



What it takes to "Get to Yes" for Whole Farm Planning Policy

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Preface

As new policy concepts emerge, their informed evolution is often hampered by unarticulated differences in individual and group interpretations of what they embody. Such is the case with "whole farm planning (WFP)," a systems-based concept for agroenvironmental management. If WFP is to move from preliminary concept to institutionalized policy tool, problems of definition, goal-setting, and implementation strategies must be resolved. An initial step to resolving those problems, or "getting to yes," requires clear articulation of the diverse views.

This report is meant to accomplish two objectives. First, it provides a "primer" on the concept of whole farm planning and the issues involved in the development of whole farm planning policy. Second, it reports new information resulting from a structured interaction among a diverse set of interest groups, which adds richness to the idea of incorporating WFP into policy and identifies areas of common interest and potential disagreement among stakeholding groups in whole farm planning policy.

No particular position on whole farm planning policy is advocated in this report. Rather, it is designed to elucidate the policy issues, identify key features that stakeholding groups see as essential for policy effectiveness, and make clearer the potential opportunities and challenges confronting policy makers if they pursue WFP policy.

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1) The Context: Agriculture's Emerging Environmental Management Dilemma

In their best selling book, "Getting to Yes," Roger Fisher and William Ury contend that seemingly intractable dilemmas can be resolved by focusing on the underlying interests of stakeholders rather than on the formal positions taken by individuals and groups that have different perspectives. This logic provides timely and relevant guidance for the manner in which a troubling predicament now facing American agriculture should be addressed.

The current dilemma concerns how to reconcile the interests of those who favor reducing the size and cost of government with the interests of those who wish to enhance agroenvironmental performance. Powerful budget pressure, the shift to political conservatism, and intense global competition are leading politicians to propose scaling back environmental programs for agriculture. Both subsidies and compliance programs for soil and wetland conservation could decline, a situation that would likely lead to reduced environmental protection in the countryside.

Yet, surveys invariably show that a strong majority of the public wants better environmental performance by agriculture, even expecting more regulation to insure agroenvironmental protection [USDA; Roper-Starch]. If federal programs are downsized in light of these public preferences, agriculture is headed for serious policy conflict over environmental management.

The proposed scale back would leave a federal policy vacuum. Evidence shows that exhorting more voluntary stewardship by farmers and ranchers using public education and technical assistance will not fill the void [OTA, 1995a]. Some ways must be found to stimulate more efficient conservation driven by private incentives, guided by private ingenuity, with less bureaucratic burden and expense. Unless strategies for these lower cost, less intrusive, and more effective approaches are devised, states will likely fill the vacuum with a "patchwork quilt" of regulations [Batie].

One idea keeps surfacing that offers hope of meeting that demanding set of requirements—whole farm planning (WFP). During each round of federal agricultural conservation legislation, a signature concept often emerges. Compliance provisions that required minimum conservation standards by farmers participating in agricultural programs were implemented by the 1985 Farm Bill. In 1990, new enrollments in the Conservation Reserve Program were targeted to high priority environmental problems by a novel screening procedure [Osborn].

WFP may be developing as another signature concept. Since the 1994 elections, virtually every proposed piece of federal environmental legislation relating to agriculture makes some reference to farm planning. The Clean Water Act reauthorization passed by the U.S. Congressional House of Representatives (H.R.961) uses WFP to satisfy nonpoint water pollution control requirements by agriculture, excusing whole farm planning implementors from

specific water protection provisions. Proposals for 1995 farm bill conservation titles from both legislative chambers employ elements of whole farm planning to improve the coordination and efficiency of federal program assistance.

Yet WFP policy goals and implementation strategies remain unspecified. It is not uncommon for new policy concepts to evolve slowly. For instance, discussions about conservation compliance mechanisms, finally implemented in the 1985 farm bill, began in the mid 1970s. However, because WFP policy details can directly but differentially affect the varying interests of industry, environment, and government, forethought and negotiation about them is necessary [Ervin and Smith]. Little systematic exploration of those details and the positions taken by various interest groups has occurred to date.

This report clarifies the central issues of WFP policy, reports major interest group positions on those issues, and assesses remaining challenges and opportunities. The first section briefly describes the basic elements and functioning of generic whole farm planning. This description sketches a simple portrait of the concept divorced from specific policy proposals. Section two covers four fundamental characteristics that fill in the WFP policy context—goals, leadership, incentives, and performance monitoring. WFP policy priorities chosen by industry, government, and sustainable agriculture and environmental representatives in a recent session are summarized in the third section. The conclusion identifies key remaining challenges and opportunities for devising effective WFP policy.

2) What is Whole Farm Planning?

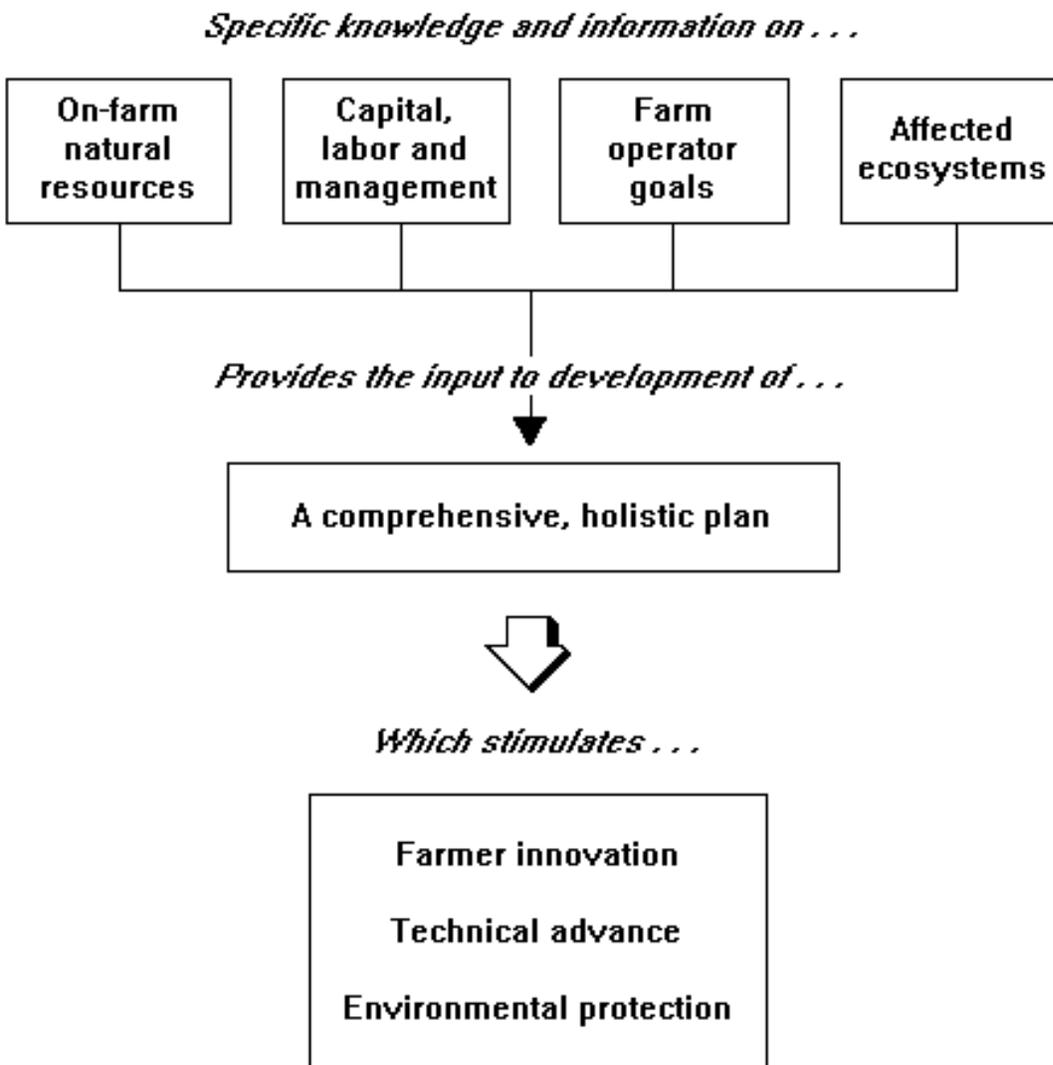
The idea of developing a plan to guide production decisions taking into account the farm's natural resources is not new. Since the early 1900s, public and private farm management specialists have assisted producers with such plans. Naturally, they considered the soil, water, trees, and other environmental assets on the farm. But there is something new about WFP—the explicit accounting of environmental effects that cross the farm boundary.

Why has farm planning expanded to incorporate environmental effects that extend beyond the farm's borders? Mostly because federal, state, and local management programs have increasingly sought to control undesirable "off-site" environmental damages, such as downstream water pollution. The programs have also encouraged farm practices that produce other resource benefits, such as habitat for migratory wildlife. This broader consideration of environmental effects parallels a growing appreciation of the interwoven ecological systems that both support and depend on farming systems, referred to as "agroecosystems²" [OTA]. Improved understanding of the links between soil health and water quality on and off the farm illustrate the need for an ecosystem perspective [National Research Council].

As a general management approach, WFP ideally starts by assessing all on-farm natural, human, and capital resources, and all off-farm environmental resources potentially affected by farm activities (*see Figure 1*). This basic information is then used as the basis to develop a holistic plan that integrates production and environmental management within the context of each unique farm, responding both to operator goals and to off-farm environmental concerns. The plan identifies strategies that attain an operator's objectives, such as profit, risk reduction, natural resource stewardship, and quality of life, while also meeting soil erosion, water quality, and other environmental responsibilities in relation to other groups. The plan's resultant strategies should encourage individual farmer innovation in applying technological advances to achieve low-cost environmental protection.

