IAFWA-ASA Data Mining Project

Initial Kentucky Findings

August 2, 2006

This analysis, funded by a Sport Fish Restoration multi-state conservation grant awarded jointly to the IAFWA and American Sportfishing Association, is designed to help Kentucky improve efforts to increase fishing licenses sales and revenues. This report represents the first step, which is an initial review of Kentucky's fishing license data by Southwick Associates, Inc., the grant's subcontractor. The results are intended to help Kentucky understand basic license sales trends, and generate questions for additional investigation. The second step will be a second round of data analysis based on directions provided by Kentucky. We encourage Kentucky to consider its current or potential future marketing efforts when reviewing this document. The second round of analysis will seek insights supporting those efforts. Southwick Associates, Inc. will be available by phone or email to answer any questions (904-277-9765, rob@southwickassociates.com) and will be available should Kentucky desire a conference call to review the results and the next steps.

The analysis below is based primarily on residents of Kentucky. The customer information was not available for non-residents. All of the residents who bought a resident license for fishing between 2001 and 2005 were used.

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Section 1: Basic License Sales Information

Tables 1 through 4 present initial information regarding Kentucky's 2005 license sales for all buyers. This is a basic look at Kentucky's license sales, which mirrors the examinations traditionally available prior to the advent of electronic license systems.

Table 1. 2005 Licenses Sales, by Type of Licenses Sold
Resident and Non-Resident

License	Percent
Res Fish	38.8%
Sr/Disabled	14.0%
Res Combo	13.8%
Res Joint Fishing	8.9%
NR Fish	5.5%
NR 1Day Fish	4.1%
Trout Permit	3.6%
Res Sportsman	3.5%
NR 3Day Fish	2.5%
NR 15Day Fish	2.3%
NR 2Day Fish	2.0%
Res 1Day Fish	0.8%
Res 2Day Fish	0.1%

Table 2. 2005 Resident and Non-Resident License Distribution

	Percent
Non-Resident	27.2%
Resident	72.8%
Total	100.0%

Table 3. 2005 Resident Licenses Sold by Gender

	Resident
Female	21.4%
Male	78.6%

Table 4. 2005 Resident Age of License Buyers at Time of Purchase

Age	2005 Resident
16 and Under	0.1%
17 to 19	3.0%
20 to 29	17.5%
30 to 39	20.9%
40 to 49	22.1%

Age	2005 Resident
50 to 59	17.7%
60 to 69	12.0%
70 and older	6.5%
total	100.0%

Tables 1-4 above give us a general one-year picture of license sales in Kentucky, but nothing very detailed, nothing new, and nothing that permits a focused marketing effort. Next, we will go into more detail by looking at multi-year trends.

Section 2: Licenses Sold, 2001-2005

By looking at multiple years of data, we can identify license sales trends.

Table 5. Resident License Sales Trends, 2001-2005 (Y axis = the percentage within the weighted sample of license buyers for the years 2001-2005)

	2001	2002	2003	2004	2005
Male	16.2%	15.3%	15.2%	15.1%	15.8%
Female	4.7%	4.3%	4.3%	4.3%	4.7%
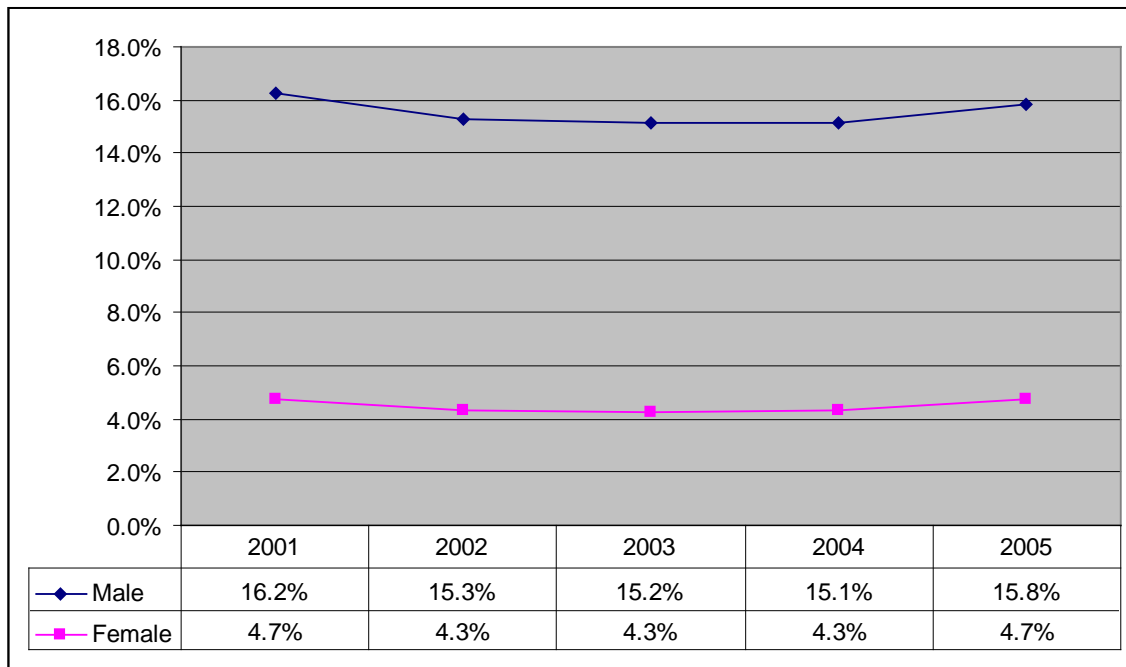
Licenses show a decrease from 2001 to 2004 then a slight increase in the past year. Even though overall sales are relatively flat, there must be customer segments experiencing increases while others have above-average declines. Which segments are these?

People's preferences are likely to vary based on income, age, urban/rural lifestyle, where they are in life (single, family, empty-nest, retired, etc.) and more. This type of information is not available from the typical statistics provided by Kentucky's electronic license database. To gain a better understanding of who is more likely to buy or not buy a license, we add TAPESTRY® lifestyle data:

ESRI of Arlington, VA provides the TAPESTRY® data service. TAPESTRY® is built from Census Bureau data and other sources. From the ESRI website: "The Community Tapestry segmentation system provides an accurate, detailed description of America's neighborhoods. U.S. residential areas are divided into 65 segments based on demographic variables such as age, income, home value, occupation, household type, education, and other consumer behavior characteristics." Using the ESRI service, we appended the data base of all 2001-2005 Kentucky license purchasers with TAPESTRY® data. The resulting information explains the lifestyle typical to people who live on the same block or local neighborhood as the license purchaser. The appended data allow us to learn more about the lifestyles of people who purchase fishing licenses and gain a better understanding of who does and does not buy fishing licenses. The results will allow Kentucky to better understand the license buying market and to become more focused and cost-effective in its marketing and recruitment programs.

