MARYLAND COOPERATIVE EXTENSION

ECONOMIC VIEWPOINTS

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With summer's arrival, outdoor recreation seems to be on everyone's mind. As such, it seems fitting to have our first article examine the economic importance of one of Maryland's most prominent outdoor sports—recreational boating. Doug Lipton demonstrates how changing trends in the boating industry have impacted economic output, employment and state taxes.

In the second article, Erik Lichtenberg and Guilherme Bastos revisit the issue of Maryland farmers' use of soil and water conservation practices. Using survey results, they demonstrate the role that various state and Federal agencies play in providing information and technical assistance to farmers about these practices.

The third article, written by Lori Lynch, addresses the closure of Canadian goose hunting in Maryland and the negative results it will have for sportsmen, recreational suppliers, and Eastern Shore farmers who lease their land for hunting.

We hope you find the topics addressed in this issue both informative and educational. The AREC Department continues to provide answers to important economic questions in our state.

Economically Yours,

Kevin McNew, *Editor*

Boating in Maryland—Economic Impacts From a Healthy Coastal Environment

Doug Lipton
Associate Professor and Extension Economist

Background

Recreational boating may be one of the best examples of the complement between a healthy environment and a healthy economy. In addition to the value boaters derive from their enjoyment of a thriving Chesapeake Bay, there is a large segment of the Maryland economy linked to supporting this activity. For the past 3 years there has been an effort to monitor the extent of economic linkages to the Chesapeake Bay and other boating in Maryland.

The project began in 1994 when the Maryland Department of Natural Resources and the Marine Trades Association of Maryland (MTAM) contracted with AREC to conduct an economic impact analysis of recreational boating. MTAM is an organization composed of more than 400 businesses involved in boating and boating-related activities. To assist in the study, the University of Maryland's Survey Research Center was employed to conduct a mail survey of a sample of boaters drawn from a list of boats registered or documented in Maryland. Results of the survey were used to estimate the expenditures of boaters from 12 different categories of boating, defined by size of boat, whether it is power or sail, trailered or kept in the water. Estimates were made by Maryland county and locations for those whose residences are outside of Maryland. The expenditures themselves were made in 24 possible categories, such as boat fuel, slip fees, insurance, etc. The results of the study, which reflected spending that occurred in 1993, were published by Maryland Sea Grant.

The initial impact study was designed so it could be updated with relative ease from year to year based on new information derived solely from boating registration data. The update assumes that boaters in a particular category, such as 18-by-24-foot in water powerboats, do not change their spending patterns greatly from year to year. Changes in impacts, therefore, are driven by changes in the number of boaters in each of the spending categories. An adjustment is also made for inflation, so that the numbers reported below are all in nominal terms. Results of the updates are presented through 1996.

More Small Boats, Fewer Large Boats in Maryland

According to figures provided by the Maryland Department of Natural Resources, boat registrations (including boats documented in Maryland) climbed from 190,436 in 1993 to 203,984 in 1996. This represents a 7.1 percent increase. However, almost all this growth is in the trailered powerboat and personal watercraft (PWC, popularly known as jet skis) category which increased 22.7 percent. The number of in-water powerboats and sailboats declined 1.3 percent over the period. These changes reflect a fundamental shift in boat buying patterns spurred by the surging popularity of jet skis.

The value of boat sales (which excludes used boat sales between private individuals) was more than $137 million and resulted in more than $6.9 million in excise taxes collected. The number of boats sold is skewed by the acceleration in sales of personal watercraft, which must be registered in Maryland. The number of PWCs in 1996 in Maryland was 12,066, an 86 percent increase over the 1993 number. The spending pattern of PWC owners is different from other boat owners, resulting in a lesser contribution to economic activity than if the increase in boat sales were in the larger boat categories.

More Boats, More Spending

Total spending by Maryland's recreational boaters increased from 1993 by almost $61 million to $1.07 billion in

Table 1. Total Expenditures By Owners of Boats Registered or Documented as Principal Use in Maryland and Their Spending That Occurs Within Maryland's Borders.

	1993	1994	1995	1996
Total Expenditures	$1,012	$1,023	$1,081	$1,072
Expenditures in Maryland	$947	$959	$1,015	$1,002

Values include spending on new and brokered used boats.
Totals in millions of dollars.

Table 2. Spending By Boat Type for 1993-1996 .

		1993	1994	1995	1996
Trailered Powerboats	Expenditures	$326	$375	$391	$417
	# of Boats	105,313	112,212	116,715	129,252
In-Water Powerboats	Expenditures	$319	$298	$310	$312
	# of Boats	63,154	60,203	59,647	63,551
Sailboats	Expenditures	$178	$160	$155	$158
	# of Boats	21,968	19,805	19,227	20,450

Totals in millions of dollars. Totals do not include new or brokered used boat purchases.