The version described here is idealistically "inclusive" in that it captures all factors affecting the management of farm and related environmental systems. Less comprehensive versions exist, but they may not account for all pertinent farm or environmental influences. For example, developing a plan that focuses predominantly or exclusively on conservation objectives may ignore important personal or business factors that affect environmental management. Similarly, restricting the plan to just on-farm natural resources may overlook effects that travel off the farm to affect the health of surrounding environmental systems.

Figure 1: The concept of whole farm planning.



This "inclusive" WFP version runs the risk of information overload by attempting to meaningfully capture all farm and environmental processes. If such a comprehensive approach is accepted, some simplifying measures will likely be necessary to make the planning practical and keep costs reasonable. For example, environmental effects with significant implications may be incorporated into management strategies first. As science progresses, more on-farm and off-farm environmental processes can be added. Nevertheless, it is critical to start from a comprehensive conceptual basis to ensure all possible effects and their interactions are considered, even if only qualitatively.

This view of WFP portrays a living, dynamic process that uses the latest scientific and technological advances to provide new opportunities for improved business and environmental conditions. As such, the development of a reliable performance monitoring system to gauge progress, or the lack thereof, and fine-tune improved agroenvironmental strategies is critical.

3) Putting Whole Farm Planning in a Policy Context

There is little or no disagreement about the idealistic concept of WFP as a management approach. But, management is one thing; policy that may, as proposed, link WFP to specific regulatory requirements or government program

benefits, is a very different thing. Incorporating the WFP concept into specific policy proposals requires that we go beyond the conceptual level and begin to define WFP policy in practice. To complicate matters, the new dimension of accounting for environmental effects that cross the farm boundary raises policy challenges not confronted before.

Answers to four basic questions will go a long way to defining WFP policy. First, what one or more of several different goals (ends) touted for WFP should guide policy? Similarly, three questions about different mechanisms (means) for pursuing any given WFP policy require answers. Will the private sector, public agencies, or some coalition, lead the development and implementation of WFP? What incentive(s) will stimulate WFP and overcome planning costs? Finally, how will the environmental performance of implemented plans be accomplished to ensure progress? If WFP is to evolve into a signature concept and deliver effective policy solutions to agriculture's coming dilemma, its means must achieve its ends in low-cost, politically acceptable ways, and its ends must capture the concerns of all stakeholders affected by the outcomes. It will come as no surprise that this will not be an easy task.

What goals should guide WFP policy?

As conceptually described, whole farm planning brings together two categories of goals: achieving the farm operator's business, quality of life, natural resource stewardship, and other personal objectives; and managing the full range of environmental effects from farm operations in line with responsibilities to others. These two sets of goals are not necessarily mutually exclusive. Indeed, one of the principal policy challenges and a dominant theme of this report is to discover innovative means to help achieve both sets of goals.

However, different groups place different emphasis on specific goals within one or both categories, depending on their interests. One oft-mentioned objective is the streamlining and simplification of environmental programs to lower the time, energy, and cost required of farmers and ranchers to comply with multiple, often conflicting environmental provisions, such as those in the Clean Water Act, Endangered Species Act, and Conservation Compliance. It is argued that using WFP as a unifying framework within which to achieve multiple environmental objectives would allow more flexible management choices by operators, giving more opportunities for innovative, low cost solutions for each unique farm. This approach focuses on meeting farm operators' goals within the context of satisfying existing environmental provisions. It implies the collateral need for some mechanism to link the whole farm plan with conformance to multiple statutory requirements.

A second prominent goal of WFP policy espoused by some groups is to assure minimum environmental conditions on and off the farm that sustain the health of the agroecosystem in which the farm resides. The selection of those conditions could be guided by existing environmental regulations, for example drinking water standards, or other legal guidelines. Or, they might be constructed through a deliberative process of all parties affecting and affected by environmental conditions in each specific, ecosystem-defined area.

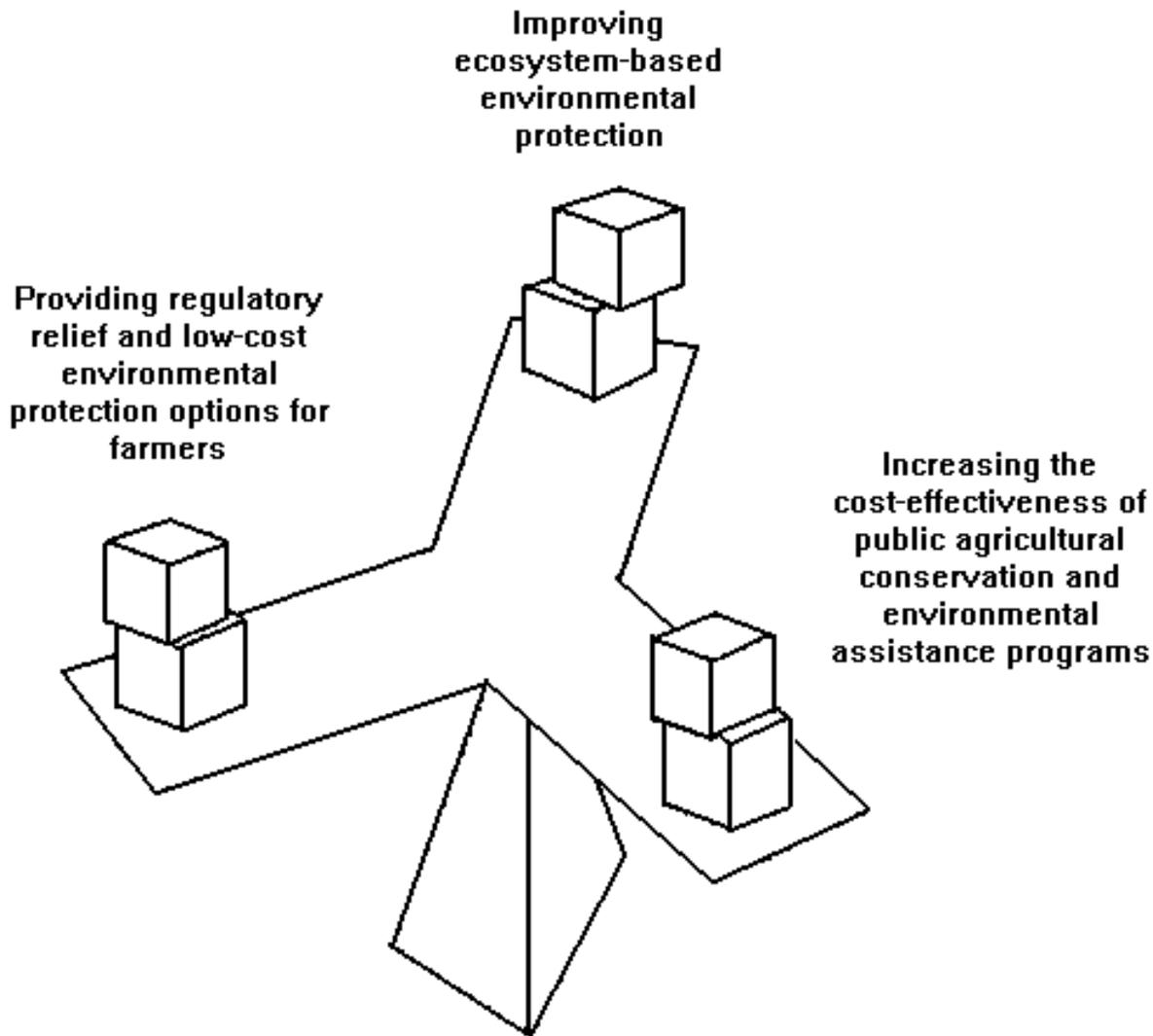
A third type of WFP policy goal comes from government agencies that are statutorily responsible for natural resource management. In seeking ways to achieve public environmental goals at lower budget expense, these agencies see WFP as a means to better coordinate and target technical and financial assistance. Delivering just the assistance critical to implementing a farmer's plan will achieve the most environmental performance for taxpayers' funds. Many operators now request and receive federal program assistance with only a partial plan or no plan at all.

The central point is that a successful WFP process will likely need to embody operator, environmental, and government agency goals (*see Figure 2*). In addition to the problem of finding the appropriate balance of those goals, they can be pursued in fundamentally different ways depending on who leads the WFP process.

Who will lead WFP policy implementation?

Defining responsibility for who drives or leads the WFP process is a critical policy decision. At the extremes, two starkly different approaches can be envisioned—public leadership by federal, state, and local governments, or private leadership by farmers, ranchers, and supporting agribusiness.

Figure 2: Effective whole farm planning policy must balance multiple objectives.



But the leadership question is more complex than just choosing between public or private actions. The WFP process could involve different leadership assignments for two distinct tasks—setting performance targets and constructing and implementing plans. Figure 3 shows four possible combinations of those assignments to private and public sectors.

The upper left quadrant describes private leadership of both tasks. This option best captures the purely voluntary private approach to WFP, wherein farmers and ranchers set the environmental targets and the private sector leads the design and implementation of plans. These privately-led actions would not necessarily meet the requirements of public environmental laws, except if farmers and ranchers adopt those requirements as their targets. One possible reason for farmers to voluntarily use WFP to pursue public environmental requirements is to avoid potential penalties for noncompliance.