TAPESTRY® divides the public into 12 major groupings called "Life Modes," each of which has sub-groupings referred herein as "segments." In all, there are 65 segments available. We give abbreviated descriptions of each LifeMode and segment when first presented, but encourage the reader to review the attached .PDF for more complete descriptions.

Who is Likely to Buy a Fishing License?

Let's take an initial look at the top license-purchasing LifeMode categories in 2005. These are ranked based on the number of licenses purchased by each in 2005. Table 6 ranks the resident LifeMode groups from the largest group of buyers to the least. The rank is based on total buyers (not the number of licenses issued) from 2001 through 2005 and is used consistently throughout the report.

Table 6. Sales by LifeMode Categories, 2005,
Ranked from Largest Purchasers to Least, Residents

LifeMode Groups	% of State Pop.	% of 2005 Buyers	Cumulative %	Description
Factories and Farms	31.5%	42.1%	42.1%	Small towns often in America's breadbasket states, lower income, married, employed in agri & manufac.
American Quilt	13.3%	17.3%	59.3%	Small towns/rural, modest income, blue-collar or rural nearing retirement, modest or mobile homes
Senior Styles	13.3%	11.3%	70.7%	Retirees, average income, depend soc sec & pensions
Upscale Avenues	8.0%	7.6%	78.3%	Above average income

LifeMode Groups	% of State Pop.	% of 2005 Buyers	Cumulative %	Description
Traditional Living	9.3%	7.4%	85.7%	Hard working, modest income families, older towns losing kids to newer cities and growth areas
High Society	5.4%	3.7%	89.3%	Fastest growing group, highest income, married
High Hopes	4.7%	3.2%	92.5%	Young, college educated, single or married w/out kids
Family Portrait	4.3%	3.2%	95.7%	Generally younger families, homeowners
Metropolis	3.5%	1.3%	96.9%	City families, row houses & public transportation
Solo Acts	2.9%	1.2%	98.2%	Young, educated, city life
Global Roots	2.0%	1.1%	99.2%	Ethnically diverse, recent immigrants, want to improve
Scholars & Patriots	1.9%	0.8%	100.0%	Youthful, lower income, in college or military

The leading Life Mode categories are the rural areas with small towns, modest incomes and older citizens. These groups are more likely to buy a license compared to the average state resident (column #3 compared to column #2). Members of the "Factories and Farms" group are not only more likely to buy a license than the average resident but by far buy more licenses than another other group with over 42 percent of the market share. When the second group "American Quilt" is included we now have over 50 percent of the buyers and the only two LifeMode Groups more likely to buy a license than the average resident. On the other hand, young people like "Scholars & Patriots," are least likely to buy a license in terms of market share and compared to the average resident.

The LifeMode categories presented in Table 6 provide an initial look at Kentucky's anglers, and there are greater details still available. Let's take a look at the top license-purchasers by TAPESTRY® segments from 2001 to 2005. These are ranked based on the number of licenses purchased by each segment for all five years. Table 7 is long and detailed, and summary discussions follow.

Table 7. 2001-2005 License Sales by Segment, Residents
ranked by market share ('% of 2001-2005 License Sales')

Rank	Tapestry Segment	LifeMode Groups	% of 2001-2005 License Sales	Cumulative %	% of State Pop.	Description
1	Southern Satellites	Factories and Farms	16.52%	16.52%	11.59%	Primarily found in rural South, 37 yrs, most married, some with kids, below avg income, 1/3 without diploma, fishing, NASCAR
2	Rural Bypasses	Factories and Farms	16.31%	32.83%	11.82%	Rural, low income & education, trucks, fishing, NASCAR, mostly white & 1/3 African-American.
3	Midland Crowd	American Quilt	7.69%	40.52%	5.99%	Avg age=36, married, ½ with kids, typical income, new housing in rural areas, blue collar, conservative, likes Fords & fishing
4	Rooted Rural	American Quilt	7.28%	47.80%	5.53%	Slightly older, rural, empty-nesters, lower income, less likely to have college experience, trucks, do-it-yourselfers

Rank	Tapestry Segment	LifeMode Groups	% of 2001-2005 License Sales	Cumulative %	% of State Pop.	Description
5	Salt of the Earth	Factories and Farms	6.26%	54.06%	4.79%	Two-thirds are married with kids, blue collar, avg income, Midwestern, often rural, own single family homes, conservative
6	Heartland Communities	Senior Styles	5.91%	59.96%	4.69%	Above avg age, married, modest income, small Midwest towns, hunt/fish/bowl, country music, do-it-yourselfers
7	Green Acres	Upscale Avenues	4.45%	64.41%	3.52%	Married w/ kids, blue collar baby boomers with college ed., Above average income, suburban fringe, do-it-yourselfers, outdoors
8	Rustbelt Traditions	Traditional Living	3.57%	67.98%	4.17%	Older Great lakes industrial cities, avg age = 36, mix of married or single, slightly below avg income, don't move much, forego fads
9	Midlife Junction	Traditional Living	2.90%	70.88%	3.45%	Exiting child-rearing, mix married & single, slightly below avg income, 33% live in apts, suburban, conservative, budget-conscious
10	Home Town	Factories and Farms	2.64%	73.52%	2.96%	Young, tend to remain in hometown, low avg income, some married, 1/3 without diploma, suburban but prefer country lifestyle
11	Rustbelt Retirees	Senior Styles	2.40%	75.92%	2.96%	Married/no kids, avg income, Great Lakes & Northeast, own homes, not inclined to move, loyal to community & country, gets involved
12	Great Expectations	High Hopes	2.16%	78.08%	3.22%	Young singles & married couples, lower income & growing, many rent, music taste varies: MTV to country, like outdoor sports
13	Up and Coming Families	Family Portrait	2.11%	80.18%	2.45%	Fast growing segment, avg age = 32, married with kids, affluent, own home on suburban fringe, little time, fast food.
14	Cozy and Comfortable	Upscale Avenues	1.80%	81.99%	1.97%	Older suburban areas, middle aged, married, older kids, use computers, above avg income, not really do-it-yourselfers
15	Simple Living	Senior Styles	1.52%	83.51%	2.68%	Older, ½ single, kids rare, low income, ¼ didn't finish high school, community is important
16	Crossroads	American Quilt	1.43%	84.94%	1.40%	Married couples/single parents, 32 years, below avg income, smaller towns, mobile homes common, above avg unemployment
17	Prosperous Empty Nesters	Senior Styles	1.09%	86.03%	1.75%	½ over 55, kids moved out, above avg income, still working, suburban, physically active, investors
18	Aspiring Young Families	High Hopes	1.04%	87.07%	1.49%	Young start-up families, married or divorced, typical age=30, 22% with degrees, ½ rent, live in growing metro areas, avg income
19	Exurbanites	High Society	1.03%	88.09%	1.29%	Affluent, likes open space on urban edge, married/empty nesters, golf, kayakers, active in volunteer groups and donate to causes

