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Subject: CIG Comments

Please find attached our comments on the CIG Interim Final Rule. Thank you for the opportunity to provide our input.

Suzy Friedman

(See attached file: CI Grant Program Comments.doc)

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Comments on the Conservation Innovation Grants Program, Interim Final Rule

Submitted by Suzy Friedman, Staff Scientist
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May 27, 2004

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Thank you for the opportunity to provide our comments and recommendations on the Interim Final Rule of the recently launched Conservation Innovation Grants (CIG) program. Environmental Defense strongly supports the effort to demonstrate and promote implementation of effective new solutions to conservation challenges faced by the nation's farmers and ranchers and applauds the Natural Resources Conservation Service for launching this grants program to further this goal.

As noted in the interim final rule, agriculture has a significant impact on the nation's natural resources. While there are many challenges linked to the production of food and fiber, agriculture offers one of the greatest opportunities to provide the public benefits of clean water, clean air, healthy soil, and important wildlife habitat. As conservation pressures on agricultural operations have continued to increase, however, meeting environmental goals while remaining economically viable has become increasingly difficult for producers, and many traditional practices and technologies do not appear to be up to the task. While researchers at USDA's Agricultural Research Service (ARS), land grant universities, and private companies continue to discover and improve practices and technologies that can enable producers to do an even better job of conserving natural resources, demonstrating and transferring these innovations to farms and ranches has not kept pace with need. We hope this new CIG program can help bridge this technology transfer gap as well as stimulate further interest and resources to development of better alternatives that will help farmers and ranchers demonstrate and achieve measurable environmental progress while remaining economically viable into the future.

Before addressing the specific questions laid out in the interim final rule, we would like to identify some overarching issues that we believe to be very important to the success of the CIG program.

I. Overarching Issues

Measures Otherwise Fundable by Regular EQIP:
The CIG Interim Final Rule states that CIG proposals cannot be used for technologies and approaches that can be implemented under the broader EQIP program: "Technologies and approaches that are eligible for funding in the project geographic area through EQIP are ineligible for CIG funding. Applicants should reference each State's EQIP Eligible Practices List." (Federal Register, Vol. 69, No. 60, pg. 16394). We agree that CIG funds should not be diverted for projects that could, as a practical matter, be funded by EQIP in that specific county or state. The rule language should be tweaked, however, to make clear that the test is a practical one: Is it reasonably likely that the proposed activity could be funded in that county or state in the same manner as detailed in the CIG proposal. In contrast, the test for eligibility under CIG should not be whether the proposed technology or approach could be funded in theory under the EQIP statute. This clarification is critical to the success of the CIG program because the EQIP statute is so broad that it can fund virtually any kind of conservation effort through cost-share or incentives. If the CIG rule's language referred to the statutory potential to be funded by regular EQIP, then CIG could fund few things. Moreover, one goal of CIG is to encourage innovation in program delivery and incentive systems, not necessarily new technologies. Such systems may fund the same measures as regular EQIP, but in a different, more effective way. The rule language regarding eligibility should be clarified so that ineligibility applies only to measures that have a reasonable likelihood of being funded under regular EQIP in that geographic area in the manner proposed.

The following example illustrates this important point. A few states have adopted a tiered nutrient management incentive payment. In those select states, a project to demonstrate a tiered incentives system for nutrient management is not an appropriate use of CIG funds. But introduction of a performance-based nutrient management incentives system in an area that has no similar process, or a significant improvement to the tiered systems already in place would be a worthwhile use of CIG funds and should be allowed. Similarly, there are a variety of very promising and effective tools for improved nutrient use efficiency that technically can be implemented under the 590 Nutrient Management Standard in any state, but have yet to be encouraged or implemented anywhere in practice through regular EQIP. These are precisely the measures that CIG should demonstrate through innovative incentive systems.

Technical Assistance:
We support the language in the CIG Interim Final Rule that states that while the grantee is responsible for the technical assistance for the CIG project, NRCS retains responsibility for technical oversight of grant projects. We also support NRCS's decision to designate a Federal Grant Representative for each grant award. Handling of technical assistance issues is as critical to the success of the CIG program as providing the

investments necessary to take promising new technologies and adaptations of existing technologies from the test to adoption phase. It is in the best interest of NRCS, CIG grantees, taxpayers, and natural resources to ensure that technologies and approaches funded under CIG are not installed without much-needed monitoring and evaluation systems. Lack of adequate monitoring and evaluation for newer approaches and technologies would seriously hinder not only effective transfer of successful approaches and technologies to other farms, but also identification of which approaches are best able to advance environmental goals. As is well known, lack of on-farm experience or necessary expertise and information is a leading reason for failure of new systems and approaches on farms. NRCS should ensure that the Federal Grant Representative assigned to each project has expertise relevant to the approach or technology to be implemented in that project. In addition, NRCS should emphasize the importance of technical assistance in both project selection and evaluation. A strong plan for technical assistance should be one of the project selection criteria, both for implementation of the project itself and assessment of technical assistance needs for future use of the technology or approach on a broader scale.

