatment of government cost-share programs and cost-share payments to establish trees:

1. An administrative determination that CRP cost-share payments for establishing trees may be excluded from the recipient’s gross income under IRC Section 126, as is the case with similar payments under other federal and state cost-share programs.

2. An administrative determination that the full amount of cost-share payments from a qualified federal or state program for establishing trees may always be excluded from the recipient’s gross income under IRC Section 126, as opposed to the current situation in which the excludable amount varies depending on the specific facts of each case.

Effect on Taxpayers and Administrative Agencies

The first determination would provide for uniform tax treatment of government cost-share programs to establish trees. Rural landowners who receive such payments from all federal cost-share programs except CRP—as well as several state programs—can elect to exclude a calculated portion of the payments from their gross income. Payments under the Forestry Incentive Program (FIP) were listed as excludable in Public Law 96-451. Payments under the Stewardship Incentives Program (SIP) were determined to be excludable in 1994, and payments under the Wetlands Reserve Program (WRP), Environmental Quality Incentives Program (EQIP), and Wildlife Habitat Incentives Program (WHIP) were determined to be excludable in 1997. The determination that cost-share payments under CRP are not excludable dates to 1987. If the issue was reexamined in the light of the more recent favorable determinations, it seems likely that CRP cost-share payments to establish trees also would be found to qualify for exclusion.

3 Under IRC Section 175 landowners are permitted to deduct CRP-reimbursed expenditures for certain soil and water conservation practices, to a limit of 25 percent of their gross income from farming. Without this provision, the expenditures would have to be capitalized. The CRP payment, however, still must be included in the owners’ gross income.
This change would benefit primarily farm and ranch owners, by permitting them to exclude from their gross income a calculated portion of CRP cost-share payments made to assist them in establishing a long-term tree cover on converted cropland, pasture, or range. It would impose no additional administrative burden within the Department of Agriculture. Since it would simplify tax regulations, the proposal should save staff time and reduce administrative burden within the Department of the Treasury.

Table 1. Assumptions used in estimating the effect of Recommendation 1 on federal revenue.

- Tree practices budgets for federal cost-share programs remain constant at 1997 levels.
- The average area treated under a reforestation contract is 40 acres.
- The average reforestation cost is $5,000 per contract, 50 percent of which is the cost-shared and 50 percent of which is paid by the landowner.
- Landowners pay all required federal taxes, and where appropriate, make full use of the reforestation tax credit and amortization provisions.
- All landowners who receive cost-share assistance for tree practices under the CRP cost-share program meet the current requirements to deduct the entire amount of the payment from their gross income from farming.
- All landowners who receive cost-share assistance for tree practices under the SIP, WRP, EQIP, and WHIP cost-share programs have received little or no income from the reforested acres during the previous three years, and without the recommendation would be able to exclude only a portion of the cost-share payment from their gross income.

The second determination would provide for uniform tax treatment of government cost-share payments to establish trees. Given approval of the first determination, this determination would apply to cost-share payments made under CRP as well as under FIP, SIP, WRP, EQIP, or WHIP. Currently, owners who receive a government cost-share payment to establish trees must work through a poorly defined multiple-step calculation to determine how much of the payment they can exclude from their gross income. The answer varies according to whether the affected land provided substantial income in the previous three years. For example, a landowner who uses a FIP cost-share payment to reestablish trees within three years of a timber harvest would be able to exclude the full amount of the payment. But a second landowner, identical in all other respects, who uses an EQIP cost-share payment to convert abandoned environmentally-sensitive pastureland to trees would be able to exclude only a fraction of the payment.

Cost-share programs already limit the amount of assistance a landowner can receive, typically to $5,000 or $10,000 per year. It simply makes sense to streamline the regulations by eliminating the calculation and determining that the full amount of qualifying government cost-share payments to establish trees may always be excluded from gross income. Like the first determination, this change would benefit primarily farm and ranch owners. It also would impose no additional administrative burden within the Department of Agriculture. And because it would eliminate a complexity in the tax regulations, it should save staff time and reduce administrative burden within the Department of the Treasury.

**Effect on Federal Revenue**

The principal assumptions used to estimate the effect of this recommendation on federal revenue are shown in Table 1 (a more detailed discussion of how the estimates in this paper were calculated will be provided in other publications about the policy recommendations). The revenue impact of the first determination—that CRP cost-share payments for establishing trees may be excluded from the recipient’s gross income—is estimated at $9 million over 5 years or $19 million over 10 years. The impact is constant as the same number of landowners each year are able to exclude CRP reforestation cost-shares from their gross income and no longer owe self-employment taxes on them.