Rank	Tapestry Segment	LifeMode Groups	% of 2001-2005 License Sales	Cumulative %	% of State Pop.	Description
20	Boomburbs	High Society	0.96%	89.05%	1.46%	Younger families with busy upscale lifestyle, two incomes, college ed., homeowners, into computers & tech, CNN, Discovery channel
21	In Style	Upscale Avenues	0.89%	89.95%	1.35%	Suburb living/prefers city lifestyles, married/no kids, age=38, higher income, tech savvy, rock music, health oriented
22	Milk and Cookies	Family Portrait	0.86%	90.80%	1.05%	Young families but affluent for their age, two incomes, prefer single-family homes, focused on families & future, leisure time = kid time
23	Sophisticated Squires	High Society	0.84%	91.64%	1.09%	Country living on urban fringe, above avg income, 35-54, SUVs, married w/ kids, golf
24	Main Street, USA	Traditional Living	0.79%	92.44%	1.12%	Suburbs of smaller metro areas in older homes, avg age= 36, ½ married, slightly above avg income, service/manufacturing
25	Old and Newcomers	Solo Acts	0.78%	93.22%	1.77%	In transition-starting careers or retiring, renters, more single person and shared households, few families, lower income
26	Rural Resort Dwellers	American Quilt	0.75%	93.97%	0.40%	Rural non-farm, married/kids moved out, typically older, avg income, boats/fish/hunt
27	College Towns	Scholars & Patriots	0.61%	94.59%	1.15%	Avg age=24.3, almost ½ enrolled in college & others on staff, part-time jobs, low income, renters or some in dormitories.
28	City Dimensions	Global Roots	0.52%	95.11%	1.03%	Young, 2/3's single, many single parents, low income, urban, lack education, renters, frequent moves, dense neighborhoods
29	Modest Income Homes	Metropolis	0.50%	95.61%	1.33%	Mostly young singles & single parents, many grandparents raising kids, low income, low valued homes, 1/2 rent
30	Inner City Tenants	Global Roots	0.49%	96.10%	0.88%	Ethnically diverse, urban, 27 years=avg, single, lower than average income, college is a goal, rents, not outdoorsy.
31	Metropolitans	Metropolis	0.48%	96.58%	1.47%	City living, older neighborhoods, single or childless couples, educated, slightly above average income, mobile, homeowners
32	Suburban Splendor	High Society	0.41%	96.98%	0.73%	Maturing families, very affluent, dual incomes, avg age=40, younger neighborhoods (but not new), like to invest
33	Enterprising Professionals	Upscale Avenues	0.40%	97.38%	0.88%	Young, highly educated, single or recently married. Above average income, rent, mobile, tech savvy, likes to travel
34	Young and Restless	Solo Acts	0.39%	97.77%	0.87%	Avg age=29, most are single, educated but income < avg. Renters, women more likely to work, metro areas, tech savvy.

Rank	Tapestry Segment	LifeMode Groups	% of 2001-2005 License Sales	Cumulative %	% of State Pop.	Description
35	Connoisseurs	High Society	0.34%	98.11%	0.73%	Very high incomes, slightly older, slightly older & many still with kids, live in dense city centers, liberal, travel, like to spend
36	Prairie Living	Factories and Farms	0.32%	98.43%	0.31%	Midwest small farms mostly, avg age = 40, married, half have kids, typical income, pets, country music, hunts and fish
37	Metro City Edge	Metropolis	0.30%	98.73%	0.64%	Many single parent families (1/3 married households), older children at home, below avg education & income, high unemployment
38	Retirement Communities	Senior Styles	0.27%	99.00%	0.67%	Retired, ½ single, below avg income, ½ own single-family homes/others in multi-unit places, live in metro areas, health conscious
39	Family Foundations	Traditional Living	0.17%	99.17%	0.54%	Mostly African-American, slightly older families, active in community, average income, urban.
40	City Commons	Family Portrait	0.15%	99.32%	0.78%	Young, single or single parents in urban areas. Mostly African American. Blue collar, service-oriented employment. Low income, low rent.
41	Military Proximity	Scholars & Patriots	0.12%	99.44%	0.53%	Young, married, embracing parenthood, second youngest Tapestry segment, 3/4's active duty or work on bases. Above avg education.
42	Senior Sun Seekers	Senior Styles	0.12%	99.56%	0.08%	Older, growing segment, many are winter snow-birds & go south, education levels are below avg, and over half receive social security.
43	Urban Chic	Upscale Avenues	0.12%	99.68%	0.28%	Professional, urban couples, less than ½ with kids, 41 yrs, above avg income, uptown living (high-rises) common, prefer city life
44	Social Security Set	Senior Styles	0.10%	99.78%	0.49%	Mostly elderly, most live alone, ethnically diverse, very low income, apartment renters in high-rise urban locations, few recreation $
45	Industrious Urban Fringe	Global Roots	0.06%	99.84%	0.07%	Family is key. Largely Hispanic, many foreign born, live on city's edge, avg. income, commonly owns home. Thrifty.
46	Wealthy Seaboard Suburbs	High Society	0.04%	99.89%	0.08%	Coastal metro areas, age=40's, white, few kids, high income & high wealth, professionals, travels, seldom moves
47	Dorms to Diplomas	Scholars & Patriots	0.04%	99.92%	0.22%	College students, youngest Tapestry segment. 3/4's hold part-time jobs. 1/2 live in dorms.
48	Metro Renters	Solo Acts	0.03%	99.95%	0.15%	Urban, young, educated & single, slightly above avg income & rising, internet savvy, have disposable income, ethnically diverse
49	Laptops and Lattes	Solo Acts	0.02%	99.97%	0.04%	Avg age = 38, mostly single, live in urban centers, affluent, cosmopolitan, educated, rents, traveled and tech savvy.

Rank	Tapestry Segment	LifeMode Groups	% of 2001-2005 License Sales	Cumulative %	% of State Pop.	Description
50	Pleasant-ville	Upscale Avenues	0.02%	99.99%	0.04%	Slightly older, families with kids, above average income, urban/suburban, long commutes common, moves infrequently
51	Trendsetters	Solo Acts	0.01%	100.00%	0.04%	Young, single, culturally diverse, above average income, educated. Most rent. Live the urban life style.
52	Silver and Gold	Senior Styles	0.00%	100.00%	0.01%	These are the wealthiest & older seniors, commonly live on the outer edge of suburbs, like to travel, active, seek sunshine
53	Urban Rows	Metropolis	0.00%	100.00%	0.01%	Smallest tapestry segment & shrinking due to urban renewal programs. 70% black with many black Hispanics. 1/2 = single parent households. Urban.

