
Background Information:

AN EXCERPT FROM

A NEW LOOK AT AGRICULTURE



Redefining agriculture's role in our
economy, landscape, environment
& social culture

EXCERPT #8

Common Perceptions About Agriculture

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Common Perceptions About Agriculture



Here are some common perceptions about agriculture that are prevalent among many policy makers and members of the public. These perceptions drive many public policies that impact agriculture.

Many ag owners and operators, however, question these perceptions. Are the perceptions accurate? Could they benefit from closer scrutiny? Should the following points be taken into consideration in rethinking these perceptions? You be the judge.¹

PERCEPTION: *Agriculture is a only a temporary land use awaiting conversion to a higher and better use.*

Many people assume that subdivisions and shopping centers are the best economic uses of land. While it is true that some people may purchase farmlands in the hopes that the lands may eventually be developed, it does not have to be that way:

IN FACT: Economic studies conducted in several Florida counties by Florida Stewardship Foundation indicate that some forms of agriculture -- such as production of tropical fruits and vegetables, some winter vegetables, strawberries, nursery products and aquaculture -- represent some of the highest economic uses that can be made of land on a per acre basis, particularly since these activities can generate revenues year after year, and decade after decade. Strawberries, for example, can generate up to FIVE TIMES as much revenue for the local economy on a per acre basis over a 50-year period than the construction and resale of an acre of median priced homes. (See Endnotes² & ³ and Excerpt 16 - "The Economics of Land Use" for more information about these studies.)

PERCEPTION: *Agriculture does not pay its own way as a land use. Because of the “Greenbelt” tax rate, agriculture receives a much lower, preferential tax treatment, at the expense of urban residents.*

FACT: Economic studies conducted in several Florida counties indicate that agriculture more than pays its own way as a land use. For every \$1.00 generated in revenues by agriculture, county governments and schools spend an average of only \$0.17 in services. In contrast, residential dwellings cost counties and schools an average of \$1.55 for every \$1.00 generated in taxes and other fees. Stated another way, the farmer has to pay almost \$6 to get \$1 in services, while the urban resident receives over \$9 in services when \$6 is paid in taxes. (See Endnotes ⁴ & ⁵ and Excerpt 16 - “The Economics of Land Use” for more information about these studies.)

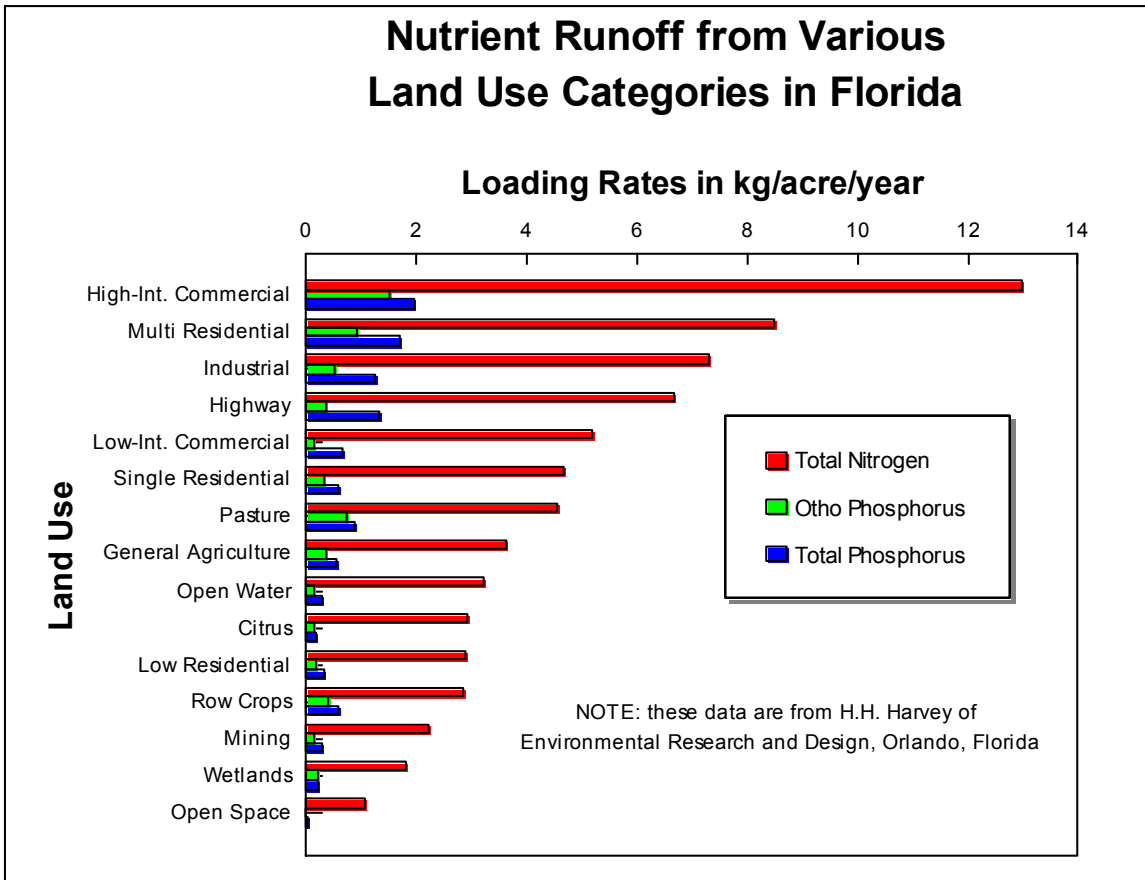
PERCEPTION: *Agriculture is the major polluter of the state's waterways and environment. Strict controls are needed to make agriculture clean up and pay for the environmental damaged caused by its pollution.*