Demonstration vs. Research:
We strongly support the emphasis in the CIG Interim Final Rule that the program "will fund projects targeting innovative on-the-ground conservation, including pilot projects and field demonstrations." We also agree with NRCS that CIG should not be a research program, but instead should foster adoption of conservation technologies and approaches with sufficient research to show likelihood of success and promise for wider technology transfer. It is important, however, for CIG rule language to clarify the difference between research and on-farm demonstration. We recommend that NRCS more clearly define research as work on untested or inadequately proven approaches or technologies, especially if such work focuses on laboratory situations. NRCS should further define farm demonstrations and pilot projects to mean efforts that involve implementation and locational or situational data collection and assessment of technologies or approaches that may have been implemented in another region but are new to the area or condition addressed in the proposal. This clarification is critical because demonstrating use of a promising approach in a new region or under new conditions would be of great benefit to farmers and is key to the effectiveness of the CIG, and thus to the future success of EQIP overall. Such adaptation of tested approaches that CIG should fund as demonstrations or pilot projects could be in terms of geographic region, scope or size of operation, kind of farming, or other sources of variability. Similarly, demonstrating how an approach or technology previously implemented on an individual farm basis could be implemented in a cooperative or multi-farm manner would also be especially beneficial and should be funded by CIG. For example, taking an advanced technology currently useful only on larger operations for economic or managerial reasons and demonstrating its use in a multi-farm, centralized or shared system, thereby making the technology viable for a wider range of operations.

II. Responses to Specific Questions Included in the CIG Interim Final Rule

What type of innovative approaches and technologies should CIG address?

We support the CIG Interim Final Rule's language stating that the CIG program should emphasize innovative approaches and technologies that:

- Have a high potential to achieve measurable environmental progress;
- Provide long-term and comprehensive solutions to the challenges faced by producers;
- Have a high likelihood of being applicable and transferable to a broad range of operations, either in terms of geographic region or operation type; and
- Are or have a high potential to become economically viable over the long term.

In terms of long-term and comprehensive solutions, CIG should prioritize projects that will be viable not just for the challenges of today and the next five years, but for a longer time period. It is important that CIG not put its limited funds into band-aid solutions that will leave producers with unintended consequences or merely delay impacts on the environment, leaving producers to face a similar or worse situation down the road. For example, projects dealing with animal waste should not only focus on water quality, but air quality and pathogens as well. And approaches dealing with water quality impairment from nutrient runoff should promote long-term solutions that promote a nutrient balance within or across the system, not just put off impacts for the near term.

It is of critical importance that the grant program fund projects aimed at the broad spectrum of agricultural operations facing pressing conservation challenges. Small and large operations, and crop and livestock producers alike face increasing pressures to conserve and enhance natural resources, so the CI grant program must seek to fund projects that will find a variety of solutions. For example, focusing only on high technology innovations would limit to a large degree the impact of the program. Despite the great need for innovative and viable technologies that can treat and concentrate the nutrients in manure and address related odor and pathogen issues -- a critical issue that the CIG program should pursue -- devoting the vast majority or all of the programs grant funds exclusively to these advanced technologies would ignore the pressing challenges faced by medium and smaller livestock operations that also need better alternatives for handling manure. Viable options will be quite different for small, medium, and larger operations, as for crop and livestock operations. The CIG program should look to this diversity in allocating its funding among various approaches.

What should the geographic scope be for the innovative approaches and technologies addressed through CIG?

The CIG interim final rule states that the national grants competition will emphasize projects that have a goal of providing benefits over a large geographic area, and that the projects may be watershed-based, regional, multi-State, or nationwide in scope. Environmental Defense supports this geographic approach. Given the limited funds available for the grants program and for EQIP overall, it is important to get the most bang for the buck out of the projects funded by the program. In order to do this, projects funded by the CIG program must demonstrate practices or technologies that can be used widely, either within a geographic region or an industry. Funding projects that have

limited applicability on other farms would severely hinder the impact of the program. Therefore, projects funded by CIG funds should either involve a large number of farmers or ranchers in a cooperative project that can be replicated elsewhere or demonstrate a practice or technology that can then be adopted more widely within a region or type of farming.