The above table gives us a better picture of Kentucky's license buyers. The segments highlighted in yellow all show a significantly greater-than-average tendency to buy licenses. These highlighted segments are typically rural with families and below average income increasing to slightly above average income as the rank increases. Of the 53 Tapestry rounding out the top 50% of buyers are segments that have older and younger families still in rural areas. The young-educated-urban types do not appear in the top segments. This does not mean these people will not fish in the future, but at this stage in their lives, fishing is not a common activity.

Where Do We Find Residents More or Less Likely to Buy Licenses?

Table 8 below presents the same info as Table 7, but with greater detail. Table 8 lists all segments recorded as having bought a license in Kentucky between 2001 and 2005, for residents only.[1] The third column presents the larger LifeMode group each belongs to, and the fourth column presents the urban-rural areas in which the segments are generally located. [2] Column six represents the market share of buyers from 2001 through 2005. Column six is important as it allows the agency to decide if the trends represented by a specific segment are worth the agency's time to focus on strategies to maintain or boost sales to this segment. The percentage change in market share is in column seven. For example, referring to the first row, the total licenses sold to the Southern Satellites segment increased from 2001 to 2005 by a 0.85 percent.

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[1] Several of the lesser segments were not identified as having bought any licenses in '01 and '05 and therefore are left out of this discussion.

[2] The I or II after each urban description indicates its relative income. Segments with an "I" have a higher income than segments with an "II."

Table 8. Resident License Buyers by Segment,
as a Percentage of All Licenses Sold Annually

1) Rank	2) Tapestry Segment	3) LifeMode Groups	4) Urban Group	5) Net Change in Real Licenses Sold from 2001 - 2005	6) Percentage Market Share from 2001-2005	7) Percentage Change in Market Share from 2001-2005
1	Southern Satellites	Factories and Farms	Rural II	-1.01%	16.52%	0.85%
2	Rural Bypasses	Factories and Farms	Rural II	-2.26%	16.31%	-0.43%
3	Midland Crowd	American Quilt	Rural I	0.28%	7.69%	2.15%
4	Rooted Rural	American Quilt	Rural II	-1.07%	7.28%	0.78%
5	Salt of the Earth	Factories and Farms	Rural I	-1.89%	6.26%	-0.05%
6	Heartland Communities	Senior Styles	Small Towns	-2.85%	5.91%	-1.03%
7	Green Acres	Upscale Avenues	Rural I	-0.76%	4.45%	1.09%
8	Rustbelt Traditions	Traditional Living	Urban Outskirts I	-5.52%	3.57%	-3.75%
9	Midlife Junction	Traditional Living	Suburban Periphery II	-2.79%	2.90%	-0.97%
10	Home Town	Factories and Farms	Suburban Periphery II	-3.82%	2.64%	-2.02%
11	Rustbelt Retirees	Senior Styles	Suburban Periphery II	-3.46%	2.40%	-1.65%
12	Great Expectations	High Hopes	Urban Outskirts I	-1.71%	2.16%	0.13%
13	Up and Coming Families	Family Portrait	Suburban Periphery I	-0.69%	2.11%	1.17%
14	Cozy and Comfortable	Upscale Avenues	Suburban Periphery II	-3.35%	1.80%	-1.54%
15	Simple Living	Senior Styles	Urban Outskirts II	-4.92%	1.52%	-3.14%
16	Crossroads	American Quilt	Small Towns	1.38%	1.43%	3.28%
17	Prosperous Empty Nesters	Senior Styles	Suburban Periphery I	-0.59%	1.09%	1.27%
18	Aspiring Young Families	High Hopes	Metro Cities II	-0.75%	1.04%	1.11%
19	Exurbanites	High Society	Suburban Periphery I	-0.30%	1.03%	1.57%
20	Boomburbs	High Society	Urban Outskirts I	2.06%	0.96%	3.97%
21	In Style	Upscale Avenues	Suburban Periphery I	-1.04%	0.89%	0.81%
22	Milk and Cookies	Family Portrait	Metro Cities I	1.27%	0.86%	3.17%
23	Sophisticated Squires	High Society	Suburban Periphery I	1.28%	0.84%	3.18%
24	Main Street, USA	Traditional Living	Urban Outskirts I	-0.59%	0.79%	1.27%
25	Old and Newcomers	Solo Acts	Metro Cities II	-0.94%	0.78%	0.91%
26	Rural Resort Dwellers	American Quilt	Rural I	-2.31%	0.75%	-0.48%
27	College Towns	Scholars & Patriots	Urban Outskirts II	-5.05%	0.61%	-3.27%
28	City Dimensions	Global Roots	Metro Cities II	-3.27%	0.52%	-1.46%
29	Modest Income Homes	Metropolis	Urban Outskirts II	-6.36%	0.50%	-4.61%
30	Inner City Tenants	Global Roots	Metro Cities II	-6.43%	0.49%	-4.68%
31	Metropolitans	Metropolis	Metro Cities I	-6.91%	0.48%	-5.16%
32	Suburban Splendor	High Society	Suburban Periphery I	-1.60%	0.41%	0.24%
33	Enterprising Professionals	Upscale Avenues	Metro Cities I	-3.19%	0.40%	-1.38%

1) Rank	2) Tapestry Segment	3) LifeMode Groups	4) Urban Group	5) Net Change in Real Licenses Sold from 2001 - 2005	6) Percentage Market Share from 2001-2005	7) Percentage Change in Market Share from 2001-2005
34	Young and Restless	Solo Acts	Metro Cities II	-5.12%	0.39%	-3.34%
35	Connoisseurs	High Society	Metro Cities I	-1.70%	0.34%	0.14%
36	Prairie Living	Factories and Farms	Rural II	0.97%	0.32%	2.86%
37	Metro City Edge	Metropolis	Urban Outskirts II	-8.49%	0.30%	-6.77%
38	Retirement Communities	Senior Styles	Metro Cities II	-1.73%	0.27%	0.11%
39	Family Foundations	Traditional Living	Metro Cities II	-14.61%	0.17%	-13.01%
40	City Commons	Family Portrait	Principal Urban Centers II	-8.32%	0.15%	-6.61%
41	Military Proximity	Scholars & Patriots	Suburban Periphery II	1.99%	0.12%	3.90%
42	Senior Sun Seekers	Senior Styles	Small Towns	0.45%	0.12%	2.33%
43	Urban Chic	Upscale Avenues	Metro Cities I	0.00%	0.12%	1.87%
44	Social Security Set	Senior Styles	Principal Urban Centers II	-5.19%	0.10%	-3.42%
45	Industrious Urban Fringe	Global Roots	Urban Outskirts I	-4.87%	0.06%	-3.09%
46	Wealthy Seaboard Suburbs	High Society	Metro Cities I	11.40%	0.04%	13.49%
47	Dorms to Diplomas	Scholars & Patriots	Metro Cities II	2.40%	0.04%	4.32%
48	Metro Renters	Solo Acts	Principal Urban Centers I	-13.42%	0.03%	-11.80%
49	Laptops and Lattes	Solo Acts	Principal Urban Centers I	-20.35%	0.02%	-18.86%

* Each urbanization group is divided into two categories, I and II. "I" categories are typically more affluent, with higher incomes, than "II" categories.