The lower left cell describes the situation in which government responds to private performance targets by providing leadership in constructing and implementing the plans. In many respects, this combination describes the traditional government approach to providing voluntary soil and water conservation planning. Mandatory soil conservation and wetland protection plans required under the 1985 farm bill compliance programs departed from that mold.

Figure 3: Combinations of public and private leadership and whole farm planning policy implementation.

		Setting environmental performance targets	
		PRIVATE	PUBLIC
Designing and implementing plans	PRIVATE	<p>Private sector sets its own performance targets and leads the design and implementation of plans.</p>	<p>Public sector establishes performance targets but the private sector leads the design and implementation of plans to meet the public target.</p>
	PUBLIC	<p>Private sector sets its own performance targets, but the public sector leads the design and implementation of plans.</p>	<p>Public sector both sets performance targets and leads the design and implementation of plans.</p>

The combination of public leadership in setting environmental performance targets, but a privately-led WFP process occupies the upper right corner. An example of this combination outside of agriculture is the setting of total permissible air pollution discharges for a region's airshed (bubble), then allowing individual firms to implement practices tailored to meet their specific operations and assigned discharge levels. The trading of discharge rights among firms is also permitted to encourage pollution reductions by the firms with the lowest treatment costs. In theory and limited practice to date, this "bubble pollution control" concept provides more flexibility to private firms in designing innovative solutions and reduces compliance costs. The same principle of setting public environmental performance targets and permitting privately flexible solutions could be applied to agriculture if the targets can be measured and monitored.

In the lower right cell, the public sector not only sets the environmental performance targets but leads the WFP design and implementation process. This combination could be called the "centrally-directed" option because the public sector is in charge of all aspects. Such an approach has not been employed in agriculture for the most part because of the extreme diversity of the industry.

These combinations are artificial in that leadership in agroenvironmental management is often shared when private and public interests are vitally involved. The four combinations may help to anticipate likely directions rather than specific outcomes. Movement to the total private (upper left) and total public (lower right) options are unlikely for different reasons. For the private case, public targets for most environmental resources already exist and would likely be employed in some way in any WFP process. The publicly-directed option runs directly counter to the prevailing trend toward political conservatism giving preference to private decision making. Perhaps the combination of public performance targets but private plan leadership conforms better with the political, budget, and market competitiveness conditions mentioned at the outset of this report.

What incentives will stimulate WFP?

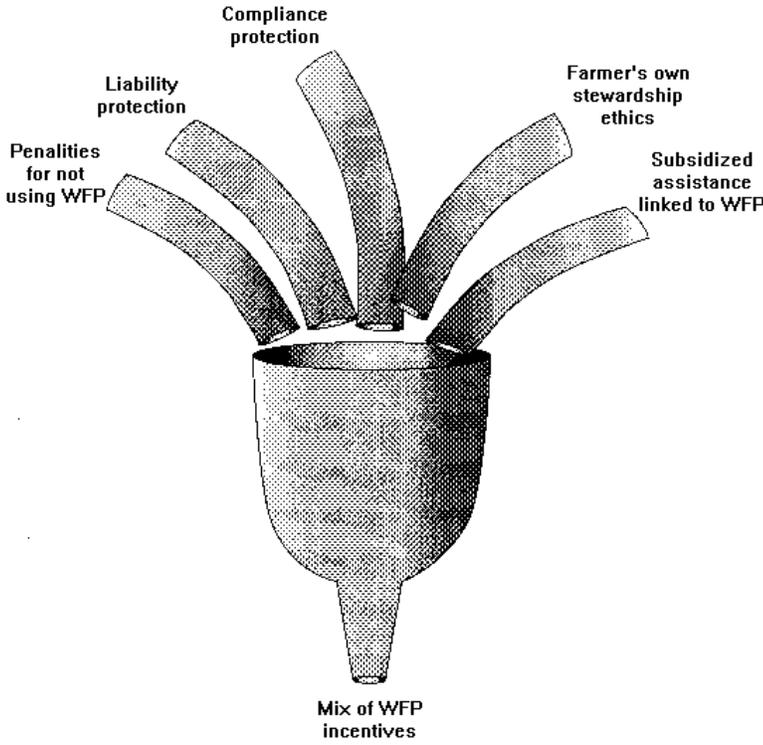
Incentives provide the engine to propel WFP. Without sufficient rewards from subsidies or avoided sanctions, operators will not pursue a planning process that incurs significant cost. The range of possible incentives is broad. One might simply be farmers' own motivations to enhance profit, practice on-farm resource stewardship, and protect the off-farm environment. Large subsidies under voluntary programs or large penalties under mandatory performance targets are at the maximum extreme. In between lie a host of different incentive types and levels.

The traditional approach in soil and water conservation is to give education and technical and financial assistance (to help install practices) to entice planning. These publicly provided services effectively lower the cost of planning to the farmer or rancher. An added bonus might be simplified delivery of these services based on WFP, causing less administrative hassle and cost for the farmer. In contrast to the traditional approach, mandatory WFP versions could be stimulated through threat of penalties of varying sizes.

A different approach to providing incentives is to grant protection from environmental agency sanctions for a plan operating successfully. Known as "compliance protection," this avenue would avoid the imposition of requirements imposed from the top down. Still another approach to incentives, called "liability protection," might add immunity from suits brought by private parties under state or federal environmental statutes. Even without formal compliance or liability protection, farmers may anticipate benefits from a WFP by avoiding future regulatory costs.

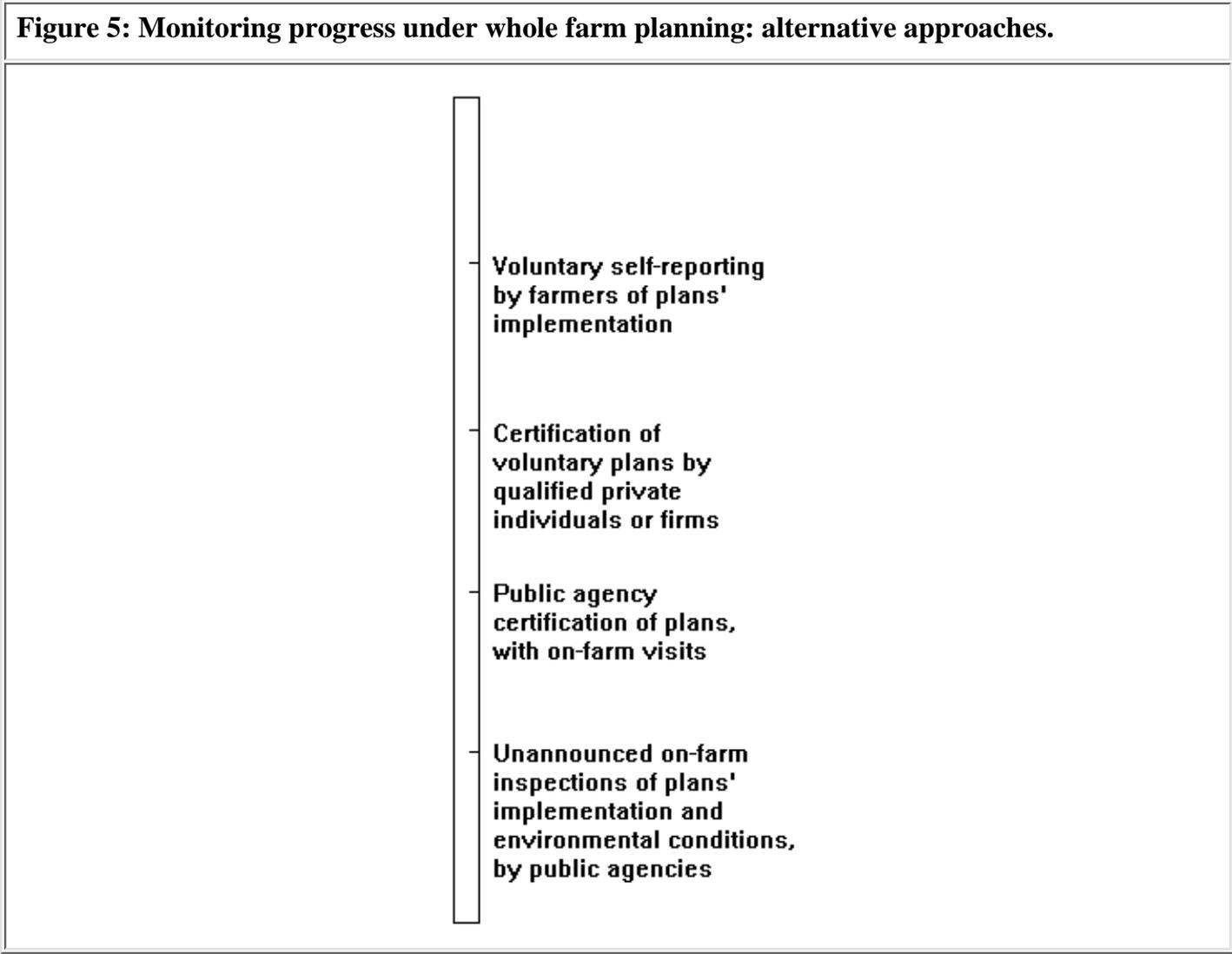
To further complicate the incentives picture, one or more incentives approaches could be used in combination (see Figure 4). For example, compliance protection could be added to technical and financial assistance. Or, technical and financial assistance could be added to mandatory WFP to lessen compliance costs. Correctly setting the incentives is critical. In the end, adequate incentives must be offered, either as positive or negative inducements, to overcome operator costs and get sufficient participation in an agroecosystem to attain the relevant environmental targets.

Figure 4: Choosing a mix of incentives is essential for the development of any whole farm planning policy.