FACT: More can be done to reduce agriculture's impact on the environment. The same, however, can be said for every other type of land use as well.⁶ An extensive review of more than 200 water quality tests throughout the state of Florida indicates that, on a per acre basis, urban land uses contribute more pollution to the environment than most agricultural uses.⁷ Careless disposal of household chemicals, overzealous fertilizing of home lawns and gardens, gas and oil spills from cars and trucks, and heavy metal deposits from the wear on engines and brakes all take their toll.⁸ The chart on the next page shows the cumulative results of these water quality tests.

Much of agriculture's current impact on the environment results from farming techniques that have been adopted to boost food production and bring marginal lands into production as more productive farmlands have been displaced and paved over due to the outward expansion of cities and towns.⁹

While this has caused some environmental impacts, it also has resulted in two major benefits to society: First, a few farmers can now feed hundreds of people who, in turn, can pursue other careers and interests to contribute to our society's diversity and advancement. Second, had U.S. farm productivity been frozen at, say, the 1910 level, it is estimated that U.S. farmers would have to cultivate 1.222 billion acres to equal what they now produce on 382 million acres. *This means that 840 million acres that are now NOT in cultivation would have to be put under the plow.* This last point is critically important in understanding how much progress modern agriculture has made in REDUCING its impacts on the environment for each pound of food that is produced. See Endnotes ¹⁰, ¹¹ & ¹².

Nutrient Runoff from Various Land Use Categories in Florida



Source: *Stormwater Loading Rate Parameters for Central & South Florida*, Environmental Research & Design, Orlando, Florida, October 1994

PERCEPTION: *Agriculture uses far too much water.*

FACT: Agricultural operations consume large amounts of water, but large amounts of that water are returned to the environment. Also, much of the water used by agriculture provides each of us with a benefit.

Agriculture is a *direct* user of water. But each one of us are *indirect* users. With every bowl of cereal we eat, every glass of orange juice and milk we drink, every morsel of food we consume, every piece of cotton or wool fabric we wear, we use the water that nourishes agriculture.

Agriculture operations currently use more water than developed areas. But agriculture covers much more of South Florida's land area. Also, unlike other sectors of society, the agricultural industry's annual demand for water has been increasing only minimally because of widespread use of water conservation measures. In fact, as the Collier County Extension Service points out:

“Assuming current average water consumption and county dwelling unit densities, an acre of new citrus trees uses roughly half as much water as an acre of new houses.”¹³

Of the water used by agriculture, some is lost to evapo-transpiration (which eventually returns to earth as rain), some is taken up by the plants and animals being raised, some flows away in runoff, but a large amount also seeps into the soil to replenish ground water supplies. When it rains, croplands and pastures capture vast amounts of water, much of which percolates into the ground. In large storm events, water is pumped into canals and ditches to prevent crops from being drowned out, but large amounts of water also are held in detention ponds, where it will percolate into the ground. Recharge in developed areas is much more difficult because paved areas prevent rainwater from percolating into the ground.