All of the top five segments are rural. Rural sales are more important to Kentucky than seen so far in other states examined to date. These top five segments need special consideration since they are the bigger part of the State's annual license revenue stream. The most significant drop has been in the Rustbelt Tradition segment. The five-year losses in this segment equate to an overall loss of 0.36% in KY fishing license buyers. Of greatest concern, over the top 15 segments representing 84 percent of the State's license customers, 14 showed losses. This trend, if sustained, is dangerous to the agency's financial future.

Although the majority of the segments show a slight increase, some segments show increases such as "Midland Crowd." Of the 11 segments showing increases, only two are rural. This may reflect a trend towards urbanization in Kentucky. Future research could shed more light into this by comparing the preferences of people in growth segments to the preferences in other segments.[3]

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[3] Most of the segments showing an increase represent a very small portion of the State's annual license sales. For these segments, a change of just a few licenses will have a large effect on their trend data. The results presented here alone do not conclude that growth and trends are stronger in non-rural areas.

In Table 8 above, we added TAPESTRY® Urban Groups. These describe the level of urbanization where the segments, or neighborhoods, are found. In Table 9, we consolidated the resident data to get a better idea of the rural versus urban differences.

Table 9. License Sales Market Share by Urbanization Group, Residents only

Urbanization Group	Market Share	% Change in Market Share
Rural	59.57%	0.34%
Suburban Periphery	16.23%	-0.06%
Urban Outskirts	10.48%	-0.20%
Small Towns	7.46%	-0.01%
Metro Cities	5.95%	-0.04%
Principal Urban Centers	0.31%	-0.02%

Table 9 shows the importance of rural areas to Kentucky's fishing license revenue base. As seen in Table 8, the actual, or real, number of licenses sold to rural residents is slightly increasing and has the largest market share, nearly 60 percent. The Suburban Periphery and Urban Outskirts are the next two larger sources of license sales and they show slight decreases in overall numbers. Other states have shown opposite trends, with rural customers representing a shrinking customer base.

Please note the data in this report is based on the purchaser's home residence, not where he or she purchased their license. If a trend exists in Kentucky for urban residents to buy their licenses close to their fishing site, that trend cannot be identified in this report.

Let us now take a deeper look at those segments with the fastest growing market share. These groups have increased their share of annual license sales from 2001 to 2005. Table 10 presents the top 15 segments ranked by who is buying a greater portion of Kentucky's licenses.

Table 10. Top 15 Segments Ranked by Fastest Growth in Market Share, 2001-2005

1) Rank	2) Tapestry Segment	3) LifeMode Groups	4) Urban Group	5) Net Change in Real Licenses Sold from 2001 - 2005	6) Percentage Market Share from 2001-2005	7) Percentage Change in Market Share from 2001-2005
46	Wealthy Seaboard Suburbs	High Society	Metro Cities I	11.40%	0.04%	13.49%
47	Dorms to Diplomas	Scholars & Patriots	Metro Cities II	2.40%	0.04%	4.32%
20	Boomburbs	High Society	Urban Outskirts I	2.06%	0.96%	3.97%

1) Rank	2) Tapestry Segment	3) LifeMode Groups	4) Urban Group	5) Net Change in Real Licenses Sold from 2001 - 2005	6) Percentage Market Share from 2001-2005	7) Percentage Change in Market Share from 2001-2005
41	Military Proximity	Scholars & Patriots	Suburban Periphery II	1.99%	0.12%	3.90%
16	Crossroads	American Quilt	Small Towns	1.38%	1.43%	3.28%
23	Sophisticated Squires	High Society	Suburban Periphery I	1.28%	0.84%	3.18%
22	Milk and Cookies	Family Portrait	Metro Cities I	1.27%	0.86%	3.17%
36	Prairie Living	Factories and Farms	Rural II	0.97%	0.32%	2.86%
42	Senior Sun Seekers	Senior Styles	Small Towns	0.45%	0.12%	2.33%
3	Midland Crowd	American Quilt	Rural I	0.28%	7.69%	2.15%
43	Urban Chic	Upscale Avenues	Metro Cities I	0.00%	0.12%	1.87%
19	Exurbanites	High Society	Suburban Periphery I	-0.30%	1.03%	1.57%
24	Main Street, USA	Traditional Living	Urban Outskirts I	-0.59%	0.79%	1.27%
17	Prosperous Empty Nesters	Senior Styles	Suburban Periphery I	-0.59%	1.09%	1.27%
13	Up and Coming Families	Family Portrait	Suburban Periphery I	-0.69%	2.11%	1.17%

Other than "Prairie Living" and "Midland Crowd," all the growth from 2001 to 2005 has been experienced in the cities and suburban areas although most of these have less than one percent overall market share. By looking at a weighted average based on the fifth and sixth columns, we see that the greatest growth in the number of license sold came from the Midland Crowds (.022% overall growth), Boomburbs and Crossroads (tied with .019% overall growth), and Milk and Cookies and Sophisticated Squires (tied with .011% each). With the exception of Midland Crowds as the only rural segment, these segments come from the more suburban and urbanizing parts of the state.

The majority of growth segments have such a small share of the market that a change of one or two licenses from 2001 to 2005 had a major impact on its ranking. We encourage segments with a market share (column 6) generally under 0.5% be overlooked as their trends can be greatly impacted by very minor events and their overall impact is negligible. For all other segments, it may be worth investigating why they are increasing their buying rates compared to segments loosing market share. It is possible that growth in some of these segments may reflect general population shifts from 2001 to 2005. Together, these segments increased Kentucky's license sales by 0.83% from 2001 to 2005.

Which segments are shrinking the fastest? Table 11 presents the segments suffering the worst declines.