Table 3. Employment, Income and Total Economic Output of Maryland's Economy Linked to Initial Expenditures by Maryland Registered Boaters. [1]

	1993	1994	1995	1996
Total Employment	18,000	17,700	18,500	19,146
Total Income	$574	$558	$584	$603,936
Total Output	$979	$955	$1,000	$1,034

Income and output in thousands of dollars.

1996 (Table 1). These figures include boaters who live out-of-state, but have their boats registered in Maryland. A small portion (6 percent) of the spending by out-of-state boaters occurs in the boaters' home states. Boating expenditures that were made in Maryland have exceeded $1 billion since 1995.

Overall boater spending has not increased greatly because growth appears to be occurring in the smaller boat and PWC category; they require less marine trades industry support (Table 2). Of the three categories, only the trailered powerboat has increased steadily over the past 4 years.

The Impacts of Boater Spending

In 1996, every 10.7 registered boats in Maryland were linked to a full-time job and, on average, each boat was linked to more than $5,070 in economic output for the state. The total economic output of Maryland's economy associated with boater spending is very close to the initial expenditure amount. This is because for each dollar spent by boaters in Maryland, a certain percentage "leaks" outside the state borders.

For boating, an activity that entails a lot of spending on items produced outside the state, such as boat fuel, the leakage is more than half the initial expenditures. The amount that remains in Maryland is used by the supporting industries to create jobs and income, and goes towards purchases in other sectors of the economy (multiplier effects). The results of the initial and additional rounds of spending are the total impacts. The impacts for total employment, income and output are given above for the period 1993-96 (Table 3).

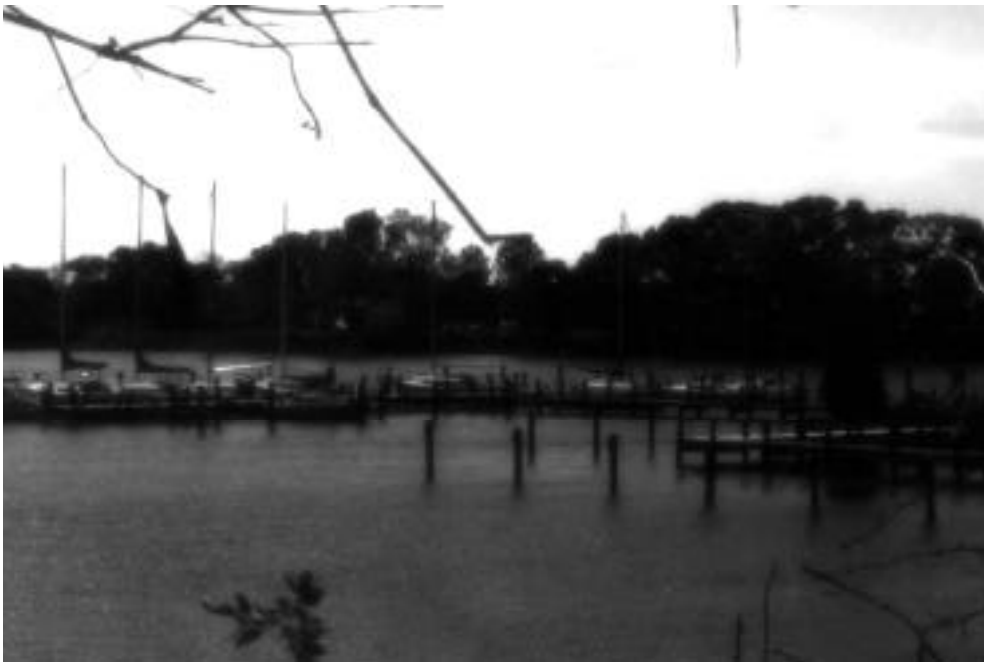
Even though the number of boats and spending were higher in 1994 than in 1993, the impacts of spending were lower. This is possible because the mix of boat sizes, power or sail, trailered or nontrailered, effect the categories in which spending occurs. Some categories of spending have less "leakage" from the state and higher impacts than others. In 1996, all impact categories were higher than 1993, and the impact on the Maryland economy as measured by total output exceeded $1.03 billion. Total income includes individual income, business profits and rental income, and exceeded $600,000 in 1996.