Water needs — and water problems — are different in every county, and every state. (See Endnotes¹⁴, ¹⁵ & ¹⁶)

More can be done to conserve water, and provide water to natural systems. However, in the end, water consumption comes back to an inescapable fact: whether growing food, raising animals, watering lawns, cooking dinner, washing cars or bathing, ***it is people who use water.*** And that is the central factor we must keep in mind in deciding how precious water resources should be distributed.

Endnotes

1. This section of the document attracted more spirited debate than any other. It was written to express the view that agriculture's positive contributions and efforts are often overlooked or not well understood by the general public, while its problem areas seem to attract excessive criticism and regulation. At the same time, there is less media coverage and public awareness of the contributions that are made to the some of the same problems by other sectors of society.

This view is widely held by those who are intimately familiar with agriculture. Consequently, most people in agriculture lauded the statements in this section. Environmental interests had mixed reactions. Some felt more "balance" was needed, more acknowledgment of the problems posed by agriculture. Others felt the "different perspective" offered in this section was important to consider. Representatives of government agencies — particularly regulatory agencies — were generally critical in their comments.

Stephen W. Forsythe, State Supervisor of the U.S. Fish and Wildlife Service and the USFWS representative to the South Florida Ecosystem Restoration Working Group, says: "I think ... Part I dealing with myths is unnecessarily defensive, to the extent that the stated purpose of the document is obfuscated. Maybe I am being too blunt, but the apparent attempt to change agriculture's image by pointing a finger at other areas, like urban residents, detracts from the document ... In fact, some agricultural practices, many supported by taxpayers, have had serious negative effects on the environment. Some of these practices are still in place in South Florida, such as flood control or water use at the expense of the natural system. I think agriculture probably needs better public support and the way to get started is to develop a document that admits to the facts and lays out a course to move on from there. I absolutely agree that agriculture can and should have a positive role in protecting the remaining elements of the various ecosystems in our nation. However, I cannot overstate the necessity for this role to be one of equity. In other words, any approach developed must be balanced, which means that all parties may have to give up something."

2. Craig Evans and Jean McGuire, *The Contribution of Agribusiness to Hillsborough County, Florida*, Farming for the Future, Inc., Boca Raton, Florida, September 1996, pp 51-56.
3. This document was reviewed by several professional staff members at South Florida Water Management District. The comments were combined and submitted by Paul Whalen, Director, Kissimmee River Restoration Project, who was the District's representative to the South Florida Ecosystem Restoration Working Group at the time the first two drafts of this document were prepared. The comments submitted on this paragraph read as follows:

"Specious comparison, since economic activity associated with people in the homes

generating incomes and bringing in transfer payments is not counted.” Also, the reviewer noted that strawberries is “one of highest value crops” and that 50 years is a “very long period.” He also asked: “is the value discounted?”

Response: All of these factors were carefully considered in the calculations, in counting the economic activity associated with people in homes, in choosing the time period for comparison, and in ensuring valid comparisons.

The *Opportunity Cost* analyses, referred to in this paragraph, calculate the long-term value of a land use to the economy -- not just over 5 or 10 years, when large cash influxes from a change in use can cause a one-time spike in value, which can obscure the importance of one land use relative to another as a revenue generator over time.

Instead, the opportunity cost analyses calculate the revenues generated by different land uses -- including residential development, commercial activities, mining and the production of various agricultural commodities -- on an annual basis and per acre basis by using *Regional Economic Multipliers*, and then compares these revenues over a 50-year period (a period chosen to span at least one generational transfer and cover the effective economic life of most buildings and businesses, when major renovations or rebuilding would, in all likelihood, be needed).

Opportunity cost is the value over time to a county's economy that is gained or foregone when an acre of land is converted from one use to another. The opportunity cost relationships between different land uses were determined, first, by identifying which activities could take place (i.e. what products or services could be produced or sold) on one acre of land that would generate cash revenues and, second, by identifying what portion of these cash revenues come from *imported* income. For example, the sale of a house to a person moving into a county will generate cash revenues and *import* wealth to the county. But the house will not import any additional wealth (except for home improvements and property taxes), even if the person living in the house earns money from sources outside the county.

To understand this, it may help to consider a comparison between a farmer and an accountant:

The farmer grows corn which is sold outside the county. Hence, each acre on which the corn is grown captures imported wealth for the county.

It does not matter where the farmer lives, since the house is not responsible for importing wealth to the county. It is the activity of growing corn on a specific acre of land that imports wealth.