What level of funding is appropriate to meet the objectives of CIG?

In deciding the appropriate level of funding to meet the objectives of CIG, NRCS must consider both the pressing need to demonstrate and transfer more widely better alternatives and approaches to conservation challenges faced by farmers and ranchers, as well as the large backlog of projects and high demand for funds through the broader EQIP program. While an average of $1 billion per year is a significant amount of money, the need and demand for assistance in meeting conservation challenges far exceed this amount.

To meet both these needs -- the high demand for and backlog in the existing EQIP program and the urgent need for better alternatives that will make the entire EQIP program that much more effective – we recommend that NRCS change its selection regarding the issue of setting funding levels. Instead of having the Chief determine funding of CIG annually, as stated in the CIG Interim Final Rule, we recommend that NRCS instead select the second option included in the interim final rule – establishing a permanent percentage of the total EQIP funding to be made available for grants at the National or State level. Specifically, we recommend that NRCS reserve ten (10) percent of overall EQIP funds for the national CIG RFP process each year. In addition, NRCS Chief Knight should allow each state NRCS office to allocate up to ten percent of its state EQIP funds for a state-level CIG program. If a state wishes to use more than ten percent of its EQIP funds for CIG projects, it should be allowed to petition the Chief to do so. In addition to ensuring sufficient funds are available for CIG to enable the program to achieve it's stated goals, establishing a permanent percentage of ten percent of total EQIP funds for CIG grants would benefit the program by assuring potential applicants that sufficient funds will be made available to make it worth their time to develop qualified projects.

We support NRCS's decision to limit awards under the national CIG program to $1 million. The $1 million cap – which translates into a $2 million project given the 50% cost share -- should provide sufficient funds to adequately demonstrate how an approach or technology can be implemented, while ensuring that individual projects do not consume too large a portion of the limited funds available. Once demonstrated, if successful, that approach or technology should be integrated into the main EQIP process, which will facilitate further and more widespread adoption.

While we agree that the State-based CIG grants need not be as large as those at the national level, we recommend that NRCS not limit State-based CIG grants to $75,000, as stated in the interim final rule. Instead, NRCS should set the cap for State CIG grants at $450,000, the same cap as imposed on projects under the general EQIP program. This

would provide States with more flexibility to leverage the CIG program and would put it on equal financial footing as the general EQIP program. While States should have the option of funding CIG projects as large as $450,000, NRCS should also allow States to set a lower cap on the state process as they see fit.

Should NRCS provide special consideration for under-represented individuals or entities through CIG?

In evaluating and deciding on that year's priority resource concerns to be addressed by CIG projects, NRCS should pay close attention to those natural resource challenges that are particularly acute as a result of being overlooked by the broader EQIP program and other conservation programs. While the CIG program should not target under-represented individuals or entities for the sole reason that they are under-represented, the program should give priority to projects that would find solutions to difficult challenges overlooked or poorly addressed by EQIP and other conservation programs. Following this approach of emphasizing project that will address challenges under-represented in EQIP and other programs, it is highly likely that the CIG program will direct resources to under-represented groups and individuals as well. The focus should remain on the resource concerns, however, and not on entities in and of themselves, separate from resource challenges.

Should CIG be driven by natural resource conservation concerns?

We recommend that NRCS focus CIG RFPs around specific natural resource conservation concerns, which could change from one RFP to the next as deemed appropriate and necessary in order to address pressing issues. While NRCS should focus the majority of CIG funds to the natural resource priorities identified for that year, the program should remain open to or reserve a subset of funds for exceptional applications that address other pressing concerns and 1) will provide significant benefit to the agricultural community and natural resource through very high demonstration value and 2) can quickly result in new and highly beneficial practice or tech standards for use in the broader EQIP program.

What natural resource conservation concerns should CIG address, both initially and in future years?