The revenue impact of the second determination—that the full amount of cost-share payments from a qualified federal or state program for establishing trees always may be excluded from the recipient’s gross income—is estimated at $7 million over 5 years or $9 million over 10 years. The impact increases in each of the first 7 years as landowners are able to...
exclude the full amount of qualifying cost-share payments, and no longer need to pay self-employment taxes on them or make use of the reforestation tax credit and amortization provisions. As noted above, approval of the first determination would place CRP among the programs affected by the second determination.

**RECOMMENDATION 2: UPDATE THE REFORESTATION TAX CREDIT AND AMORTIZATION PROVISIONS**

Capital expenditures—such as the cost to establish or reestablish trees—ordinarily cannot be deducted in the year they are incurred, but must be held in a capital account until the investment matures. Over the long time periods required to grow timber products, inflation gradually erodes the value of the capitalized amount. The amount the landowner recovers as a timber depletion deduction at harvest generally represents only a fraction of the original value of his or her investment.

Public Law 96-451 was enacted to address this situation. The law permits owners who establish trees on bare or harvested land to recover a substantial portion—often all—of their reforestation expenses over a relatively short period instead of having to wait until the timber is harvested. Specifically, the law permits the owners to take a 10 percent investment tax credit on and to amortize (recover through annual deductions) up to $10,000 per year of reforestation expenses over 84 months. Owners can elect to take the tax credit or the amortization deductions or both, although tax code requires that they decrease the amount they amortize by half of any reforestation tax credit they take.

The purpose of the $10,000 ceiling on these provisions was to limit most of the benefit they provide to private, nonindustrial landowners. The amount of the ceiling, however, has not been adjusted in the 21 years since the law was enacted, while reforestation costs have increased at roughly the same pace as inflation.

**Implementing the Recommendation**

Two amendments to the Internal Revenue Code would restore the reforestation tax credit and amortization provisions to their original value, eliminate the need for additional changes in the future, and shorten the recovery period:

1. Amend IRC Section 194 to increase the amount of reforestation expenses that can be amortized from $10,000 to $20,000 per year, and thereafter index the amount for annual inflation.

2. Amend IRC Section 194 to shorten the recovery period from 84 months (7 years) to 60 months (5 years).

IRC Section 48 defines the amount of the reforestation tax credit as 10 percent of the amortizable amount in Section 194. Thus, the first amendment would automatically increase the maximum amount of the credit to $2,000 and index it for inflation.

**Effect on Taxpayers and Administrative Agencies**

Most investments in reforestation remain below $10,000 (Personal communication, Harold E. Burghart, Internal Revenue Service, Office of Chief Counsel, December 3, 1998). This indicates that an increase in the amortizable amount would benefit primarily nonindustrial landowners who undertake the task of converting or reforesting relatively large areas, or whose timber is of a species or type that requires higher-than-average levels of investment. Shortening the amortization period from 7 to 5 years would benefit owners in all regions and timber types (Greene 1998).

The amendments simply update the provisions of the current law and would involve no additional administrative burden within either the Department of Agriculture or the Department of the Treasury. Research indicates that for owners who already manage their forestland, the proposals would cost $0.70 to $0.75 in federal tax revenue foregone for each $1.00 in benefit provided to landowners (Greene 1998). But the proposals also have the potential to induce owners who do not already manage their forestland to do so. Bringing additional acres under management would increase both cash flows to the owners and federal tax receipts.

**Effect on Federal Revenue**

The four additional assumptions required to estimate the effect of this recommendation on federal revenue are shown in Table 2. The revenue impact of the proposed amendments to the Internal Revenue Code is estimated at $181 million over 5 years or $340 million over 10 years. The impact rises in each of the first 5 years as the effect of the reduced recovery period for amortizable reforestation expenses is realized.

**RECOMMENDATION 3: PROVIDE “STEWARDSHIP INVESTMENT” TAX DEDUCTIONS FOR QUALIFIED CONSERVATION-RELATED INVESTMENTS IN FOREST MANAGEMENT**
Most of the environmental and wildlife benefits provided by healthy forests are social benefits that the nation’s market economy does not measure and for which it provides no compensation. The federal government and many state governments have developed assistance programs.

Table 2. Additional assumptions used in estimating the effect of Recommendation 2 on federal revenue.

- Only private forest holdings 50 acres or more in size are available for harvest.
- Average rotation lengths range from 70 years on small private holdings to 50 years on large private holdings in the North, and from 50 years on small private holdings to 30 years on large private holdings in the South and West.
- The area harvested per private ownership in any given year averages 40 acres on all but the largest holdings.
- Federal cost-share programs concentrate their funds on small private holdings, with no funds going to owners of holdings over 500 acres.

Table 2. Additional assumptions used in estimating the effect of Recommendation 2 on federal revenue.

To help overcome the lack of market-based incentives and ensure continued provision of the environmental and social benefits associated with forestland. Examples include cost-share payments for approved forest management practices, as with CRP, FIP, SIP, WRP, EQIP, WHIP, and several state programs. Additional examples include programs to restore land and place it under conservation easements, as with WRP and the Forest Legacy Program (Greene and Haines 1999).