Industry Response

Even though spending and economic impacts are up for the recreational boating sector, the industry is concerned about the lack of growth in the larger powerboats and sailboat sectors. Legislation was introduced in the Maryland General Assembly in 1997 that would lower the cost of entry into boating via the excise tax. Specifically, the legislation seeks to allow an allowance for the trade-in value of a boat on the amount the buyer is liable for in excise tax. For example, currently if you buy a $100,000 boat and trade-in a boat valued at $50,000, the excise tax due is 5 percent of the value of the new boat or $5,000. Under the proposed legislation, the excise tax would be 5 percent of the difference between the value of the new boat and the trade-in, or $2,500. The change in how the excise tax is computed anticipates that reduced excise tax revenues will be compensated for by the increase in tax revenues from boater spending in other parts of the economy, an assumption that requires further study. The proposed legislation was not acted on before the close of the General Assembly, but it is expected to be reintroduced in 1998. At that time, we should have an estimate of the tax revenue implications of the proposed tax change.

Sources:

[1]Lipton, D.W. and Miller, S. *Recreational Boating in Maryland: An Economic Impact Study.* UM-SG-MAP-95-02.



Getting the Dirt on Soil and Water Conservation: Where Do Farmers Turn for Their Facts?

Erik Lichtenberg
Associate Professor
Guilherme S. Bastos, Filho
Graduate Research Assistant

Introduction

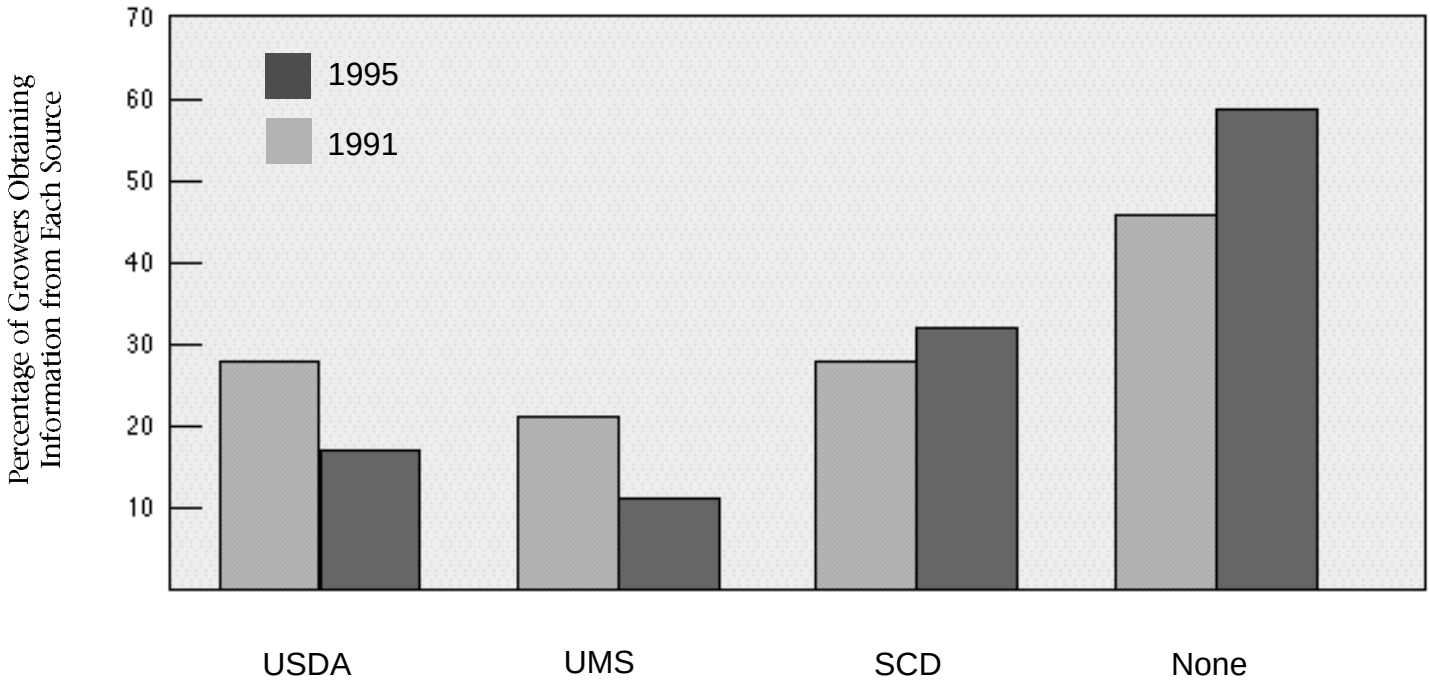
Agriculture plays an important role in Maryland's current plans to reduce nitrogen and phosphorus loadings into the Chesapeake Bay. Overall, the State's Tributary Strategies call for respective cuts in agricultural nitrogen and phosphorus emissions by 24 percent and 21 percent from 1992 levels. These cuts will be attained by increases in the use of conservation tillage, cereal cover crops, nutrient management planning and other site-specific practices to reduce runoff and leaching (see "Using Soil and Water Conservation Practices to Reduce Bay Nutrients: How Has Agriculture Done?" by Erik Lichtenberg, *Economic Viewpoints* Fall 1996). Implementation of these practices is voluntary. But to cut nutrient emissions, farmers must use them. The state and Federal governments have been using two kinds of initiatives—cost-sharing and a publicly funded provision of information and technical assistance—to persuade farmers to use these practices.