The accountant, by comparison, works in an office in a downtown area. In addition to his salary, he earns dividends from bonds invested outside the county. The accountant's salary only imports wealth to the county if he is hired by someone from outside the county, who pays him with money

earned outside the county. The income earned through dividends, however, does import wealth. The wealth imported through the accountant's salary is earned through the activities conducted at the accountant's office. The accountant also spends some of his imported wealth shopping at stores in the county. It is this activity -- shopping -- that transfers this imported wealth into the county economy. And each store at which the accountant shops captures a portion of this imported wealth for the county.

Again, it does not matter where the accountant lives. What is important is the activity that captures the imported wealth and where this activity takes place.

METHODOLOGY: The opportunity costs were determined by calculating the *economic impact* of each of the alternative uses, then comparing these impacts.

Economic impact is the amount of money flowing into the economy as a result of a particular industry's sales, plus related sales of supporting industries, and the resulting "ripple effects" caused by these sales through spending by employees to buy consumer goods and services.

When a business produces a product or service for sale outside a county, which channels outside dollars into the county, it is known as an "export" or "basic" industry.

In order for an economy to grow and avoid stagnation, it must import income. It is this ability to import income that determines the economic base of an area. The economic base of a community is defined as: "The economic activity of a community which enables it to attract income from outside its borders. Those activities that are net exporters of goods and services are thus basic industries; that is, they produce and sell more of a good or service than is consumed or purchased locally."

Sales of products or services for export can be generated by an acre of land in several ways, including agriculture, construction and commerce. These uses export different proportions of their products outside the county, thereby bringing dollars into the county's economy.

1. The first step in this analysis was to determine the *direct* cash value of sales made outside the county by the businesses and industries being studied.

The value of agricultural sales was calculated based on data from the County Cooperative Extension Service. The value of sales for the other base industries was taken from various data from the U.S. Census Bureau.

The sales of new construction and resales were derived from county building permit data on the construction value per unit of single family homes and condominiums, and from county planning data on average units per acre. According to the sources of *Regional Economic Multiplier* information, the

export factor for new construction is always considered to be 100 percent.

2. The next step was to calculate the sales on a per acre basis.

This calculation determined the exported sales per acre of each base industry's sales.

3. The next step in the analysis was to determine the *indirect and induced impacts of these product and service sales.* *Indirect* impacts include such items as:

- Sales of key inputs – raw materials to a factory; wholesale merchandise to a store; fertilizers, chemicals and seeds to a grower, for example;
- Sales of parts and repair services;
- Sales of office supplies, packing materials and business supplies; and
- Sales of legal, accounting and consulting services.

Each sale by a local business to a base industry represents additional economic activity for the county that, in turn, generates additional jobs and income for county residents as a result of the sales of products and services outside the county.

Induced impacts include:

- Spending by employees who earn their income directly from a base industry; and
- Spending by employees who earn their income from businesses that sell products and services to a base industry.

This spending translates into local retail sales; local bank accounts; purchases of consumer products, automobiles and homes; entertainment purchases through local restaurants, theaters and sporting facilities; and purchases of legal, accounting, medical, beauty, cleaning, repair and other personal services.

When sales of products and services outside the county increase, a chain reaction of increased local spending is triggered. Businesses that provide services and supplies to the base industry hire new employees and increase their local purchases to meet the increased demands of the base industry. This expansion, in turn, leads to increased hiring, output and local purchases by the firms that supply products and services to these businesses. At the same time, the additional dollars earned by employees trigger additional spending activity in the county's retail, banking, consumer product, entertainment and personal service industries.

Conversely, when sales of products and services outside the county *decrease*, a chain reaction of *decreased local spending* is triggered.

Without products and services to export to generate sales, an economy will stagnate, and eventually shrink, since money is being constantly exported out of the county through the purchase of products and services offered by companies in other states and countries, payments to state and federal agencies, travel and payments on loans (and mortgages) held by investors outside the county.

The *direct* plus *indirect* and *induced* impacts that result from base industry sales were calculated by multiplying the numbers for the *direct* cash sales of agricultural products by the *Regional Economic Multiplier* computed by the U.S. Department of Commerce, Bureau of Economic Analysis, using their Regional Input-Output Modeling System (RIMS II).

The basis of the RIMS model is a transactions table showing the distribution of sales and the pattern of purchases for each sector of the economy. As Dr. David Mulkey and Dr. Rodney Clouser of the Food and Resource Economics Department at the University of Florida explain (Mulkey et al., 1988):

"A sector consists of a group of firms producing similar types of products ... Households (consumers) are treated as a separate sector which produces goods and services and sells labor.