How will WFP performance be monitored?

A final question about "means" centers on how to assure that WFP achieves adequate environmental protection. As for the preceding questions, a whole range of opinions can be envisioned. Figure 5 illustrates some alternative approaches. At one end would be voluntary, self-monitoring by farmers and ranchers without threat of sanctions for noncompliance. At the other end would be unannounced on-farm inspections of environmental performance with large noncompliance penalties, much as is done for air and water pollution control in other industries. In the middle, private firms and/or public agencies can play a variety of roles.



Unlike other industries, agroenvironmental effects often pose technical complexities that make measuring pollution from a particular farm either technically infeasible or extremely costly. The problem is known as "nonpoint" effects in which the offending pollutants or causes of environmental degradation cannot be attributed to particular farms. A good example is trying to identify the sources of vast quantities of fertilizers and pesticides that annually flow into the Gulf of Mexico coming from as far north as the Canadian border. The diffuse nature of the agricultural industry spread out over nearly half the nation's lands, and the time lags between nutrient and pesticide applications and detecting pollution, contribute to the nonpoint conundrum.

Confronted by these challenging technical problems for widespread nonpoint problems, most agroenvironmental programs have used the application of recommended practices as a proxy for environmental compliance. That choice exists for WFP as well. Plans could be certified with performance judged on the inclusion and successful application of approved practices. Those practices would presumably be tested and found effective, beforehand, to ensure adequate environmental protection. Either qualified private firms or public agencies could conceivably do the testing and plan/practice certification.

Where the causes of environmental degradation can be traced to specific farms (or points), other options exist. The principal approach is to give farmers a specified environmental performance target that can be measured, such as concentrations of nutrients or pesticides leaving the farm in identifiable flows. Then the operators can be given positive or negative incentives to meet the target in the lowest cost manner that suits their unique operations. As discussed with reference to the upper right cell of [Figure 3](#), this approach provides maximum private flexibility to the farmer in innovating a solution. A final option is to combine the performance target and recommended practice approaches to provide greater surety of performance where damages may be catastrophic, where regular monitoring is very costly, or when one practice is by far the most cost effective.

Answers to the four key policy questions—one on goals (ends) and three on means—will not be easy, nor will the best answers be universal over regions. Different situations may require quite different versions of WFP policy. Moreover, the questions interweave such that answers to one affect approaches to another. For example, setting high environmental targets for a WFP process would require large incentives, positive or negative, to reach those levels. Or, setting strong goals for program simplification would likely imply a dominant voluntary, bottom-up approach to policy implementation. All of the complexities required by appropriate merger of means and ends must be addressed by policy proposals if WFP is to achieve its potential.

Working at its conceptual best, WFP policy could give regulatory relief from a plethora of (often conflicting) government programs, simplify the delivery of diverse forms of assistance, increase producer flexibility, improve environmental performance for each public and private dollar spent, and enhance long-term industry competitiveness and viability. At its worst, it could cause unprecedented turf battles among government agencies (to arrive at rules and environmental targets), unintentionally increase government interference in production decisions, deter farmer innovation, raise private costs, and stall or reverse progress on stubborn agroenvironmental problems. If the best transpires, both industrial and environmental health will benefit. But the worst could spell losses for agriculture and the environment. The stakes are high in either case.

4) Underlying Differences in WFP Policy

Numerous proposals involving WFP have surfaced, as is common in the early stages of any new policy concept.³ As a rule, industry proposals focus on the need for relief from multiple, often conflicting programs. Proposals from environmental and sustainable agriculture groups stress the need to pull protection of both on-farm and off-farm resources under the plan. Government agency interests center on using plans to guide simplified programs to achieve better resource protection at lower taxpayer expense. The USDA's Natural Resources Conservation Service has launched a pilot program of WFP as a planning tool for farmers and ranchers. However, neither current proposals nor pilot programs sufficiently address the four key policy questions. That is not surprising because none, as of the end of 1995, has moved far enough through a policy or administrative process that stimulates diverse interest group participation to set goals, define public and private leadership responsibilities, provide incentives, or design performance protocols.

As specific WFP policy proposals evolve, the tendency is for interested stakeholders to take positions for or against each proposal, potentially pitting interest groups against one another. The fact that WFP policy is in a relatively early stage of development with most current proposals lacking the detail needed to put them into practice, provides a timely opportunity to focus on stakeholders' particular interests. This, in turn, should increase the chances that whatever policies are eventually negotiated come from a merger of common interests rather than from a conflict of opposing positions.

Accordingly, in October 1995, the Henry A. Wallace Institute convened a round table of industry, government, and sustainable agriculture and environmental group representatives from inside and outside Washington, D.C. (*see [Appendix A](#)*) to discover the interests of stakeholders in whole farm planning policy and determine where and how

those interests overlap. No presumptions about the nature or desirability of WFP policy were made by the organizers. Rather, the overriding intent was to bring out the full range of views.

The 27 round table participants were asked to respond to the following question:

"What are the necessary features to assure that whole farm planning is an effective policy tool?"⁴

Note that asking for essential features jumps over the more fundamental question of the primary purpose of WFP policy. That jump was designed on purpose. It was our judgment that starting on the more basic and more involved question would make for very slow progress and might even preclude useful information from the session. *Instead, by giving critical WFP features, the participants reveal piece by piece their perceptions what WFP policy should do and how it should operate.*

The facilitated process followed the "nominal group technique" to ensure that all legitimate features were put on the table for consideration (see [Appendix B](#)). A total of 78 different features ensuring WFP as an effective policy tool were identified (see [Appendix C](#)).

After group discussion of the listed items, each participant identified and ranked the top seven features that they considered critical to WFP success. Box 1 lists the top five features ranked for three different sets of voting participants—industry, sustainable agriculture and environmental (public interest), and government groups.⁵

Box 1: Top ranked features of Whole Farm Planning Policy by industry, government, and public interest group round table participants.

INDUSTRY RANKINGS

1. Whole farm planning must be a voluntary option for farmers.
2. The planning process and resultant plans must be producer initiated, producer developed, producer driven, and producer owned.
3. WFP must have extensive private sector involvement; be led by the private sector.
4. WFP should be an educational tool.
5. The planning process must work at the ground level and plans must be technically sound, economically feasible.

GOVERNMENT RANKINGS

1. The WFP process must be inclusive; all relevant stakeholders must be involved (so long as size remains manageable).
2. Plans and planning must be watershed or ecosystem based.
3. WFP must be a voluntary option for farmers.
4. Federal roles in WFP should be limited to those at catalyst, coordinator, informer, and educator.
5. The planning process must work at the ground level.

SUSTAINABLE AGRICULTURE AND ENVIRONMENTAL INTEREST GROUP RANKINGS

1. Federal resources (used in WFP) must be targeted to public benefits.
2. Whole farm plans should not provide liability protection because resource needs, and local, state, and federal laws are too complex to permit that.
3. WFP should attempt to describe all resources that need to be managed on the farm (site-specific data needed).
4. Plans should have recognizable milestones and incorporate periodic monitoring to tell farmers how close they are to those milestones.
5. Plans must include some minimum performance standards and basic "Best Management Practices."

Note: The overall rankings for each category of participants were determined by assigning weights of 1, 1/2, ..., 1/7 to individual votes for ranks 1 through 7 for the features. The numerical rankings do not reveal the diversity of preferences by participants about a feature, or the magnitude of preference difference between features. For example, a broad array of high and low ranks may combine for a feature to give it a moderate rank, where another feature received all moderate ranks. Also, an item appearing one level higher than another may have received twice as many votes, but only shows up one notch higher.

In general, the round table yielded a very diverse pattern of voting. About three fourths of the features received at least one vote. However, over half of those received only one or two votes and with differing ranks. The disparate responses reflect the early stage of WFP policy development and the broad diversity of interests participating in the round table.

Only two features appear in more than one of the industry, government, and public interest groups' top-five lists—that WFP must be a voluntary option for farmers, and that the plans "must work at the ground level." Moreover, the votes by each of the three groups were spread widely. Evidently, differing views on WFP exist not only across the groups, but also within the groups. Although such diversity is characteristic of many environmental policy issues, it vividly illustrates the policy challenge before public or private groups trying to foster constructive dialogue.

Three different priority themes arise from the lists of the three stakeholding groups, suggesting different agendas for WFP. Support for the priorities is shared very little across the industry, government, and public interest groups. With the exception of one or two items, the ranks differ totally. Indeed, each priority theme seems to reflect an amalgam or central position of each group. That finding should not be surprising. The round table was not intended to forge consensus, rather to elicit all views on WFP.

Industry's priority: WFP should be voluntary and producer driven

Strong preference by industry participants was apparent for a voluntary WFP approach driven by producers with private sector leadership. This finding corroborates a consensus statement from diverse stakeholders [Keystone], and is consistent with the majority of WFP proposals put forward [Higgins].

Other top-ranked items add detail to this theme.⁶ Besides the voluntary/producer-driven nature, the group stressed the need for building farm plans through private leadership with approaches that work at the ground level, and account for site specificity of farm resources. The presumption is that terms like "ground level" and "site specificity" convey the importance of using the operator's intimate knowledge of resource conditions on the farm or ranch. All of the ranked items contribute to a "bottom-up" WFP approach led by the private sector. Apparently, the long run success of WFP in the minds of many hinges crucially on voluntary and privately flexible choices by the farmer or rancher.