To participate in an assistance program, a forestland owner generally must consult with a natural resource professional, develop a written forest management plan, and carry out the practices called for in the plan. With several of the programs, practices are screened and ranked for approval and funding according to their environmental or social benefits.

The Internal Revenue Code, however, provides favored tax treatment only for forest management investments made to produce marketable products or services. Owners who manage their forestland to produce pulpwood or sawtimber, for example, are permitted to take the reforestation tax credit on (IRC Section 48) and amortize their reforestation expenses (IRC Section 194), exclude a calculated portion of government cost-share payments to establish trees from their gross income (IRC Section 126), deduct their forest management expenses (IRC Section 212), depreciate (IRC Section 167) or take a Section 179 deduction on equipment they purchase, and deduct the full amount of their basis in timber lost in a casualty, condemnation, or theft (IRC Section 165). Similar treatment is not available to the growing proportion of owners who hold and manage their forest property to produce environmental or social benefits.

Implementing the Recommendation

Four legislative provisions would afford the same tax treatment to all rural landowners who receive assistance from qualified federal and state programs to actively manage their forestland, whether they manage for environmental or social benefits, or for profit:

1. A provision that all landowners who receive a cost-share payment from a qualified federal or state program to establish trees may take the reforestation tax credit on and amortize their personal expenses from the practice, as permitted under IRC Sections 48 and 194.

2. A provision that all landowners who receive a cost-share payment from a qualified federal or state program to establish trees may exclude from their gross income the full amount of the payment permitted under IRC Section 126.

3. A provision that all landowners who receive a cost-share payment from a qualified federal or state program to carry out forest management practices may deduct their personal expenses for the practices, as permitted under IRC Section 212.

4. A provision that all landowners who receive a cost-share payment from a qualified federal or state program to establish or manage trees may deduct the full amount of their basis in trees lost in a casualty, condemnation, or theft, as permitted under IRC Section 165.

In each case, owners who could not demonstrate that they have a profit motive would qualify for the provision on the basis of having made an approved “stewardship investment.”
Effect on Taxpayers and Administrative Agencies

These related provisions would benefit rural landowners who receive cost-share assistance to establish or manage a resource-conserving tree cover on their land for environmental or social purposes. The provisions would permit such owners to treat their “stewardship investments” in essentially the same way as owners who manage their forestland for profit. In effect, they would provide a mechanism for the general public to share the cost of obtaining the environmental and social benefits associated with forestland. The provisions would have no effect on administrative burden within the Department of Agriculture. And because they provide for uniform tax treatment for all owners who use qualified cost-share payments to establish or manage trees on their land, the proposals could be expected to save staff time and reduce administrative burden within the Department of the Treasury.

Effect on Federal Revenue

The two additional assumptions required to estimate the effect of this recommendation are shown in Table 3. The revenue impact of the provisions is estimated at $66 million over 5 years or $153 million over 10 years. The first two provisions account for over 95 percent of the total revenue impact; the impact of the last two is minimal. The impact of the first provision increases in each of the first 7 years as the effect of permitting additional forest owners to amortize their reforestation expenses is realized. The impact of the other provisions is constant.

CONCLUSIONS

The environmental and wildlife benefits of converting flood-prone cropland to forest cover are well recognized. Establishing trees is an accepted practice for addressing soil and water quality problems, protecting riparian areas, restoring wetland function, and improving wildlife habitat. Several measures already included in the tax code serve to moderate the decrease in land value when flood-prone cropland is planted to trees. These include the tax rate differential for long-term capital gains, the ability of landowners to exclude a calculated portion of qualifying cost-share payments from their gross income, and the reforestation tax credit and amortization provisions. Possible alternatives to the recommendations described in this paper include targeted tax credits and permitting landowners to deduct reforestation costs or subtract them from their harvest returns. Tax credits currently are popular among policy-makers, but a credit would not make use of existing programs for screening and verification for eligible practices, resulting in increased cost and administrative burden to the managing agency. Further, tax credits typically have relatively high administrative costs and revenue impacts. Many other nations permit forest owners to immediately deduct their reforestation costs or to subtract them from harvest returns. To do so in the U.S., however, would require a fundamental change in the tax treatment of capital expenditures and would have implications for all types of investments.

In contrast, the policy recommendations discussed here are tailored to the existing regulatory framework. All three would benefit rural landowners and help ensure their way of life. All three would make use of existing regulatory systems and avoid imposing additional burdens on the public agencies charged with administering them. Finally, compared to other tax proposals currently under discussion, all three have a relatively modest revenue impact. Their costs are estimated at $17 million over five years or $28 million over 10 years for the first recommendation, $181 million over five years or $340 million over 10 years for the second, and $66 million over five years or $153 million over 10 years for the third.

LITERATURE CITED


