Comments on INC Draft Report, Dec 8, 2008
Joe Rudek, EDF

General Comment:
It is commendable that the INC is putting forward numeric goals for reductions it believes can be achieved with current technologies without substantial decrement to industry and agriculture. However, it would beneficial to present the reasoning and calculations behind those goals. In the inevitable debate which would accompany efforts to achieve the stated INC decreased Nr goals, a clear presentation of the process which led to selecting those goals would help avoid numerous debates about that process.

Specific comments:

Page C1-6 (line 29 – 39): Recommendations to develop Intra- and Inter-Agency Tasks Forces.

Comment: Recommendations should also include a mechanism to formally engage the interested public. This could be accomplished via an appointed advisory group.

Page C3-9 (line 12 – 13): Hyperlink doesn't work

Page C3-14 (Figure 3-4): Define PFP. Situation in 1965 may be worth explaining (i.e. high PHP)

Page C3-14 (lines 18 – 20): Corn to fertilizer ratio is not a good estimator of economic driver. While ratio may be the same in both time periods, the profit increased from $1.80 bu to $3.60/bu.

Page C3-15 (Lines 20 – 26): Such systems may employ legume cover crops, more diverse crop rotations, and tighter integration between crop and livestock production to achieve greater reliance on nitrogen inputs from legume N fixation and recycling of N in manure and compost . At issue, however, is whether such systems actually reduce Nr losses to the environment because the same loss mechanisms and pathways operate on nitrogen from both commercial fertilizer and organic sources.

Comment: I understand that the loss mechanisms are the same with organic and inorganic N. However, this statement seems to ignore the loss of Nr that will be occurring from the manure whether or not it is displacing inorganic N. It seems to me the only scenarios where the use of manure to displace inorganic N would not result in lower Nr released to the environment are: 1) one assumes that the manure N diverted to replace inorganic N was already being used in the most efficient manner , with little of no loss of Nr; or 2) transport of manure resulted in more Nr released than offset by he use of inorganic N, including that Nr released during fixation and transport of fertilizer to the farm. These scenarios are not what is implied on lines 20 – 26.

Page C3-15 (lines 26-33): Also at issue is the indirect land use change impact from widespread adoption of these more diverse cropping systems because they have reduced crop yields per unit land area compared to more simplified crop rotations such as corn-soybeans that receive N fertilizer. Lower yields would require more land in production to meet food demand.

Comment: The assumption is being made that corn-soybean rotations are more productive than diverse cropping systems. Considering the large use of these grains for livestock production and the potential for substitution of grass for feed grains in cattle production, as well as other considerations, this assumption should (at least) be accompanied by a reference. Even more useful would be a discussion of the potential of alternative diverse crop/animal farming systems (and potentially more local marketing of farm products) in decreasing Nr releases to the environment especially in a world of higher priced petroleum and climate change.

Page C3-15 (lines 42- 46): More diverse cropping systems with reduced N fertilizer input may also provide an option if the tradeoff between lower yields per unit land area and time is more than offset by the reduction Nr losses per unit of crop production to avoid expansion of crop production area to meet demand.

Comment: This sentence is very confusing. Not clear what is offsetting lower yields? What is the time aspect – it is not previously mentioned?