The bottom-up approach does not necessarily imply the absence of environmental performance targets, just dominant reliance on producer efforts to achieve them. However, it is noteworthy that industry participants did not highly rank the need to meet environmental performance targets for the larger community. Informal comments at the round table suggested that the central reason for strongly supporting producer initiative was to vest responsibility and decision-making with the farmer, so that farmers take "ownership" of the process. The voluntary WFP approach could use private or public technical assistance, and be driven by incentives from subsidies, compliance and/or liability protection to reach farm profit and environmental targets.

Government agency representatives also ranked voluntary status and ground-level WFP integrity in their top five. However, they did not vote for the producer-driven and private leadership features. Representatives from environmental organizations showed the least support for features in this theme. Their only ranked item relating to the theme was the need for site specificity. That ranking more than likely reflects sentiment that local natural resource knowledge is prerequisite to a good WFP process.

Government's priority: WFP should involve all stakeholders to arrive at ecosystem-based management

Centered dominantly in votes from government representatives, a theme emerged that WFP policy must involve all stakeholders and use ecosystem or watershed management principles. Agency staffs may feel the responsibility to bring about full participation and full accounting of environmental effects because other groups cannot easily perform that role. Government representatives evidently see the need to be good "democrats" (with a small d) in

fostering broad community environmental planning.

This role of assuring open access to natural resource decision-making has been emphasized heavily by government agencies over the past two decades. But the tasks required to assure full involvement by all stakeholders pose one of the toughest policy challenges to WFP.

Government participants also voted six times for the feature that WFP must insure long-term natural resource protection.⁷ Those votes were cast with low ranks however, so that feature did not appear in the top-five ranked items listed in [Box 1](#). Nevertheless, the responsibility of accounting for environmental conditions for future generations was widely perceived by government agencies.

There is a practical interpretation to the themes of widespread involvement and ecosystem focus as well. Government agency experience likely shows that without full interest group participation and full resource accounting, the prospects for an enduring solution are dim. Until all groups have had their say and all resource effects have been considered, implementing a program runs the risk of change or even elimination.

But the government representatives clearly did not support a top-down approach. As already noted, there was strong joint support with industry for a voluntary WFP process. A high ranking for the full stakeholder/ecosystem features does not conflict in principle with voluntary WFP, which is also consistent with strong producer initiative. Indeed, one of the government group's own top-five ranked features was the need to limit the government WFP role. Agencies would serve as catalyst (by definition, a force that initiates a reaction and enables it to proceed under milder conditions than otherwise possible), coordinator, informer, and educator.

Sustainable agriculture and environmental groups' priority: WFP policy should account for farm and off-farm environmental effects and achieve measurable progress

The final theme centers on ensuring full environmental performance with WFP. It is perhaps the least cohesive because the votes of sustainable agriculture and environmental groups' representatives were cast widely. However, several features receiving their and others' support share a common thread of using WFP to ensure progress on all environmental effects, on and off the farm.

A large proportion of sustainable agriculture, environmental and government participants gave high ranks to targeting public environmental benefits with federal WFP assistance. If federal taxpayer resources are used in WFP, their focus should be on securing environmental benefits of value to those taxpayers. This rationale becomes even stronger as budget pressure limits available funds to assist WFP. Many of those public environmental benefits extend beyond the farm gate, such as reduced downstream water pollution. Thus, the emphasis on public effects translates in many cases to bringing off-farm environmental effects into WFP policy.

Reinforcing this theme, the public interest groups gave a high overall rank to incorporating site-specific information for all (natural) resources into WFP.⁸ This emphasis on local data to foster holistic natural resource management stands in contrast to the use of regional "averages" to operate a WFP program. The expression of opposition to providing liability protection because of complex local resource needs and laws parallels this notion. Site-specific strategies are also entirely consistent with a producer-driven WFP process exploiting farmer expertise and ingenuity.

The other important strand to the full environmental accounting thread is the need to ensure progress through minimum performance standards and monitoring. Two of the features in the top-five list by this category directly address the issue of how to guarantee that the environmental goals of WFP policy can be achieved. The need for plans to include some minimum performance standards received similar support from government, sustainable agriculture, and environmental representatives. Presumably this feature is to achieve adequate progress on stubborn off-farm environmental problems, such as nonpoint water pollution. Also ranked in the top-five, WFP should have recognizable milestones and incorporate monitoring to gauge progress. It is noteworthy that support for the latter feature was unique to the public interest group.

Stakeholder priorities are loosely associated with WFP policy goals

The priorities that emerged from each of three groups of stakeholders under the broad and encompassing notion of WFP policy that guided their round table responses, were later identified as being critical regardless of the goals of WFP policy (*see Box 2*). The features ranking highly both under an assumption that WFP policy provides compliance and/or liability protection (as in the proposed House Clean Water Act reauthorization bill) and under an assumption that WFP is solely an educational and technical assistance tool (as in the Natural Resource Conservation Service's pilot projects) correlate strongly with those that received high overall ranks during the round table session (*see [Box 1](#)*). However, it is useful to note, as well, that different features gain unique importance when the context of WFP policy is specified. The implication is that the critical points of WFP negotiation among stakeholders will vary according to the form that policy proposals take.

Box 2: Stakeholders indicate that the important features of WFP are to some degree conditional on WFP policy goals.

In the course of round table discussion it became clear that the rankings that many stakeholders would place on the importance of particular WFP policy features would depend upon whether that policy provided regulatory relief through compliance and/or liability protection or, in contrast, was aimed solely at providing educational and technical assistance. To test the degree of conditionality of features' importance on policy goals, round table participants were polled after the session. They were asked in the follow up poll to rank their top seven out of the 78 potential features ([Appendix C](#)) under each of two different assumptions: (1) that WFP policy provided regulatory relief in the form of compliance or liability protection for voluntarily participating farmers; and (2) that WFP policy is a purely educational and technical assistance tool to meet voluntary stewardship goals.

On the basis of 14 responses to the follow up poll, certain WFP features are deemed important *regardless of the goals of WFP policy*, while other means are much more conditional on policy ends.

Features highly ranked as important in both cases, whether or not liability or compliance protection incentives were assumed to be offered, included:

- The voluntary nature of WFP (33)*
- Involvement of all relevant WFP policy stakeholders (4)
- Technical soundness and economic feasibility of plans (6)
- Farmer ownership of plans which incorporate flexibility (16)
- Producer initiation, development, ownership and involvement (18,59)
- Means for periodic evaluation of plans' progress towards goals (22)
- Incorporation of recognizable milestones and periodic monitoring (68)
- Accommodation of incremental progress (37)
- Extensive private sector involvement (39)
- Inclusion of a training component (44)
- Back up provided by research programs (46)
- Insurance of *long term* natural resource protection (51), and
- Plans' inclusion of an action strategy (47)

Features whose high rank in importance was specifically associated with the assumption of liability or compliance protection were:

- Clarity of the universe of laws and goals to be met by WFP (12)
- Assured effectiveness in meeting objectives of any law or program deemed satisfied by WFP (3)
- Plans' inclusion of some minimum performance standards or BMPs (21)
- An adequate adjustment, transition, and "debugging" period (53)
- A high degree of interagency cooperation preceding policy implementation (77)
- Assurance that WFP does not become a license for "bad actors" (74,66)

- Credibility with the *nonfarming* community (70)
- Involvement of cost-effective pollution prevention strategies (71)
- Evaluation of plans by an independent third party (2)

Features whose high rank in importance was specifically associated with a purely educational/technical assistance policy were:

- A watershed or ecosystem basis for WFP (7)
- Recognition of off-farm resources affected by farming (30)
- "Putting the farmer in the community" (28)
- Site-specificity of plans (23)
- "User-friendliness" (26)
- Integration of WFP into farm business plans (73)

* Numbers in parentheses refer to items listed, in original phrasing, in [Appendix C](#).

5) Can the Different WFP Priorities be Joined?

The Wallace Institute's round table exercise made clear that priorities for desirable WFP policy differ among stakeholding groups. But those priority themes may not necessarily be inconsistent, just different segments of a full WFP policy. For example, the preference for voluntary programs expressed both in industry and government rankings reflects an area of consistency. Also, the high rankings for site-specific data to guide natural resource management and for extensive producer involvement at the ground level may be an area of potential consistency between the public interest and industry groups.

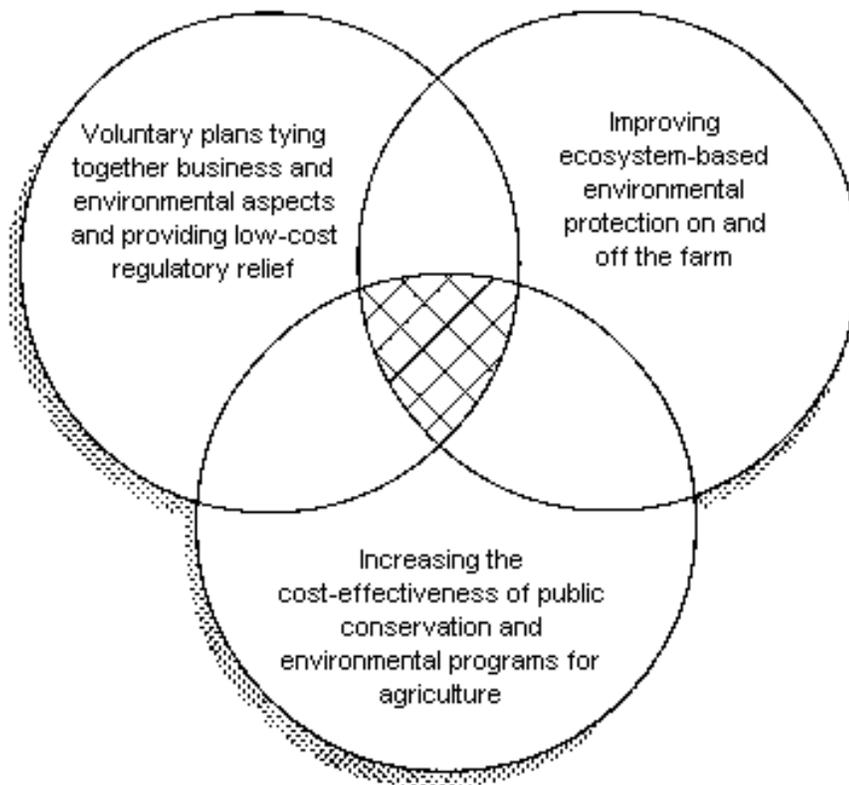
The shaded overlap area in the middle of Figure 6 reflects the possibility that the priorities of different groups may not be totally exclusive of each other in building an effective WFP process from all perspectives. The principal challenge to the success of WFP policy is to discover those areas of consistency and then develop the means to achieve convergence.