Table 11. Top 15 Segments Ranked By Shrinking Market Share

1) Rank	2) Tapestry Segment	3) LifeMode Groups	4) Urban Group	5) Net Change in Real Licenses Sold from 2001 - 2005	6) Percentage Market Share from 2001-2005	7) Percentage Change in Market Share from 2001-2005
49	Laptops and Lattes	Solo Acts	Principal Urban Centers I	-20.35%	0.02%	-18.86%
39	Family Foundations	Traditional Living	Metro Cities II	-14.61%	0.17%	-13.01%
48	Metro Renters	Solo Acts	Principal Urban Centers I	-13.42%	0.03%	-11.80%
37	Metro City Edge	Metropolis	Urban Outskirts II	-8.49%	0.30%	-6.77%
40	City Commons	Family Portrait	Principal Urban Centers II	-8.32%	0.15%	-6.61%
31	Metropolitans	Metropolis	Metro Cities I	-6.91%	0.48%	-5.16%
30	Inner City Tenants	Global Roots	Metro Cities II	-6.43%	0.49%	-4.68%
29	Modest Income Homes	Metropolis	Urban Outskirts II	-6.36%	0.50%	-4.61%
8	Rustbelt Traditions	Traditional Living	Urban Outskirts I	-5.52%	3.57%	-3.75%
44	Social Security Set	Senior Styles	Principal Urban Centers II	-5.19%	0.10%	-3.42%
34	Young and Restless	Solo Acts	Metro Cities II	-5.12%	0.39%	-3.34%
27	College Towns	Scholars & Patriots	Urban Outskirts II	-5.05%	0.61%	-3.27%
15	Simple Living	Senior Styles	Urban Outskirts II	-4.92%	1.52%	-3.14%
45	Industrious Urban Fringe	Global Roots	Urban Outskirts I	-4.87%	0.06%	-3.09%
10	Home Town	Factories and Farms	Suburban Periphery II	-3.82%	2.64%	-2.02%

This table demonstrates that the worst declines are primarily in the cities and suburbs. Most of the listed segments are minor and can be overlooked. Five of them have market shares over 0.5%. Four of these are urban, and one is rural. This presents a stronger argument that many (but certainly not all) more-urbanized areas are dropping out of fishing faster than rural areas. Looking at a weighted average of columns 5 and 6 to determine which segments in Table 11 had the greatest impact on overall Kentucky license sales, the top five segments were Rustbelt Traditions, Home Town, Simple Living, Metropolitans, and Modest Income Homes. Together, these segments reduced Kentucky's license sales by 0.44% from 2001 to 2005.

Next we will look at Kentucky's angler loyalty levels.

Purchasing Frequencies: Gender Differences

Does the frequency of fishing license purchases over five years differ between men and women? We ran an analysis to find out. The analysis looks at resident license holders:

# of Years Bought a License Over Last Four Years	Male	Female
1	30.6%	46.5%
2	19.5%	22.4%
3	15.2%	13.6%
4	14.8%	9.4%
5	19.5%	7.6%

The totals do not equal 100.0%. The difference is the percent of residents who buy a non-resident license.

Men are much more likely to buy a license in multiple years than women, indicating men are more likely to fish regularly. Multiple reasons could be offered as to why, but the main purpose of this paper is to explore *what* is happening versus *why*. Any promotions encouraging anglers to purchase licenses more frequently, or any new initiatives such as a multi-year license, would likely be more effective if targeted towards males.

Section 4: The "Churn" Issue

Let's look at the "churn" issue. The "churn" issue refers to the rate of anglers entering and dropping out of the customer base. Considering all Kentucky residents who purchased a license at least once over the past five years, Table 13 reports the percentage who bought a license in just one, two, up to all five years.

Table 12. License Purchasing Frequency

License Purchasing Frequency	Percentage of Customers, 2001 to 2005
1 of 5 years:	35.1%
2 of 5 years:	20.4%
3 of 5 years:	14.8%
4 of 5 years:	13.4%
5 of 5 years:	16.3%

It could be argued that 55 percent of license customers are not loyal customers and bought only in one or two years of the five and find other activities to spend their free time on each year. Time constraints or competing recreations may be diverting their attention. Encouraging existing anglers to fish more often or adding convenience and simplicity to the license buying and renewal process could result in increased license revenues. Of note though is the loyalty shown by those that bought licenses for all five years. Unexpected compared to the national trend, Kentucky has a larger percentage of repeat customers. The next steps are to find out which type of angler is more or less likely to purchase a license frequently or infrequently.

Tables 13 and 14 present purchasing frequencies for specific segments of resident customers.[4]

Table 13. Top 15 Segments Likely to Buy Frequently, Residents Only

Rank	Tapestry Segment	Bought 1 or 2 years only, out of 5 years	Bought 4 or 5 years, out of 5 years
42	Senior Sun Seekers	43.39%	39.77%
26	Rural Resort Dwellers	44.84%	39.43%
4	Rooted Rural	51.18%	33.75%
2	Rural Bypasses	51.46%	33.27%
1	Southern Satellites	51.73%	32.96%
5	Salt of the Earth	52.72%	31.87%
7	Green Acres	54.15%	30.74%
3	Midland Crowd	54.36%	30.10%
6	Heartland Communities	54.37%	30.06%

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[4] Non-residents are less likely to buy a Nebraska license annually. Their inclusion in this specific analysis could mislead the analysis.

Rank	Tapestry Segment	Bought 1 or 2 years only, out of 5 years	Bought 4 or 5 years, out of 5 years
36	Prairie Living	54.98%	28.79%
19	Exurbanites	56.84%	28.69%
11	Rustbelt Retirees	56.70%	28.26%
14	Cozy and Comfortable	57.12%	28.09%
50	Pleasant-ville	57.87%	26.97%
17	Prosperous Empty Nesters	58.82%	26.90%

Not unexpected, the top seven segments are also the most loyal buyers. The other segments range from the top to the bottom of the ranking with no clear evidence from this perspective as to why. For these segments, use the rule that the rank is an indication of the impact on sales of the segment since the rankings in the 30 plus range only need a change of a few buyers to impact their change over time.

Table 14. Top Segments Likely to Buy Licenses
Only 1 or 2 of the Past 5 Years, Residents Only

Rank	Tapestry Segment	Bought 1 or 2 years only, out of 5 years	Bought 4 or 5 years, out of 5 years
41	Military Proximity	80.67%	9.74%
52	Silver and Gold	72.41%	10.34%
53	Urban Rows	70.00%	0.00%
40	City Commons	69.93%	16.85%
48	Metro Renters	69.88%	16.08%
44	Social Security Set	68.16%	17.96%
34	Young and Restless	66.53%	18.62%
51	Trendsetters	65.96%	17.73%
43	Urban Chic	65.60%	21.13%
49	Laptops and Lattes	65.56%	19.92%
27	College Towns	65.24%	19.94%
30	Inner City Tenants	64.96%	20.12%
46	Wealthy Seaboard Suburbs	64.76%	23.82%
47	Dorms to Diplomas	64.49%	17.65%
31	Metropolitans	64.45%	21.27%

In Table 14 the rankings indicate that less loyal segments befall from cities and suburban segments that are primarily insignificant in terms of license sales and do not offer much information. In general the rural and suburban segments are more loyal than the urban ones. Rural residents are Kentucky's most loyal anglers, even though more of them are likely to buy a license only one or two times in the past five years. Increases in drop-out rates in rural segments will have a much more severe impact on license revenues

than increases from metro and urban areas. Efforts to encourage rural anglers to renew their license each year may have more success in boosting revenues versus trying the same with anglers from more-urbanized areas.