The goals of publicly provided technical assistance include:

- popularizing the benefits of conservation practices among farmers at large;
- helping individual farmers decide which practices might be suitable for their operations;
- working with individual farmers on the best methods of implementing conservation practices on their operations; and
- providing farmers with information needed to participate in cost-sharing programs offered by state and Federal agencies.

There are three major public agencies engaged in these activities:

- U.S. Department of Agriculture (USDA) through the Farm Services Agency and the Natural Resource Conservation Service. The Farm Services Agency administers the Federal government's cost-sharing program for best management practice adoption. The Natural Resource Conservation Service writes soil conservation plans for farmers and reviews the specifications of cost-sharing proposals.
- University of Maryland System (UMS) through the Cooperative Extension Service; the Maryland Agricultural Experiment Station and its Research and Education Centers; as well as the University of Maryland's College of Agriculture and Natural Resources. The Cooperative Extension Service has played a major role in popularizing and helping farmers implement nutrient management plans and other soil and water conservation practices.
- Soil conservation districts (SCDs). SCDs in each Maryland county combine the voluntary efforts of farmers and others with those of paid staff to



Some farmers consulted more than one source, so the sum of the percentages of farmers consulting each source is greater than 100%.

Figure 1. Trends in the Use of Public Conservation Information Sources in Maryland.