While there are myriad challenges that could benefit from the CIG program, we recommend that NRCS narrow the focus of the program on especially pressing natural resource concerns in the program's initial years. Given the limited amount of funding available for the program, especially in the first year, we believe the program would have a much greater impact if it select two or three natural resource priorities, instead of the full list included in the interim final rule. The range of natural resource concerns included in the interim final rule is extremely broad, encompassing virtually all environmental issues related to agriculture. In contrast to the all-encompassing approach proposed in the interim final rule, a more focused approach would not only facilitate the application and selection process, but would also enable the program to make greater progress in finding

solutions to selected natural resource priorities. The program could then select different natural resource priorities in subsequent years, or repeat some of the previously included priorities, as needed. NRCS could identify the selected priorities for that year in the RFP for that year's funds.

In future years, when additional funds are (hopefully) made available innovative grants, the CIG program could be expanded to address the full range of pressing conservation challenges listed in the interim final rule -- water quality and quantity, at risk and imperiled wildlife habitat, grazing and forest land health, atmospheric resources (including carbon sequestration and other ways of addressing climate change), and soil health.

Initially and until greater funds are available, the program should be targeted to address the following pressing conservation challenges related to agricultural production in the US, discussed in more detail below:

1. Impairment of surface and groundwater resources, especially coastal and drinking waters, by nutrient runoff.
2. Air and water quality and pathogen challenges resulting from a lack of comprehensive solutions to animal waste management.
3. Rapid declines of imperiled species on private land due to loss of habitat.

1. Impairment of surface and ground water resources, especially coastal and drinking waters, by nutrient runoff.

Agriculture offers one of the greatest opportunities to address water quality challenges. With more than half of the nation's land in agriculture and 90% of the rain that falls on the United States falling on private lands, agriculture play a major role in the quality of our nation's waters. While many producers manage their lands in ways that protect and enhance water quality, there are challenges that must be addressed. Excessive nutrients are responsible for almost 20 percent of reported water quality problems in impaired rivers and streams and 50 percent of impaired lake acres.[1] According to the USGS and other federal agencies, agricultural runoff is the leading pollutant source for dead zones in 13 of the nation's 17 most polluted bays.[2] In addition, fertilizer also causes significant problems for some groundwater and city water supplies.

If EQIP is to play a role in restoring the nation's coastal waters and threatened drinking water supplies, the program must make significant strides toward reducing use and runoff of commercial fertilizers and manure nutrients applied to agricultural lands. Farmers need better tools for managing commercial and manure nutrients. Many such tools are in development or have proven their utility but have only been implemented on a limited basis.

For example, a growing number of studies have shown that many farmers can significantly increase nutrient use efficiency, which would both save farmers money in

[1] *See* Faber, S. *Bringing Dead Zones Back to Life*, August 2001.
[2] *See* Faber, S. *Bringing Dead Zones Back to Life*, August 2001, p. 3.

terms of fertilizer purchases and improve water quality. But current use of these site-specific nutrient management tools is still limited. Additionally, many more such tools that can be implemented on a range of crops, in different geographic regions, and on a range of operational sizes are needed.

Unfortunately, USDA's existing best management practices for nutrient management are unlikely to enable states and producers meeting pressing water quality goals. As a result, innovation is essential to state, regional, and national efforts to clean up dead zones in the nation's bays and coastal zones and threats to drinking water supplies. Equally important, the ability to better manage nutrients would enable farmers to comply with and avoid regulatory burdens much more easily.

The CIG program could significantly increase the impact of EQIP on water quality by providing grants for farm demonstrations, watershed-scale application, and further development of fertilizer and nutrient management tools that allow producers to use them much more efficiently and reduce losses to the environment. This should include not only implementation of new and innovative tools, but innovative ways of coordinating their use across a region or creating incentives for their use. A few of these tools include the PSNT test, variable rate application technologies, use of GPS and advanced soil mapping, and other tools for applying nutrients more efficiently. Also greatly needed are innovative practices and technologies that will allow producers to quickly test the nutrient value of their manure and apply that manure more efficiently.

2. Air and water quality and pathogen challenges related to livestock and poultry production due to the lack of comprehensive solutions to manure and litter management.

The standard method of handling manure for most livestock operations involves storage (often in open lagoons) followed by spraying or spreading the manure on fields. This system does not give farmers the tools they need to function effectively in today's environment, especially given closer proximity to non-agricultural neighbors and increased regulatory pressures. Traditional manure handling practices and systems are not up to the task in a number of ways. First, in these systems, most of the nitrogen in the manure volatilizes as ammonia, which then rains back down are the primary path through which animal operations impact coastal waters. While still suspended in the air, the ammonia forms fine particulate that threatens human and animal health. As with many issues, ammonia volatilization has only recently been recognized as a problem. For decades, many farmers were led to believe that volatilization of the nitrogen was a good thing -- it left less on the farm to manage. As a result of practices based on this earlier lack of correct information on ammonia movement, many farmers are saddled with traditional systems that are not equipped to manage ammonia emissions. Despite this fact, they are now being challenged to reduce or prevent this pathway for nitrogen loss.