Propensity to Buy a License

Focusing efforts to boost license sales on segments with a greater "propensity" to purchase a license may yield greater returns. "Propensity" is a person's likelihood to purchase a license compared to the likelihood of the average angler buying a license. Table 15 uses a ratio to determine each segment's propensity. This ratio is the segment's "market share of all licenses sold" divided by the "percentage of the Kentucky population" held by that segment, and is also known as the "Sales to Population" ratio. All segments with a "Sales/Pop Ratio" greater than one are more likely to buy a license compared to the average Kentucky resident. Efforts to recruit new anglers or to encourage greater purchasing frequencies would likely have higher success if they targeted the segments with ratios greater than one.

Table 15. Segments with a Greater Propensity to Buy Licenses, Residents Only

Rank	Tapestry Segment	LifeMode Group	% of 2005 License Sales	% of State Population	Sales/Pop Ratio
26	Rural Resort Dwellers	American Quilt	0.75%	0.40%	1.85
42	Senior Sun Seekers	Senior Styles	0.12%	0.08%	1.61
1	Southern Satellites	Factories and Farms	16.56%	11.59%	1.43
2	Rural Bypasses	Factories and Farms	16.31%	11.82%	1.38
4	Rooted Rural	American Quilt	7.31%	5.53%	1.32
5	Salt of the Earth	Factories and Farms	6.24%	4.79%	1.30
3	Midland Crowd	American Quilt	7.78%	5.99%	1.30
7	Green Acres	Upscale Avenues	4.46%	3.52%	1.27
6	Heartland Communities	Senior Styles	5.88%	4.69%	1.25
36	Prairie Living	Factories and Farms	0.32%	0.31%	1.04
16	Crossroads	American Quilt	1.43%	1.40%	1.02
14	Cozy and Comfortable	Upscale Avenues	1.78%	1.97%	0.90
10	Home Town	Factories and Farms	2.64%	2.96%	0.89
13	Up and Coming Families	Family Portrait	2.14%	2.45%	0.88
9	Midlife Junction	Traditional Living	2.91%	3.45%	0.84
8	Rustbelt Traditions	Traditional Living	3.49%	4.17%	0.84
22	Milk and Cookies	Family Portrait	0.87%	1.05%	0.83
45	Industrious Urban Fringe	Global Roots	0.06%	0.07%	0.82
19	Exurbanites	High Society	1.03%	1.29%	0.80
11	Rustbelt Retirees	Senior Styles	2.35%	2.96%	0.79
23	Sophisticated Squires	High Society	0.85%	1.09%	0.78
24	Main Street, USA	Traditional Living	0.80%	1.12%	0.71
18	Aspiring Young Families	High Hopes	1.04%	1.49%	0.70
20	Boomburbs	High Society	1.00%	1.46%	0.68
12	Great Expectations	High Hopes	2.16%	3.22%	0.67
21	In Style	Upscale Avenues	0.88%	1.35%	0.66

Rank	Tapestry Segment	LifeMode Group	% of 2005 License Sales	% of State Population	Sales/Pop Ratio
17	Prosperous Empty Nesters	Senior Styles	1.10%	1.75%	0.63
46	Wealthy Seaboard Suburbs	High Society	0.05%	0.08%	0.60
15	Simple Living	Senior Styles	1.52%	2.68%	0.56
32	Suburban Splendor	High Society	0.40%	0.73%	0.55
30	Inner City Tenants	Global Roots	0.48%	0.88%	0.54
27	College Towns	Scholars & Patriots	0.61%	1.15%	0.53
28	City Dimensions	Global Roots	0.52%	1.03%	0.51
35	Connoisseurs	High Society	0.34%	0.73%	0.46
37	Metro City Edge	Metropolis	0.29%	0.64%	0.45
33	Enterprising Professionals	Upscale Avenues	0.39%	0.88%	0.45
25	Old and Newcomers	Solo Acts	0.78%	1.77%	0.44
34	Young and Restless	Solo Acts	0.38%	0.87%	0.44
43	Urban Chic	Upscale Avenues	0.12%	0.28%	0.41
50	Pleasant-ville	Upscale Avenues	0.01%	0.04%	0.41
38	Retirement Communities	Senior Styles	0.27%	0.67%	0.40
49	Laptops and Lattes	Solo Acts	0.02%	0.04%	0.38
29	Modest Income Homes	Metropolis	0.50%	1.33%	0.38
31	Metropolitans	Metropolis	0.46%	1.47%	0.31
39	Family Foundations	Traditional Living	0.15%	0.54%	0.28
41	Military Proximity	Scholars & Patriots	0.13%	0.53%	0.25
51	Trendsetters	Solo Acts	0.01%	0.04%	0.22
44	Social Security Set	Senior Styles	0.10%	0.49%	0.21
40	City Commons	Family Portrait	0.15%	0.78%	0.19
47	Dorms to Diplomas	Scholars & Patriots	0.04%	0.22%	0.18
48	Metro Renters	Solo Acts	0.02%	0.15%	0.16
52	Silver and Gold	Senior Styles	0.00%	0.01%	0.11
53	Urban Rows	Metropolis	0.00%	0.01%	0.08

Not surprising the top seven segments show up again in the top ten spots illustrating that the rural segments also purchase more licenses than the average resident. Of the 11 groups with a purchasing propensity greater than one, 10 of these are from generally blue-collar segments and not affluent segments. This means that the typical working class resident is more likely to buy a license, especially those from the "Factories and Farms" and "American Quilt" segments. Any new efforts to recruit new anglers or generate additional license revenues may have greater success if targeted at these segments. A majority of the affluent and metro/urban segments have Sales/Pop ratios less than one.

SECTION 5: "Upgraders" and "Downgraders"

Current customers moving to higher- or lower-priced license options also drive revenue trends. Table 16 looks at residents who specifically bought a license in 2001 or in 2005[5]. Those who bought a license in the intervening years were excluded for this particular analysis. The table reports the percentage who a) downgraded to a lower priced license, b) dropped out, c) are new customers, d) are steady customers and bought the same license each time, or e) upgraded to a higher-priced license.

Table 16. Upgrading/Downgrading Trends

Resident Purchasing Behavior, 2001 vs. 2005	Percentage of Customers Who Bought a License in Both 2001 and 2005
Dropped Out	32.75%
New	31.47%
Steady	23.26%
Downgraded	6.31%
Upgraded	6.21%

Over 63 percent of the customers either dropped out after 2001 or are new in 2005 split almost in half. Upgraders and downgraders only represent about six percent each. Of the 33 percent who dropped in '05, many of these may be people who went fishing "on a whim" at the request of another and do not plan to fish regularly, but could be enticed to go again. Encouraging anglers to renew their licenses could be a big impact in license sales. The percentage of "new" anglers and the percentage of "drop-out" anglers are significant. If half of the drop-outs could be entailed to buy a license, annual revenues could increase 15 percent.

Using the TAPESTRY® data, we can gain a better understanding of who is more likely to upgrade or downgrade. Table 17 ranks the segments based on the segment providing the biggest boost to agency revenues. This is measured using the ratio in the last column. This ratio takes into consideration each segment's market share and percentage who upgraded their purchases. Table 17 is also based on purchases made in 2001 and also in 2005 exclusive of what was purchased in-between.