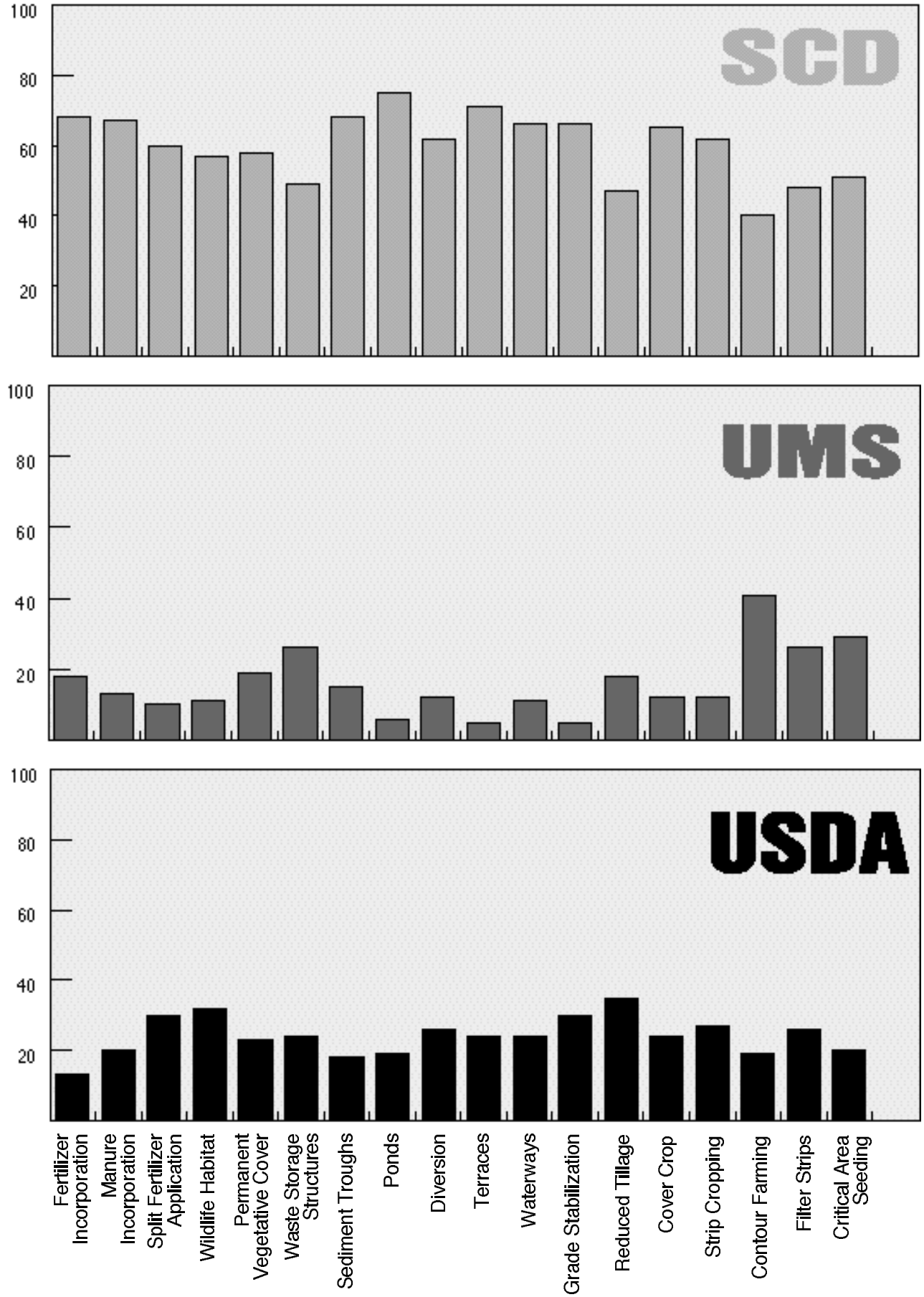


Figure 2. Percentage of Farmers Receiving Information By Source and Practice: 1995.

promote soil and water conservation, and to help farmers write plans and implement conservation practices. They also provide planning and technical assistance to support farmers' applications for cost-sharing from the Maryland Agricultural Cost-Sharing (MACS) program.

In a previous *Economic Viewpoints* article, we used data from AREC surveys to discuss trends in and the status of the adoption of soil and water conservation practices. This article focuses on Maryland farmers' use of information from these public sources. Surveys asked farmers whether they had consulted these agencies for information or technical assistance in making a decision about whether or not to adopt each of 18 soil and water conservation practices. We used the responses to these questions to determine how often farmers use these information sources and what kinds of information they obtain.

How Broad is Outreach by These Agencies?

Together, these three agencies reached more than 40 percent of Maryland farmers in 1995 (Figure 1). SCDs were the most frequently used. More than 30 percent of farmers reported contacting them for conservation practice information. University of Maryland sources were the least used, with only about 10 percent of farmers reporting they contacted them for conservation practice information. USDA sources were used somewhat more frequently than UMS sources, but less so than SCDs.

We compared responses from the 1991 and 1995 surveys to estimate trends in the use of these three information sources. Statistical tests indicated that patterns of information use differed significantly between the two years. Between 1991 and 1995, the percentage of farmers who reported contacting USDA and UMS for information about conservation practices declined, while the percentage of farmers who reported using none of these three publicly funded sources increased. Use of SCDs for conservation information remained constant.

Which Agencies Do Farmers Use for Information on Specific Practices?

There are two ways to examine how farmers interact with these sources of information. The first way is to look at which agencies farmers most often consult for information about a given conservation practice. The second way is to determine which practices farmers are most likely to request information about from the given public sources.

Figure 2 shows our findings with respect to the first point. In 1995, SCDs were the most frequently consulted source of general information, as well as on most specific types of conservation practices. The majority of farmers seeking information on conservation practices received it from SCDs. There were two important exceptions. One was the set of practices associated with nutrient management—waste storage structures, split application of fertilizers and incorporation of manure and chemical fertilizers. The other was conservation tillage. UMS sources were consulted about split fertilizer application more frequently than any other information source—a finding consistent with Extension's emphasis on soil testing as a tool for nutrient management.

Comparing responses from the 1991 and 1995 surveys indicated that patterns of information use differed significantly between the two years. Most prominent was the shift away from UMS sources toward SCDs for information about contour farming, cover crops, diversions, ponds and wildlife habitat. There was a similar shift away from USDA and UMS sources toward SCDs for information about critical area seeding and grass- and rock-lined waterways. And there was a significant shift away from UMS sources toward SCDs and USDA for information about strip-cropping.

Table 1 shows the percentage of farmers who use each of the three sources to get information on the different practices. Contacts about each practice were distributed fairly uniformly among the agencies, indicating a lack of specialization in different practices. The percentages of contacts with each information source for different practices ranged from a minimum of 3 percent to a maximum of 12 percent. Likelihood ratio tests indicated that the distribution of contacts for the USDA changed significantly between 1991 and 1995. The USDA experienced a small shift away from providing information about grass- and rock-lined waterways and waste storage structures to providing information about contour farming and strip-cropping.

Why Do Farmers Seek Information From These Agencies?