Not surprisingly, producers and those who serve them see a web of production practices that tie together all farm resources—human, capital, and natural—into a production strategy that first and foremost meets the farmer's goals. In promoting on-farm resource efficiency, WFP also minimizes pollution leakage to off-farm resources and thereby contributes to public environmental objectives. A WFP process that is not driven by the farmer, in their view, will fail for lack of enduring incentives and practical, site-specific knowledge.

Thus, vesting decision-making authority for designing and implementing the plan in the farmer or rancher is a necessary feature to WFP policy success for industry. But, is that enough to control significant off-farm damages and satisfy public preferences for improved environmental performance by agriculture? Unless the farmer or rancher perceives adequate incentives to reduce such effects that cross farm boundaries, probably not. Their principal concerns are understandably focused on farm or ranch natural resource management because they receive any benefits from improvements to those resources.

Neither government nor public interest representatives differed with the view that the farmer should voluntarily make WFP decisions, but they want the range of resource considerations to extend beyond the farm. Government officials statutorily responsible for natural resource protection see WFP policy as a voluntary, decentralized way to achieve public resource objectives more cost-effectively. Similarly, environmental representatives view WFP as an opportunity to make progress on many nettlesome off-farm resource problems that have resisted traditional approaches.

Figure 6: Areas of overlap among favored whole farm planning approaches do exist—they just need means designed to meet multiple ends.



Both public interest and government priorities bring all environmental effects into voluntary farmer decision-making. On-farm and off-farm natural resource management would be interwoven consistent with protecting the ecosystems and watersheds in which farms reside. By bringing the off-farm effects into the farmer's decision process, the full spectrum of environmental health is incorporated. *Thus, in their view, the inclusion of all environmental effects in devising management strategies is a necessary condition for WFP success.*

Is WFP policy that combines the three priority themes actually feasible to implement? There is at least one precedent for thinking so [Coombe]. It follows the old adage "Necessity is the mother of invention," which emphasizes the critical role of incentives in stimulating progress and convergence.

In the early 1990s, New York City and residents of the watersheds that supplied drinking water to the city faced an impending conflict of major proportions. Either the city would have to build a \$5-8 billion filtration system to meet Safe Drinking Water Act standards, or control upstream land uses that held the potential to contaminate its drinking waters. Agriculture was the principal land user in two of the three supply watersheds. The city issued draft regulations to control pollution sources that would have severely hindered or eliminated farming.

After a period of confrontation, all parties agreed to develop a comprehensive watershed management program that would satisfy the drinking water requirements if implemented. The plan, with broad input, was based on a consensus position that farming practices are a potentially significant source of non-point water pollution; yet farming also constitutes a preferred (long-term) environmental land use compared to alternative (suburban) development. Thus the major goals were set—maintain acceptable drinking water quality, avoid the huge filtration cost bill, and maintain agriculture as a viable economic land use.

Implementation has proceeded under a "Whole Farm Program" that brings together science, technical and financial assistance to allow the farmer to voluntarily implement a whole farm plan. The plan is tailored individually to fit the site and farm, so that environmental and business criteria are met. A participating farmer selects "best management practices" (BMPs) that have been scientifically reviewed and approved to ensure they contribute to meeting the drinking water criteria.² The farmer retains veto authority of any specific practices that do not fit his/her farm. Multiple incentives exist—technical assistance, 100 percent cost coverage for approved practices, and compliance protection.

Advocates of the New York experiment believe the development of a decentralized "Watershed Agricultural Council" as the governing and policy body is the key to effective implementation [Coombe]. The Council is a not-for-profit corporation composed of nineteen farmer and agribusiness leaders in the region, joined by eleven ex-officio advisory members from government and private organizations. In effect, the Council is an institutional innovation to ensure that total watershed requirements are met through individual, decentralized whole farm plans. The Council thus serves as an institutional linkage between the larger ecological system and the individual farms, a critical function in agroecosystem management.

Although it is too early to tell if this WFP application will attain sufficient participation to ensure drinking water quality standards, the early results are encouraging. That should not be surprising. The powerful mix of incentives for farms to avoid drastic regulation and for the City to avoid huge filtration costs provided sufficient incentives to stimulate cooperation and progress. In the end, the City agreed to full BMP cost coverage, reasoning that the total bill may only amount to one fifth or less of the projected filtration costs.

The major lesson from this New York case is that clear environmental performance targets backed up by adequate incentives can foster progress on WFP policy. Decentralized, bottom-up, voluntary processes evidently enhanced that progress. This lesson, however, will not apply to agroenvironmental management cases in other areas for which targets and incentives are inadequate.

What are the major opportunities for WFP success?

The many proposals for WFP policy from diverse interest groups and the encouraging New York experiment indicate the path to wider WFP success appears difficult but not impossible. Our surveys of the WFP policy issues and stakeholder interests suggest that "principled negotiation" [Fisher and Ury] will be most critical in turning the following four areas of potential disagreement into agreement.

Environmental Performance Targets or Practice Standards/Guidelines. Agreeing on the targets or standards/guidelines that will drive voluntary producer WFP looms as a major hurdle. Not only must those performance targets translate complex environmental concerns into easily understood and implementable items, but uncharted interagency cooperation and collaboration are necessary to involve all relevant federal and state agencies and local jurisdictions. Resolving these interagency perspectives into a uniform set of environmental performance targets is the key to using WFP policy to ease existing program compliance burdens.

Stakeholder Involvement. Although government round table participants ranked this feature highest, it remains a most imposing task. Environmental management issues in agriculture are generally attacked from single or at most dual perspectives, such as soil erosion and water quality. WFP policy principles imply that all significant environmental effects will be considered, a feature that expands the number of relevant stakeholders and complicates all WFP discussions. Moreover, the expanded scope of planning requires broader and deeper farm planning expertise, such as on wildlife effects, from private and public actors than previous agroenvironmental programs have demanded.

Incentives. Even if the standards/guidelines and stakeholder involvement challenges are overcome, the combination and level of incentives needed to drive the WFP policy process will require constructive negotiation. While circumstances vary depending on local situations, as in the New York case, defining federal incentive roles demands fairly general treatment and rules. Should the minimum set include traditional technical and financial assistance?

How should private sector technical assistance be encouraged under dwindling government capacity? Can the states match federal financial assistance to extend program leverage? Under what conditions can compliance protection be offered? Liability protection? Without adequate incentives to cover expected WFP costs, sufficient farmer participation to meet environmental objectives will lag.

Certification and Performance Monitoring. Perhaps the most sensitive issue surrounds the certification of the plan and monitoring plan performance in achieving environmental targets. Round table discussion made clear that certification can come from either the public or private sectors. But what criteria will be used to define acceptable expertise in the public or private sectors for certifying the plans? And what group of officials with what stakeholder input will define those criteria? How often and how extensive should monitoring be conducted to approve further incentives or continued compliance protection? What environmental elements should comprise the monitoring criteria? If best management practices are counted as satisfying plan performance, what happens if environmental conditions do not improve in the future?

6) *Conclusions*

Perplexing questions arise from obvious differences among stakeholders' interpretations of, interests in, and favored features of whole farm planning policy. While the number and nature of unresolved policy issues should give pause to those who think a WFP revolution is just around the corner, those issues' clear articulation also forms the necessary foundation for "getting to yes" on WFP policy.

Optimism is warranted by the facts that the priorities of various groups are not necessarily inconsistent with one another, and that there is a large ground of common interests among stakeholders. Creative thought, cooperation, and compromise in WFP policy evolution will be most fruitful if it: (1) involves all affected agencies and groups; (2) focuses on groups' mutual interests, such as volunteerism, full stakeholder involvement, and farmer direction; and (3) is organized around interest groups' underlying differences regarding environmental standards, incentives systems, and certification procedures. Surely, with forethought on these fundamental issues, the potential for WFP policy can be realized for industry, environment, and taxpayers, alike.

What needs to happen to "get to yes?"

The round table discussion and our review of WFP experience to date suggest that there is no "silver bullet" prescription for WFP policy in all situations. However, the issue areas emerging from these activities lead us to recommend the following, generally applicable prerequisites to successful WFP policy development.