Second, lagoon systems too often leak into groundwater. Many bacteria and viruses survive the lagoon and are then spread on fields, which, if nothing else, disqualifies unprocessed manure from use on fruit and vegetables. Third, lagoons and some other

traditional handling methods are a source of significant odors, which has quickly become a major impediment to farm operations and survival. And finally, the heavy, dilute nature of lagoon-stored manure makes it uneconomical to transport more than a couple of miles, which makes excess concentrations near the operation inevitable. In fact, as much as 25%-50% of the volume of a lagoon is rain and melted snow.

Poultry operators also face significant challenges related to litter management, especially given the fact that many poultry operations do not own or control sufficient land on which to properly apply the manure. While poultry operations do not generally face the same challenges of handling a very dilute, liquid product, they still face significant nutrient, pathogen, and odor challenges in managing their litter, and new and better alternatives are needed.

Innovative technologies that capture air emissions, minimize or eliminate risks of water pollution, control pathogens, and/or concentrate manure nutrients to improve the cost-effectiveness of transporting the solids longer distances for proper use on cropland or for market are both available and in development.

NRCS can help solve manure and litter challenges faced by owners and operators of animal operations by leveraging the CIG program to encourage further development, demonstration, and innovative implementation of economically viable manure management technologies and approaches that simultaneously address air emissions, threats to water quality, odor, and pathogen concerns. Because it is highly unlikely that there will be a silver bullet that can address all the waste management challenges of all animal operations, it is important that the CIG program help identify, demonstrate, and then integrate into the broader EQIP program a range of comprehensive manure and litter management technologies that address the needs of both smaller and larger operations as well as the variety of livestock and poultry farm types. In addition to technologies/practices for individual farms, the CIG program should help promote demonstration of centralized and collective solutions that bring together groups of farmers in a designated area.

3. Rapid declines of imperiled species on private land due to loss, degradation, and fragmentation of habitat.

Eighty percent of the populations of all imperiled species live on private land, much of which is either farmland or associated with farmland. Farmers and ranchers can undertake a broad range of practical measures to enhance this habitat, ranging from controlled burns, to culling exotic species, to special woodlot management techniques, to reworking of culverts under farm roads. In most cases, habitat enhancements for rare species will also benefit game species.

NRCS can provide significant benefits to U.S. farmers and ranchers by leveraging the CIG program to encourage development and implementation of practices that significantly enhance and protect wildlife habitat on working lands, especially for

imperiled species. This will not only benefit wildlife, but also help producers avoid potential regulatory challenges associated with at risk species.

In particular, NRCS should leverage the CIG program to promote the demonstration and implementation of agricultural approaches and practices that enhance at-risk wildlife habitat as part of a working agricultural landscape. This includes grazing and forest land health, riparian area management and restoration, invasive species management, biodiversity, and wetland function and health.

What criteria should be used to evaluate CIG proposals?

We support the criteria NRCS included in the CIG Interim Final Rule for evaluation and selection of CIG proposals. In particular, we encourage NRCS to emphasize the following in evaluating and selecting projects to be funded:

- Significant potential for rapid adoption on numerous other farms, either in terms of geographic region, farming size, or farming type;
- Clear and significant potential for a positive and measurable environmental impact;
- Significant potential for rapid development of EQIP practice standard(s);
- Significant current or potential for economic viability on-farm;
- Support of approach by a diversity of relevant stakeholders;
- Experience and strength of expertise of cooperators;
- Strength of plans for technical assistance and evaluation of technical assistance needs for future adoption on other operations;
- Quality of plans for monitoring, data collection, and evaluation of technology or approach;
- Strength of technical design and implementation strategy, emphasizing sound science and management plan; and
- Strength of existing research data for the new practices or technologies to be implemented on-farm.

In addition, we support the application review and grant process outlined by NRCS in the CIG Interim Final Rule. We encourage NRCS to include in the peer review panels a range of interest groups and areas of expertise, including relevant experts from academia, regulatory agencies at the national and state or regional level, conservation and environmental organizations, and industry and producer groups. NRCS should ensure the process avoids conflict of interest by not having any entity or individual with a personal stake or involvement in a particular project participating in the peer review panel that evaluates that proposal.

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