We can conceive of three main reasons why farmers might consult public agencies, such as USDA, UMS, or SCDs. The first is general interest, that is, a desire to learn more about the options available for preventing runoff, leaching and erosion. The second is to obtain technical assistance for implementing soil and water conservation practices. The third, which can be con-

Table 1. Distribution of Information Provided Across Practices, 1995.

	USDA	UMS	SCD
Critical area seeding	3%	6%	6%
Filter strips	5%	5%	6%
Contour farming	10%	5%	8%
Strip-cropping	9%	5%	7%
Cover crop	6%	8%	6%
Minimum/no till	7%	12%	6%
Grade stabilization	2%	2%	3%
Grass- /rock-lined waterways	7%	3%	10%
Terraces	2%	1%	2%
Diversions	6%	2%	7%
Ponds	9%	7%	11%
Sediment troughs	4%	1%	4%
Waste storage structure	8%	6%	4%
Permanent vegetative cover	6%	4%	6%
Wildlife habitat	4%	2%	3%
Split fertilizer application	4%	13%	3%
Manure incorporation	5%	7%	3%
Fertilizer incorporation	4%	9%	4%

sidered a subset of the second, is to meet the requirements for obtaining cost-sharing.

The survey data can be used to suggest how much farmers were motivated by each of these reasons. A large percentage of farmers who receive information about a specific practice, but choose not to adopt it, suggests general interest as a motivation. If almost every farmer receiving information about a specific practice reports using that practice, technical assistance seems the most likely motivation. Finally, if a large percentage of farmers receive information about a specific practice (especially from USDA and SCDs, which have formal roles in approving the design of costsharing projects) and receive cost-sharing for that practice, then cost-sharing seems the most likely motivation.-

The survey results indicate farmers consulted USDA and SCDs for technical assistance about practices they had already decided to adopt rather than out of general interest (Table 2); 95 percent or more of the farmers consulting these two sources also reported adopting the practice on which they had sought information. The same is true of UMS, with two exceptions—permanent vegetative cover and wildlife habitat. The latter were adopted by 86 percent and 71 percent, respectively. This suggests that general interest may have been a motivation for some.

Cost-sharing requirements appeared to be a major motivation for farmers who decided to invest in structural conservation practices, such as waste storage structures, ponds, terraces, grass- and rock-lined waterways and critical area seeding. Between 55 percent and 85 percent of the farmers seeking information on these sources received cost-sharing for them, as well.

Table 2. Correlation of Receipt of Information with Adoption and Cost-Sharing By Practice.

	USDA		UMS		SCD	
	I	II	I	II	I	II
Critical area seeding	100%	78%	100%	41%	100%	71%
Filter strips	100%	41%	100%	22%	100%	31%
Contour farming	100%	44%	100%	31%	98%	34%
Strip-cropping	100%	27%	100%	8%	100%	23%
Cover crop	100%	19%	94%	10%	98%	21%
Minimum/no till	100%	0%	100%	7%	100%	3%
Grade stabilization	100%	16%	100%	0%	100%	22%
Grass- /rock-lined waterways	96%	57%	100%	58%	98%	54%
Terraces	100%	55%	100%	59%	95%	47%
Diversions	100%	78%	100%	44%	98%	60%
Ponds	100%	70%	100%	28%	100%	59%
Sediment troughs	100%	19%	100%	39%	100%	20%
Waste storage structure	97%	83%	100%	70%	100%	78%
Permanent vegetative cover	100%	47%	86%	29%	97%	26%
Wildlife habitat	100%	21%	71%	40%	100%	17%
Split fertilizer application	100%	6%	100%	16%	95%	0%
Manure incorporation	100%	0%	100%	16%	100%	3%
Fertilizer incorporation	100%	0%	100%	9%	100%	0%

Column I shows the percentage of growers both receiving information about and adopting each practice.
Column II shows the percentage of growers in Column I receiving cost-sharing.

Closed Geese Season Brings Economic Chill to Eastern Shore's Winter

Lori Lynch
Extension Economist and Assistant Professor

Canada goose hunting in Maryland has been a popular winter activity for more than 19,000 hunters per year. Although Maryland residents continue to view Canada geese in all parts of the state, migratory Canada geese season has been closed for the past 2 years. Many sport hunters lament the second year of no geese hunting. However, it is these hunters' absence from the usual geese hunting counties that is having the major detrimental economic effect. Without the possibility of migratory goose hunting, many Eastern Shore counties of Maryland are faced with a decline in winter incomes. The overall economic benefit of waterfowl hunting in Maryland is estimated to be over $14 million.[1] While not the biggest industry on the Eastern Shore, the geese hunting season provided employment, filled hotels and restaurants, and gave income to farmers who leased their land during winter months. These months traditionally have been times of limited non-hunting tourism, part-time work, and low farm incomes. For some of the lowest income counties of the state, the ability to inject more than $8 million into the economy contributed greatly to their livelihoods. While some hunters may switch their game to snow geese or ducks and continue to travel to the Eastern Shore and spend money, a large portion of this revenue has been lost as other hunters stay home. The close of hunting season also raises questions of whether geese hunters will find other locations to hunt and not return to the Eastern Shore or whether the migratory geese will ever return.