Early involvement of locally-based stakeholders. It is clear from our exploration of WFP policy issues that a "top-down" approach to policy development and implementation is doomed to experience controversy and likely to be less than fully successful. If enduring compromise is to be molded, the participation of all affected parties is critical. A locally-directed process involving all stakeholders and building from the grassroots up to the national level is essential both to build shared knowledge about what agroenvironmental issues are important and to foster trust among the participants. This can be accomplished by assuring that grassroots input is collected in the policy development phase, and that emergent, national policy provisions explicitly incorporate a mechanism for site-specific policy implementation based on local needs. Simultaneously, private and public institutions will need to present the best available science about the causes and consequences of agroenvironmental problems at the local level, and actively promote fora for open discussion and learning at the grassroots level.

Close collaboration among federal agencies, and between federal and local stakeholders, to set environmental performance targets. Environmental performance targets are needed both to assure investment by public interest groups in the policy and to send clear signals to those designing and implementing the whole farm plans, *whether or not there is a legislated mandate to achieve specified targets*. Ideally, targets will capture all aspects of agroecosystem health on and off the farm that are of concern and have site-specific integrity. In some cases, targets

will come from existing federal, state, or local legislative requirements, such as drinking water standards as in the New York case. Where legislative requirements do not exist, the local community may wish to establish their own, simply to give guidance to farmers and ranchers. Federal WFP policy, however, must incorporate a mechanism for assuring that all federal agencies with agriculturally related environmental responsibilities (including the USDA, EPA, and various agencies of the Interior Department) are actively involved in establishing the national environmental priorities toward which WFP policy and incentives will be targeted. No one agency should unilaterally determine these, even if it has responsibility for implementing a federal WFP program, because of the likelihood of future policy add-ons to early legislation. The most successful WFP policy formula will take all agencies' responsibilities into account from the start, rather than attempting to patch them together at a later date or further exacerbating regulatory and program complexity for the farmer and rancher in the near term.

Incorporation of incentives. It is apparent from farmer, rancher, and other agricultural industry views that any successful WFP policy will rely on the provision of some type of incentive for participation. From an agroenvironmental standpoint, too, a mix of incentives needs to be structured to assure sufficient WFP participation to achieve environmental performance targets. The appropriate mix of incentives will vary, again depending on the local context and applicable legislation. In the New York case, the threat of burdensome regulation initially stimulated WFP policy progress, but subsidies were later added to defray practice costs for farmers. Where such a "regulatory hammer" does not exist to instigate action to resolve the problem, other positive incentives will have to be substituted. The clear preference for WFP policy to promote voluntary participation indicates a more prominent role in successful WFP policy for positive incentives (such as practice cost-sharing, other subsidies, or regulatory relief), than for negative incentives (such as fees, fines, or penalties). Consistent with the preference for private leadership in meeting WFP policy goals, the incentives could be allocated through market-like mechanisms that encourage cost saving, trading, and innovation.

An explicit role for the private sector. The expressed preferences for private sector leadership of WFP policy implementation, and the continuing budget pressure towards a smaller sized government both suggest the need for a private-public partnership in WFP policy. An especially fruitful area for such collaboration is in establishing credible whole farm plan certification and performance monitoring procedures. Accredited private firms have a large potential role in certification and monitoring under any federal WFP policy.

Following these recommendations will not guarantee that everyone will be happy with the WFP policy that results. Their careful employment will, however, capitalize on the shared priorities of industry, public interest, and government stakeholding groups, and provide the opportunity for everyone's interests to be addressed in negotiating WFP policy features about which there may be less initial agreement.

7) Endnotes

1. David E. Ervin is Professor, Department of Agricultural and Resource Economics, Oregon State University. Katherine R. Smith is Director of Policy Studies, The Henry A. Wallace Institute.
2. The importance of considering agroecosystems is based on the knowledge that farms produce more than domesticated crops and animals confined to farm boundaries. Farming affects the flows of nutrients in surface and ground waters, hydrologic characteristics such as flood patterns, wildlife habitat, and other environmental processes that often travel off the farm. "Agroecosystem" refers to the area that most directly supports the environmental and productive functions of farms and, conversely, in which most environmental effects of production—such as sediment deposition, modification of wildlife habitat, or changes in water quality—are likely to be detected" (OTA, p.31).
3. The interested reader is referred to an excellent overview compilation of information on WFP proposals, "Comparison of Twelve Proposals that Require Whole Farm Conservation Plans," by Elizabeth Higgins of the Sustainable Agriculture Coalition, Washington, D.C., June 1, 1995.

4. Two terms in the guiding question require brief comment. "Features" can include any item of legislative language, of program administration, or other characteristics. In other words, feature was interpreted very broadly. "Policy tool" does not imply the farm plan will be necessarily used to ensure compliance with environmental regulation. Again, the term was interpreted generally to encompass all ways the plan could be used to further environmental objectives sought in public policy, from an instrument driven purely by voluntary farmer interests to a mechanism satisfying environmental regulations.
5. The industry category covered farmers, agribusiness representatives, farm organizations, and private consultants. Government participants included Congressional staff, representatives of White House offices, federal and state agriculture departments, plus Environmental Protection Agency, Interior Department, and Army Corps of Engineers officials. The public interest category includes representatives from environmental organizations focusing on agricultural issues and sustainable agriculture organizations.
6. Although they did not receive enough votes to be ranked in the top-five, many other features related to this theme were identified as important by round table participants. Listed by their numbers in [Appendix C](#), they include: (5) Farmer must be free to decide who will prepare the plan; (6) Plans must be technically sound and economically feasible; (11) Plans and planning must be farmer friendly and farmer driven; WFP process must result in plans which are the farmer's and which allow flexibility in how to use his/her resources; (18) Farmers must be involved in the design of a WFP program; (41) Plans must recognize the expertise of individual entities; (50) Plans must clearly specify landowner/operator goals; (64) Plans must contain a mechanism for necessary and appropriate tradeoffs among multiple (sometimes conflicting) goals; (67) Plans should be confidential and the property of the farmer; (72) Plans and the planning process should be flexible enough to incorporate quality of life and other goals important to the farmer; (73) Whole farm plans should be integrated into farm business plans. This extensive list strengthens the voluntary/producer-driven/private sector theme.
7. Several other features not ranked in the top-five also relate to this theme (by numbers in [Appendix C](#)): (8) Plans and planning must provide for habitat protection and restoration (in contrast to traditional emphasis on soil and water parts of the ecosystem); (9) Incentives are needed for cooperation among farmers in a watershed; (17) Plans must recognize flexibility needed in a complex biological system; (30) Plans need to recognize the off-farm resources that are affected by farming; (43) WFP programs must recognize interstate effects; (57) Stakeholders involved in the process must meet face-to-face for common understanding (preferably in the WFP resource setting); (60) Plans need to be updated as new knowledge of off-farm resource needs arises; (65) WFP programs must be targeted to severe natural resource problem areas and problematic farming activity therein.
8. A large number of unranked items listed in [Appendix C](#) also relate to this theme: (2) Plans need to be evaluated by an independent third party; (20) The process must be flexible enough to allow for state and local input; (22) Both individual plans and the WFP program must include periodic evaluation of progress toward goals; (28) The WFP process must "put the farmer in the community"; (29) Record-keeping must be required for those participating in publicly sponsored WFP programs; (49) Plans should not require "best management practices", but be based on goals and recommendations instead; (60) Plans need to be updated as new knowledge of off-farm resource needs arise; (61) Adequate baseline data on environmental needs in watersheds (ecosystems) is required before planning goals can be established; (62) A strategy for monitoring WFP must be in place; (65) WFP programs must be targeted to severe natural resource problem areas and problematic farming activity therein; (70) Any WFP program must be credible to the nonfarming community; (76) The WFP process must recognize that natural resource goals have costs and benefits that vary by local area. Clearly, the theme integrates a number of features considered necessary by participants.
9. It is not clear to what extent other agroecosystem effects, such as soil quality and wildlife, are considered in the plan construction and practice selection.

8) References

- Batie, Sandra S. "Conservation and Environmental Research: Implications for Policy." USDA Public Forum on Conservation, Washington, D.C., November 2, 1995.
- Coombe, Richard I. "Watershed Protection: A Better Way." Walton, NY: Watershed Agricultural Council, October, 1994.

- Delbecq, A.C., A.H. Vonden Ven and D.H. Gustafson. Group Techniques for Program Planning—A Guide to Nominal Group and Delphi Processes. Glenview, IL: Scott, Foreman and Co., 1975.
- Ervin, David E. and Katherine R. Smith "Whole Farm Planning—Regulatory Relief and Better Environmental Protection, or Neither?" Working Paper. Greenbelt, MD: The Henry A. Wallace Institute, August, 1995.
- Fisher, Roger and William Ury. Getting to Yes: Negotiating Agreement Without Giving In. New York: Penguin Books, 1986 edition.
- Higgins, Elizabeth "Comparison of Twelve Proposals that Require Whole Farm Conservation Plans" Washington, D.C.: Sustainable Agriculture Coalition, Washington, D.C., June 1, 1995.
- Keystone Center, The. The Keystone National Policy Dialogue on Agricultural Management Systems and the Environment, Final report. Keystone, Colorado. May, 1995.
- National Research Council, Board on Agriculture, Soil and Water Quality: An Agenda for Agriculture (Washington, DC: National Academy Press, 1994).
- Osborn, T. "The Conservation Reserve Program: Status, Future, and Policy Options." Journal of Soil and Water Conservation 48(4):271-278, 1993.
- Roper-Starch Worldwide, Inc. Roper Reports 95(3), New York, NY, May, 1995.
- U.S. Congress, Office of Technology Assessment, Agriculture, Trade, and Environment: Achieving Complementary Policies, OTA-ENV-617 (Washington, DC: U.S. Government Printing Office. May, 1995a).
- U.S. Congress, Office of Technology Assessment, Targeting Environmental Priorities in Agriculture: Reforming Program Strategies, OTA-ENV-640 (Washington, DC: U.S. Government Printing Office, September, 1995b).
- U.S. Department of Agriculture, Natural Resources Conservation Service, National Survey of Attitudes Towards Agricultural Natural Resource Conservation, unpublished report of public survey findings conducted by the Gallup Organization, February, 1995.