"For each sector, the transactions table reflects the dollar value of sales to every other sector and the dollar value of purchases from every other sector. In effect, the table provides a picture of interactions between sectors in a regional economy and allows the flow of dollars to be traced through the economy. This information allows the calculation of multipliers which can be used to assess the total contribution of a particular sector to the economy of a region or state ...

"Multipliers are measured in terms of output, employment, and earnings and were estimated for 531 sectors ... Thus, resulting multipliers capture direct, indirect and induced impacts of each sector on the state and regional economy."

The *indirect* and *induced* impacts were calculated by multiplying the numbers derived in step 1 for the *direct* cash sales made outside the county for each product and service by the *Regional Economic Multipliers* computed for Florida by the U.S. Department of Commerce, Bureau of Economic Analysis, using their Regional Input-Output Modeling System to determine the total economic impact that these sales have on the county's economy. In order to be of use, this

Opportunity Cost analysis has to be calculated on a long-term basis. However, the relationships between industries as reflected in the multipliers do change, and new multipliers are calculated and put out by the Bureau of Economic Analysis of the U. S. Department of Commerce on a periodic basis. Therefore, it is important for the reader to understand that the Opportunity Cost analysis is only an estimate.

4. Next, this number was projected over the time period for which the business or industry will continue to contribute to the economy from the acre of land it uses for its business activity.

It was assumed that the foreseeable economic planning time frame is 50 years. Most agricultural land, if well cared for, can produce income almost indefinitely. Most buildings, if well cared for and renovated as necessary, also can have a useful economic life of 50 years, or more.

Construction to develop an acre of land was assumed to have a cash flow of six years (with the first year being taken up by permitting) and no income thereafter, since once an acre is built on it no longer produces construction income.

Fifty periods (years) was the time frame used for real estate resales since these sales can continue to produce income almost indefinitely.

It was assumed the cash flows would increase with the rate of inflation. The average rate of inflation for the last 5 years of 2.73 percent was used.

By projecting this number over the time period in which each industry will continue to contribute to the economy from the acre of land it uses -- and applying the average rate of inflation -- comparisons can be made of the value to the economy for each use of an acre of land.

5. Finally, present values of the cash flows were computed using a discount rate based on the 30 year Treasury Bond.

Present value represents the present worth of a flow of money over a period of time. The formula for present value is simply the sum of the annual cash flows which are each divided by one plus the discount rate.

This is the amount of money that would have to be invested today in another business, economic activity or security ... with a rate of return at least equal to the rate of inflation ... to replace the revenue the current land use contributes to the economy.

This analysis found that residential uses contribute a great deal to the economy when a development is being constructed ... but over time it contributes very little. Agricultural land uses, on the other hand, contribute on a steady, long-term basis, and several major agricultural land uses contribute much more to the economy than residential development.

For example, over 50 years, the contribution of *residential* development on one acre of land, plus the resale of those homes, contributes \$972,738 to the Hillsborough County economy ... with a present value of \$547,835.

Present value and *net present value* are frequently used interchangeably. *Present value* represents the present worth of an even flow of money over a period of time. *Net present value* represents the present worth of a variable flow of money over time. Although for simplicity sake the term *present value* is used in this study, the *net present value* formula was used since the cash flows are variable from year to year.

Strawberries, as the reviewer from South Florida Water Management District noted, is a high value crop. In fact, according to the Hillsborough County opportunity cost analysis:

One acre of *strawberries* contributes almost \$5 million ... for a present value of \$982,869.

But strawberries certainly are not the highest producing form of agriculture in the county.

An acre of *ornamental plants* contributes over \$8 million ... for a present value of \$1.6 million.

Aquaculture contributes even more ... \$11 million per acre ... for a present value of \$2.3 million.

The point here is that agriculture, which is often thought of as a temporary land use awaiting conversion to a “higher and better use,” does include some commodities that can generate more revenue for a county economy over time than most housing developments and, in some cases, can imported more revenue than some commercial developments.

It is worth noting that activities, such as residential development, that produce the majority of their revenues in the first few years of the 50-year time period will have a higher present value than activities that produce annual revenues over the entire 50-year period. This is because the revenues from development are received much closer to the present time.