The 1980's were the heyday of Canada geese hunting on the Eastern Shore. Large geese populations resulted in liberal bag limits—3 geese a day—and long seasons, ranging from 70 to 90 days. Harvest levels peaked at 300,000 birds in Kent County in 1984. In the past two decades hunters in Kent County harvested 35 percent to 40 percent of the geese, while hunters in Talbot County harvested between 15 percent to 20 percent. Queen Anne's County ranks third with 15 percent of the geese harvested, with Cecil County takes 10 percent to 12 percent of these years' harvests.[2]

Hunters flocked to the Eastern Shore filling motels, hotels and restaurants with a single hunter spending an average of $88.79 per year. They made use of both public and private transportation, stimulating the airline, bus and service station sectors with annual average expenditures of $99.13 per hunter. They also spent a per person average of $183 a year for equipment. In addition, they bought hunting licenses, duck stamps, ammunition, and clothing to pursue their recreational activity. Picking houses would open up to defeather geese and provide additional employment. Landowners and farmers with access to geese leased their land for hunting and averaged $10,000 a year. Many farmers and those employed only part-time in the winter acted as guides, earning between $100 to $300 a day. Landowners invested in blinds and decoys, improving wetland and ponds

FWS's objectives of the annual Migratory Bird Hunting Regulations are:

1. To provide an opportunity to harvest a portion of certain migratory game bird populations by establishing legal hunting seasons.
2. To limit harvest of migratory game birds to levels compatible with their ability to maintain their population.
3. To avoid the taking of endangered or threatened species so that their continued existence is not jeopardized and their conservation is enhanced.
4. To limit taking of other protected species where there is a reasonable possibility that hunting is likely to adversely affect their population.
5. To provide equitable hunting opportunity in various parts of the country within limits imposed by abundance, migration and distribution pattern of migratory game birds.
6. To assist, at times and in specific locations, in preventing depredation on agricultural crops by migratory game birds.

The management of migratory birds in North America is international in scope, and involves other nations, notably Canada and Mexico.

for geese habitat, and farmers often left part of their crop unharvested to supply food for the migrating geese population. The corn left could value between $3,000 to $4,000 per farmer and helped to sustain the geese population. Some growers established cover crops that attracted geese to their farms and also provided other environmental benefits.

Why is Migratory Canada Geese Season Closed?

Under the Migratory Bird Treaty Act, the U.S Department of Interior's Fish and Wildlife Service (FWS) must set regulations each year to have legal migratory bird hunting in the States. The FWS enacts the regulations to ensure that the harvest levels of migratory birds are in line with the current year's population. Surveys are conducted each spring and early summer to determine breeding populations, breeding success and the likely size of the fall migration. By determining the population size annually, each flyway can respond rapidly to any changes in species population level that threatens its survival.

A 75 percent drop in the number of breeding pairs of Canada geese nesting in northern Quebec from 118,000 in 1988 to 29,000 in 1995 resulted in the closure of the hunting season throughout most of the Atlantic flyway. The Canadian Wildlife Service biologists reported that a delay in the spring thaw resulted in a limited number of gosling births. Snow continued to cover the ground in northern Quebec into late May resulting in a spring thaw that was about 2 weeks later than normal. The geese could not find spots in the tundra landscape to begin nesting. In addition, female geese use their energy reserves to survive in the cold and had little left to use for egg laying.

The number of breeding pairs of Canada geese in northern Quebec grew to about 46,000 pairs in 1996, almost 57 percent higher than 1995. However, many of these pairs did not nest because of delayed spring thaw. The proportion of pairs sitting on eggs was higher among geese nesting along the northeastern coast of the Hudson Bay. Gosling production will be below normal this year. However, the increase in the breeding pairs gives hope that the geese population will recover.

On the other hand, climatologists report that a trend of colder than normal temperatures during the winter and early spring (the critical period for nest initiation and egg laying) across the northeastern Hudson Bay region has contributed to reduced gosling production by Atlantic Canada geese. As long as this trend continues, migratory geese hunting season in the Atlantic flyway may have to remain closed.