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[5] If a resident bought more than one license in a year, the license that cost the most was used.

Table 17. Top 15 Segments Ranked by Those with Highest Upgrading Volume, Residents

Rank	Segment	LifeMode Groups	Urban Groups	% Downgraded	% Upgraded	% Market Share, '01-'05	% Upgraded X Market Share Ratio
1	Southern Satellites	Factories and Farms	Rural II	0.36%	0.34%	16.52%	0.057%
2	Rural Bypasses	Factories and Farms	Rural II	0.32%	0.34%	16.31%	0.055%
4	Rooted Rural	American Quilt	Rural II	0.15%	0.16%	7.28%	0.012%
3	Midland Crowd	American Quilt	Rural I	0.17%	0.15%	7.69%	0.011%
5	Salt of the Earth	Factories and Farms	Rural I	0.14%	0.12%	6.26%	0.008%
6	Heartland Communities	Senior Styles	Small Towns	0.11%	0.12%	5.91%	0.007%
7	Green Acres	Upscale Avenues	Rural I	0.10%	0.08%	4.45%	0.004%
8	Rustbelt Traditions	Traditional Living	Urban Outskirts I	0.06%	0.06%	3.57%	0.002%
9	Midlife Junction	Traditional Living	Suburban Periphery II	0.05%	0.05%	2.90%	0.002%
10	Home Town	Factories and Farms	Suburban Periphery II	0.04%	0.05%	2.64%	0.001%
11	Rustbelt Retirees	Senior Styles	Suburban Periphery II	0.04%	0.04%	2.40%	0.001%
12	Great Expectations	High Hopes	Urban Outskirts I	0.03%	0.04%	2.16%	0.001%
13	Up and Coming Families	Family Portrait	Suburban Periphery I	0.04%	0.03%	2.11%	0.001%
14	Cozy and Comfortable	Upscale Avenues	Suburban Periphery II	0.03%	0.03%	1.80%	0.001%
15	Simple Living	Senior Styles	Urban Outskirts II	0.02%	0.03%	1.52%	0.000%

The percentage of upgrades and downgrades varies by segment. For all segments listed in the above table, they represent a total downgrading of 1.93 percent and upgrades of 1.90 percent – not a significant difference. This means the segments in the above table are just as likely to downgrade as they are to upgrade.

In 2005, 73 percent of Kentucky's fishing licenses were purchased by residents. Approximately 79 percent of the purchasers are male, indicating females are more likely to favor other forms of recreation. Resident license buyers are more likely to be in the 40-49 year old age bracket. Over the past five years, Kentucky's total number of buyers decreased by two percent. Licenses were more likely to be purchased by people in rural areas, although the top five segments - all rural - lost 6 percent of their buyers from 2001 to 2005. This may also be an indication of a general population shift away from rural areas. In general, the majority of segments of Kentucky's population are showing license sales decreases.

The TAPESTRY® data helps examine buying habits based on the types of neighborhoods were license customers live. The segments with the largest market share also are more likely to buy a license every year (highest loyalty rates) and more likely to upgrade their purchases to higher price licenses. Of the top segments that represent half of all licenses sold, they are primarily rural with below-average to average incomes and many still with families. The young-educated-urban types do not appear as frequent customers. This does not mean these people will not fish in the future, but at this stage of their lives, fishing is not a common activity. The closer one comes to urban or city life, the likelihood of buying a license decreases. Immigrant neighborhoods are less likely to purchase licenses. The TAPESTRY® data reports the specific segments more likely to purchase fishing licenses (Tables 7 and 8). Recruitment efforts focused on these neighborhoods are more likely to achieve higher levels of success.

The top five rural segments (in terms of market share (Table 8, pages 10-12) require specific attention as they *also have above average decreases in buyers over the last five years*. These segments are contributing the greatest losses in license sales, and there have the largest impact on the agency's budget. Using standard human-dimensions research, contrasting these segments with other segments may shed light into which benefits of fishing may be the most useful in marketing efforts, or which stages of life or issues cause people to stray away from fishing.

Rural residents are Kentucky's most loyal anglers, meaning they are more likely to buy a license each year. Drop-out anglers from this group have a much more severe impact on license revenues than drop-outs from metro and urban areas. Efforts to encourage anglers to renew their license each year (reduce the churn rate) may have more success in boosting revenues due to the high number of rural anglers, versus trying to recruit anglers from urbanized areas who are less likely to fish and purchase licenses less frequently. Of course, any efforts that make fishing more relevant, interesting, easier and accessible in suburban and urban areas may help boost sales in these areas, but such efforts can be extremely costly and time-consuming.

On a positive note, many of the segments more likely to upgrade their licenses also buy the most fishing licenses. Efforts to encourage more people in the top-ranked

segments to upgrade their licenses could boost revenues. Such efforts could include promotions, new license products that offer anglers a better value, incentives, and more.

Efforts to increase license revenues could take one of several directions:
A. Recruit new anglers,
B. Retain existing anglers,
C. Encourage anglers to buy licenses more frequently, or
D. Encourage anglers to upgrade their license purchases.

Recognizing that essentially all segments are showing losses in terms of actual licenses sold, boosting license revenues by recruiting new anglers will be tough and may not show a significant return on investment. We are not advocating against angler recruitment programs as fisheries conservation in the long run will depend on the number of active and interested anglers. But, from a perspective of boosting short-term agency revenues, angler recruitment efforts may not be the answer.

Recognizing that the top segments also have the highest rate of dropped and new anglers, efforts to encourage existing license holders to purchase the following year should show a significant return-on-investment.

With over 16 percent of the buyers purchasing fishing licenses all five of the study years is encouraging. With efforts to have those that purchase licenses for three or four of these years to renew for the next year may prove successful in boosting revenues. One way to do this is to use the State's electronic licensing database. Promotional mailings could target segments that have a higher frequency of license purchases, but only send to individuals within the target segments who have bought only once, twice, even three times in the last five years. Control groups could be established by not mailing to a sample of people from segments showing higher purchasing frequencies. New types of licenses, such as five-year licenses, may also help boost revenues.

Closing Notes:
The purpose of this initial analysis is to identify the trends affecting license sales and revenues and help identify strategies that can boost license revenues. We will assist in developing additional analyses and provide interpretations per Kentucky's requests and directions. Additional analyses could include:
1. Breakouts based on the type of license purchased,
2. Greater investigations of lapsed anglers, and
3. Examining differences between regions of the state.

Please note that many more analyses could be made. This analysis, considered a first step, is intended to provide a general picture of the trends impacting license sales. We can run additional analysis of the license data, if requested, to look further into the trends and issues reported here. We will reply to Kentucky's questions and will remain available should Kentucky desire to review the results.