Nevertheless, the opportunity cost analyses provide only one piece of the economic picture. They focus solely on comparing revenues from alternative land uses. Expenses are not considered.

The expenses incurred by local governments and schools for these land uses are examined in the *Community Revenues & Expense* analyses.

4. Based on data from four economic studies conducted by Farming for the Future, Inc. and Florida Stewardship Foundation of Boca Raton, Florida:

Craig Evans and Jean McGuire, *The Contribution of Agriculture to Lake County, Florida* August 1996, 70 pgs.; *The Contribution of Agribusiness to Hillsborough County, Florida*, September 1996, 126 pgs.; *The Contribution of Agriculture to Collier County, Florida*, November 1996, 154 pgs.; and *The Economics of Land Use in Polk County, Florida*, January 1999, 112 pgs. Residential land use ratios in the four studies were: 1.00:153 in Lake County; 1.00:1.56 in Hillsborough County; 1.00:1.20 in Collier County and 1.00:1.89 in Lake County. Agricultural ratios were, respectively, 1.00:0.07; 1.00:0.16; 1.00:0.37; and 1.00:0.08. Collier County's ratio of 1.00:0.37 reflects the services required for the large number of migrant workers employed in the county.

5. One South Florida Water Management District reviewer commented as follows:

“Questionable comparison. Property tax is not set up to match taxes and services. Clearly it is people who receive services for the most part, especially education. Also not clear what taxes were included, state contributions, etc.”

Response: This study did not focus solely on property taxes. It looked at all revenues and expenses, including state contributions. The study clearly recognized that it is people who demand and receive services. But the emphasis of the study was on: 1) what types of land uses help to pay for these services, 2) how different types of land uses can be mixed and matched to ensure all needs within a community are met – jobs, affordable housing, social services, schools, a viable economy, etc. – and 3) how this data can be used to promote better understanding of the *impacts and consequences* of different land use options so deficits created by a change in one land use can be identified and balanced by surpluses generated through an accompanying adjustment in another land use.

For example, if a community decides to build 100 affordable housing units, it is possible to calculate fairly accurately how much of a deficit would be created by this land use for county and school budgets over time. It also is possible to calculate which other land uses can be encouraged at the same time to completely offset this deficit.

The objective here is more holistic land use planning that balances different uses, revenues and expenses, and social and environmental considerations. With the type of data that is generated by these studies, decisions are less likely to be driven primarily by revenue issues, such as increasing the tax base, without a corresponding look at the cost of services involved, or by market pressures to convert lands that presently create a surplus into developments that may appear attractive in the short term, but which can create large deficits over the long term. Rather, a continuing balance between social, economic and environmental needs can be more easily achieved.

METHODOLOGY: The *Analysis of Community Revenues & Expenses* was done by reviewing county government and school financial records, as well as data published by the state and federal governments to identify revenues and expenditures generated by specific land uses.

"Revenue" represents all funds for county government and schools and includes property

taxes, fees, state and federal aid and other taxes. These revenue and expense items were then allocated to land use categories using the allocation method most appropriate for that land use. The decision as to which allocation method was "appropriate" was made by examining the mission statements in the county budget book to identify the sources of revenues and the recipients of each function's services, again by major item. School revenue was broken down by taxable values and expenses were attributed to residential uses except for adult education expenses related to Commercial/Industrial or Agricultural, and were taken from the "Report on Audit of the County District School Board, Fiscal Year Ended June 30, 1996" Table 1. The major allocation methods include taxable value, percent of building permits issued, population and land parcels. (Details on these allocation methods can be found in the Appendices of the four studies cited above).

The figures used in these analyses are **actual** revenues and expenses. They therefore include not only expenditures for actual services rendered, but also any expenses for minimum levels of service that are required but not necessarily used, such as stand-by pay for emergency personnel and rural roads that have excess capacity compared to urban streets.

6. Comment from a reviewer at South Florida Water Management District: "True!"
7. Comment from a reviewer at South Florida Water Management District: "Per acre statistics seem to have been selected to make overall impact of ag appear less significant."

Response: This sentence only reports on data compiled by others which, in this case, was the South Florida Water Management District (see next footnote). A massive study of stormwater runoff by the U.S. Environmental Protection Agency in the early 1980s was one of the first to show that runoff from developed areas – including homes on quarter-acre lots and parking lots and streets – can be even more toxic than runoff from farm operations. This study, which was known as the Nationwide Urban Runoff Program (NURP), showed that pollutants from developed areas contain significant concentrations of nutrients, oxygen-demanding materials, toxins and carcinogens. As you can see below, the findings were "expressed in pounds per acre per year." The same is true of the studies cited in the next footnote.