Appendix A: List of Whole Farm Planning Round Table Participants

- Maggie Alms**, National Alliance of Independent Crop Consultants
- Jeff Anliker**, National Association of State Departments of Agriculture
- Alex Buell**, Committee on Agriculture Staff, U.S. House of Representatives
- Gary Colliver**, Farmland Industries
- Michael Davis**, Regulatory Programs, U.S. Army Corps of Engineers
- Brad DeVries**, Land Stewardship Project
- Steve Forsythe**, Fish & Wildlife Service, U.S. Department of the Interior
- Ben Grumbles**, Subcommittee on Water Resources and Environment, Transportation Committee, U.S. House of Representatives
- Tom Guthrie**, Michigan Farm Bureau

Tom Hebert, Natural Resources and Environment Administration, U.S. Department of Agriculture

Elizabeth Higgins, Sustainable Agriculture Coalition

Maureen Hinkle, National Audubon Society

Paul Johnson, Natural Resources Conservation Service, U.S. Department of Agriculture

Stuart Kasdin, Agriculture Branch, Office of Management and Budget

John Lamb, The Minnesota Project

Robbin Marks, Natural Resources Defense Council

Barbara Meister, Office of the Under Secretary for Research, Education, and Economics, U.S. Department of Agriculture

James Moseley, Consultant, National Association of State Departments of Agriculture

Charles Rewa, Fish & Wildlife Service, U.S. Department of the Interior

Max Schnepf, Natural Resources Conservation Service, U.S. Department of Agriculture

David R. Swaim, Indiana Association of Professional Crop Consultants

Gerald F. Talbert, National Association of Conservation Districts

Tom Van Arsdall, National Council of Farmer Cooperatives

Romana Vysatova, Domestic Policy Council, The White House

Steve Watts, Certified Crop Adviser Program

Robert Wayland, III, Office of Wetlands, Oceans, and Watersheds, U.S. Environmental Protection Agency

Rob Wolcott, Office of Policy, Planning, and Evaluation, U.S. Environmental Protection Agency

Appendix B: Round Table Methodology

The structured process employed with the round table participants was a form of the "nominal group technique," a method designed specifically to identify and prioritize information on a single topic [Delbecq, Vonden Ven and Gustafson]. Participants were asked, in turn, to give, in as few words as possible, a single response to the central question (What features are necessary to assure that whole farm planning is an effective policy tool?), without interruption or initial discussion from other participants, and with no attempt by the facilitator to organize, reword, or exclude any suggestion, until all ideas from the group were exhausted. The purposes of this first step are to allow equal participation by all group members, avoid intimidation by dominant personalities, and assure that the full universe of all possible ideas is revealed. An initial set of 81 WFP features was generated and recorded in the order in which ideas were offered.

Following the generation of ideas, each item on the list was addressed by group discussion to assure that all individuals understood its meaning. During the discussion stage, three of the original features were eliminated as the group judged them to be redundant with other entries.

The final step employed with the WFP round table participants was one of prioritization. Each participant was asked to choose the seven features from the list of 78 remaining options that he or she felt (by any personal criteria) were most important in assuring that WFP is an effective policy tool, and was further asked to rank order the relative

importance of those seven items. Voting was done by color coding that associated votes with particular interests or affiliations, but preserved the anonymity of individual voters.

Appendix C: Necessary Features of Whole Farm Planning

The following features were identified by round table participants as potential necessities in assuring that whole farm planning is an effective policy tool. Proposed features are listed in the order they emerged during the round table session. Participants in the session deleted redundant items from the full list before rating and ranking features. The "missing" numbers in the list below (i.e., number 13) correspond to items removed from the list by the participant group because of their perceived redundancy with one another.

1. Whole farm planning should be an educational tool.
2. Plans need to be evaluated by an independent third party.
3. There must be assured effectiveness in meeting objectives of any law or program deemed satisfied by the plan.
4. The whole farm planning process must be inclusive; all relevant stakeholders must be involved (so long as size remains manageable).
5. The farmer must be free to decide who will write the plan for his/her farm.
6. Plans must be technically sound, economically feasible.
7. Plans and planning must be watershed or ecosystem based.
8. Plans and planning must provide for habitat protection/restoration.
9. Incentives are needed for cooperation among farmers in a "watershed".
10. Federal resources must be targeted to public benefits.
11. Plans and planning must be farmer friendly and farmer driven.
12. The universe of laws and goals met by whole farm planning needs to be very clear.
14. "Base it on what you know."
15. The planning process must work at the ground level.
16. The process must result in plans which are the farmer's and which allow the farmer flexibility in how to use his/her resources.
17. Plans must recognize the flexibility needed in a complex biological system.
18. Farmers must be involved in the design of a whole farm planning program.
- 19a. The whole farm planning program must be integrated with other programs (e.g., commodity programs, state requirements).
- 19b. The process must be flexible enough to allow for state and local input.
21. Plans must include some minimum performance standards, and basic "Best Management Practices."

- 22a. Both individual plans and the WFP program must include periodic evaluation of progress towards goals.
- 22b. The whole farm plan should attempt to describe all resources that need to be managed on the farm (site-specific data needed).
- 24a. Review of plans by public sector program managers should be local and involve only "one-stop."
- 24b. WFP should provide "one-stop shopping" for farmers' environmental program needs.
26. The planning format should be user-friendly; no big paperwork burden.
27. Need science-based certification of plans.
28. The whole farm planning process must "put the farmer in the community."
29. Record-keeping must be required for those participating in publicly sponsored whole farm planning programs.
30. Plans need to recognize the off-farm resources that are affected by farming.
31. Plans must be consistent with overarching national policy principles.
32. Service providers writing the plan must meet some minimum standards (be certified).
33. Whole farm planning must be a voluntary option for farmers.
34. Limitations of plans and the planning process must be recognized.
35. Whole farm planning must be consistent with policy principles across levels of government.
36. The Federal roles in whole farm planning should be limited to those of catalyst, coordinator, informer, and educator.
37. Plans should accommodate incremental progress; not require that everything be accomplished all at once.
39. WFP must have extensive private sector involvement; be led by the private sector.
40. Plans must provide liability protection to farmers.
41. Plans must recognize the expertise of individual entities.
42. The Extension Service must have an educational role in the WFP process.
43. Whole farm planning programs must recognize interstate effects (e.g., watersheds across states).
44. Whole farm planning programs must include training components for farmers, private vendors of planning related services, and public agencies.
45. Whole farm plans should not provide liability protection because resource needs, and local, state and federal laws are too complex to permit that.
46. Whole farm planning programs should be backed up by research to provide a broad range of multiple alternatives for use in implementing plans.

47. Plans need to include an action strategy, including time frames, process, management alternatives and funding needs.
48. Local communities must be willing to support plans with dollars or in-kind contributions.
49. Plans should not require "Best Management Practices"; should be based on goals and recommendations instead.
50. Plans must clearly specify landowner/operator goals.
51. Plans and the planning process must insure long-term protection of natural resources.
52. Whole farm planning must accommodate reasonable expectations for public sector involvement during periods of fiscal austerity.
53. Any whole farm planning process must be given time for refinement, adjustments, and "debugging" (i.e., "Walk before you run.")
54. Approach to planning must have a demonstration aspect to it.
55. The planning process should encourage development of a "mutual guarantee support network" (whereby groups take responsibility for "bad actors").
57. Stakeholders involved in the process must meet face-to-face for common understanding (in the whole farm plan's resource setting whenever feasible).
58. Seamless, public and private service delivery to the farmer is essential.
59. The planning process and resultant plans must be producer initiated, producer developed, producer driven, and producer owned.
60. Plans need to be updated as new knowledge of off-farm resource needs arises.
61. Adequate baseline data on environmental needs in watersheds (ecosystems) is required before planning goals can be established.
62. A strategy for monitoring whole farm planning must be in place.
63. The "goal posts" (for whole farm planning) shouldn't move (capriciously) for a while.
64. Plans must contain a mechanism for necessary and appropriate trade-offs among multiple (sometimes conflicting) goals.
65. Whole farm planning programs must be targeted to severe natural resource problem areas and problematic farming activity therein.
66. The whole farm planning process must be able to deal with "bad actors".
67. Plans should be confidential and the property of the farmer.
68. Plans should have recognizable milestones and incorporate periodic monitoring to tell farmers how close they are to those milestones.
69. The planning process must foster trust and shared responsibility.
70. Any whole farm planning program must be credible to the nonfarming community.

71. Plans should involve cost-effective pollution prevention strategies.
72. Plans/The planning process should be flexible enough to incorporate quality of life and other goals important to the planning farmer.
73. Whole farm plans should be integrated into farm business plans.
74. Whole farm planning should not be a license for "bad actors."
75. Plans and/or their evaluation must be publicly available.
76. The whole farm planning process must recognize that natural resource goals have costs and benefits that vary by local area.
77. Interagency cooperation is necessary first (before a whole farm planning process can be implemented).
78. Plans must protect farmers from excessive federal fines and provide for simple arbitration.
79. Whole farm planning must be a technique that is tied to compliance with Federal laws.
80. There must be Federal funds sufficient to support any Federal role in whole farm planning.
81. Whole farm planning should be solely an educational tool.

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