Hunting in Maryland

The following statistics are for the year 1991. In Maryland, 147,000 people hunted for big game birds and other game. Maryland hunters spent 2.3 million days pursuing all types of game for an average of 16 days per hunter. Maryland hunters spent $161 million in 1991. During the same period, trip-related expenses such as food, lodging, transportation, and other costs, such as equipment rental fees, cost hunters $37 million. On average, hunters spent $251 per trip. In addition, hunters spent $78 million on equipment, almost half of all hunting expenditures. The major equipment costs were for guns and ammunition with some hunters buying tents, clothes, boats, etc. Hunters also spent $46 million on items such as magazines, membership dues, licenses, permits, and land leasing and ownership costs. The average hunter spends $1,100 a year. About 17,000 hunters leased or owned land for hunting in Maryland. The average expenditure for these hunters for land leasing and ownership was $2,062.

In Maryland, 23 percent of all hunters spend at least 1 day hunting waterfowl. (Some hunters hunted more than one species of animal). A total of 19,200 geese hunters spent 115,600 days in the field on 64,740 trips. The average distance traveled to hunt geese was 133 miles in one direction but ranged from 1 mile to 700 miles. Geese hunters spent almost $1.5 million on food, $1.9 million on transportation, and $2.9 million on equipment costs.

Many geese hunters accessed private land for an average of 5.5 days each (over 100,000 days). In comparison, only 3,650 days were spent on public land. This resulted in guide fees totaling $419,592 in 1991. Professional guides can earn anywhere from $7,000 to $30,000 in a year for their winter work. In turn, guides paid farmers and other landowners for access to their property. Or if the guides themselves were also farmers, they managed to supplement the farm's income with leasing fees. Commercial guides and hunters in Delaware and Maryland paid annual leasing fees of $4,000 to $40,000, with $10,000 per farm as the average fee in 1988.[3] These landowners then have incentives to leave a portion of their crop unharvested to supply food for the geese. They also can improve or develop wetlands or ponds on their property to provide habitat for the migratory population of birds.

When one calculates how these expenditures translate into economic activity, we find that hunting of waterfowl generates almost 160 jobs and $3.5 million in earnings. This money cycles through other sectors of the economy generating additional income and sales

Table 1. Trip and Equipment Expenditures by Maryland Geese Hunters, 1991.

	Amount	Average per spender ($)
Food, Drinks & Recreation	$1,428,591	$74
Transportation	$1,904,592	$99
Equipment	$2,881,000	$149
Guide Fees	$419,592	$21

for a multiplied effect of waterfowl hunting expenditures of over $14 million. The Maryland state sales tax generated was $271,000 for waterfowl hunters with over $1 million generated for state income taxes. The Federal income tax generated was $3.6 million. Most of this stimulus has been lost with the closing of geese hunting season.

Guides fear that after several years of prohibition, hunters will find other recreational activities or new locations. Currently, the Atlantic flyway is the only flyway that is closed to migratory geese hunting. Hunters can travel to other locations to pursue geese and may find they prefer these new locations. Others may get out of the habit of hunting. Youth are not being introduced to hunting either and many are concerned these children will not grow up to be hunters if the season is not reopened soon. Although the snow geese population continues to grow at an exceptionally high rate, enjoying successive years of favorable nesting conditions, guides cannot get them to come to decoys, therefore, they are unable to guarantee hunters a pleasurable experience. Few hunters have made the switch to snow geese.

While there was little disagreement between the North American countries that closing the migratory Canada geese season was needed, the economic impacts have been sustained by the hunters and local communities in geese hunting areas. While these economic losses must be incurred for the long-term benefits of replenishing future geese populations, the lessons from the experience should be recognized and become influential. Weather conditions are always unpredictable. Some fear that as global warming occurs, migratory geese will stop in New York and New Jersey and cease traveling to Maryland much as they stopped flying to North Carolina. If this should occur, alternative employment and business opportunities must be found for the winter months on the Eastern Shore. On the other hand, if the geese will return, less permissive bag limits and shorter seasons may be the answer. If the population is kept at higher than the optimal population level, then precarious weather and inhospitable nesting conditions will not result in a closing of the season. While bag limits of one bird a day saw a substantial decrease in the number of hunters, bag limits of two birds is satisfactory for both hunters and guides.

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[1]Martin, Allowed M. and Padding, Paul I., "Administrative Report - July 1996", United States Fish and Wildlife Service, Office of Migratory Bird Management, Harvest Surveys Section, 1996.

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United States Fish and Wildlife Service, "1991 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, Maryland." August, 1993.

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