STORMWATER POLLUTANT LOADS FROM VARIOUS LAND USES
(expressed in pounds per acre per year)

	FOREST	CROPLAND	HOMES ON 1/4 ACRE LOTS	PARKING LOTS & STREETS
Nutrients:				
Phosphorous	0.2	1.2	1.5	3.8
Nitrogen	1.3	3.3	10.8	27.5
Chemical Oxygen Demand			295.0	756.0
Biochemical Oxygen Demand			39.0	99.0
Toxic Metals:				
Copper	0.002	0.005	0.15	0.39
Lead	0.003	0.018	0.59	1.50
Zinc	0.018	0.043	0.57	1.46

Results of the Nationwide Urban Runoff Program, Vol. I & Appendices (Washington, D.C.: U.S. Environmental Protection Agency, Water Planning Division, 1982), Table 2, p. G7-19.

8. Harvey H. Harper, Ph.D., P.E., *Stormwater Loading Rate Parameters for Central and South Florida*, Environmental Research & Design, Inc., 3419 Trentwood Boulevard, Suite 102, Orlando, Florida 32812, Revised October 1994, 59 pgs. Presents the results of an extensive literature search and analysis of pollutant concentrations and loading rates for selected land use types within Central and South Florida.

Similar information is included in:

Paul J. Whalen and Michael G. Cullum, *Technical Publication 88-9: An Assessment of Urban Land Use/Storm Water Runoff Quality Relationships and Treatment Efficiency of Selected Stormwater Management Systems* (West Palm Beach, Florida: South Florida Water Management District, July 1988), 56 pgs.

9. Comment from a reviewer at South Florida Water Management District: "These are not primary considerations in determining pollution reduction goals."

Response: Thanks. That's the point! Maybe some of this information should be taken into consideration. It always helps to understand the factors that lead up to a problem, since they may provide a clue in how to solve it.

10. Example provided by Frank Williamson, Jr., former chair, Governing Board, South Florida Water Management District.

11. See comment from a reviewer at South Florida Water Management District, above. He makes the same observation following this paragraph.
12. Tim W. Williams, a south Dade County potato grower says: “It should be pointed out that Agriculture is already subject to strict environmental rules and regulations, and that we must comply with the same rules and reg’s. as many other industries as well as some additional ones specific to AG. ‘Our’ part of the Biscayne Bay and other adjacent ‘natural areas’ are said to be ‘Pristine’ and ‘outstanding’. This is not by accident. This land has been farmed for about 100 years.”
13. “Water Observations,” Collier County Extension Service, Naples, Florida, 1993, informational one-page handout.
14. Frank Williamson, Jr., points out: “One of the largest users of water in South Florida is not agriculture, or even the environment or urban dwellers. Canals now discharge millions of acre feet of water every year into the oceans, wasting precious water. As a result, we are water wasters, not water poor. It is estimated that in three counties alone — Palm Beach, Broward and Dade — about 3.3 million acre feet of runoff flow to tide each year.”

Data based on memorandum from Carl Neidrauer, P.E., Senior supervising Engineer, Planning Department, South Florida Water Management District, Dec. 13, 1996.

15. Williamson continues by saying: “Capturing half of this water, which is considered possible, could supply the needs of about five million people, double the current population of those counties.”
16. In a counterpoint, however, Tim W. Williams says: No! “South Florida has too much water!!! I’m afraid that the current conveyance system will be stopped up. In attempting to stop the current loss to tide in several of the canals near Everglades National Park and divert that discharge to ‘the environment’ farmland has been flooded as a result. Because of ‘Environmental outcry’ after statements about 3 million acre feet of ‘vital’ fresh water lost to tide, ‘vital’ levees and flood control canals have been degraded and filled in. Of course all the while a finding of ‘no significant impact’ has been attached to funding measures. Millions of dollars of produce and tree crops have been lost due to this process. Alternatives have been suggested and the Secretary of the Interior finally found out by accident about a year ago that plans supported and put in place by E.N.P. had actually had a flooding affect on South Dade Agriculture. The situation is solvable: AG can have flood protection and the environment can have it’s water... but nothing done yet will work. There must be adequate planning and funding for land acquisition and system management after construction, and there must be AG input, we know what will work for us.”