

**A Method to Improve the Utility of the Vessel
Title Registration System to Characterize
Florida's Boating Population**

Interim Report

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Background/Objective

The objective of this study is to determine if systematic errors, that are potentially correctible, exist in the state vessel title registration system (VTRS). The study will compare VTRS information with analogous data collected during contemporaneous on-the-water vessel censuses (OWC). A more robust vessel registration database will facilitate waterway planning and management throughout Florida.

Task Performance Report

The following sections report progress for each of the tasks (A-F) in the original scope of work (02/2002). An additional task (G) that was not originally proposed has been undertaken. Task G involves the collection of vessel registration numbers for a sample of marinas (including boat yards and yacht clubs), canals, and waterways in Lee County; the same methodology will be implemented in Manatee County. This additional information collected during task G will strengthen the OWC/VTRS congruency analysis.

- A. Obtain data: Parcel boundary information with property identification numbers (PID) from Lee and Manatee counties; names and addresses of property owners from appropriate county office; VTRS information.

Separate parcel boundary GIS data files (polygon) and property information (owner name and address) have been obtained for Lee and Manatee Counties. The dates of each boundary file and the corresponding property information are consistent with the dates of the on-the-water boat censuses (OWC) conducted within Lee and Manatee Counties by Florida Sea Grant (FSG). Table 1 presents a summary of each OWC.

Table 1. Florida Sea Grant On-The-Water Boat Censuses.

Location	Vessel Count	Survey Dates
North Manatee County	4478	2/1998-3/1998
Estero Bay, Lee County	6123	1/1999-5-1999
Pine Island Sound, Lee County	7911	12/1999-5/2000
Caloosahatchee River, Lee County	14,973	12/2000-5/2001
Braden and Manatee Rivers	541	04/2002
TOTAL	34,026	2/1998-4/2002

The Vessel Title Registration System 'Data Sales Database' was obtained from the Florida Department of Highway Safety and Motor Vehicles (DHSMV) in a column-delimited file. The data was imported into a DBMS using the field definitions described in Appendix 1. The database contains over 4.6 million records; the majority of records are for trailers, while 2,277,908 are for vessels, some of which are not currently registered.

- B. GIS database development: Spatial alignment procedures will be conducted to associate OWC boats with parcel centroids. These procedures will ensure that parcel and OWC boat information is correctly linked.

During each OWC, in addition to using DGPS to log vessel locations and characteristics (e.g., make/model, facility, draft, length), field personnel marked vessel positions on 1:2400 section aerials. To maximize quality control, the person who implemented the vessel census was responsible for post-processing tasks. During post-processing, vessel positions were adjusted, in either ArcView or ArcInfo, using 1-meter DOQQs and parcel boundaries as background themes. The field-annotated aerials served to guide the process. Once vessel positions were validated, all surveyed vessels were associated with an adjacent property parcel and the parcel identification number (PID) was transferred from the parcel to the vessel. Using the PID as the primary key, parcel owner and address information were then transferred to each vessel. Since January 2002, this process has been completed for vessels logged along the Caloosahatchee River and adjacent canals, and it is being finalized for the Braden and upper Manatee Rivers. Thus, the task is 98 percent complete.

- C. Standardize VTRS and parcel attribute data: The corresponding attribute fields for the VTRS and county property owner information will be standardized and geo-coded to parcel centroids.

VTRS records (134,257) with zip codes that correspond to Lee and Manatee Counties were extracted and standardized according to U.S. Postal Code standards. For a small proportion of the extracted VTRS records, the address information was either missing or blocked by the DHSMV. Ninety-two percent of FSG OWC vessel records (27,797) also were standardized; the remaining 8 percent represent vessels that contained inadequate (e.g., missing) address information.

Subsequent to address standardization, VTRS and OWC records were geo-coded, which resulted in X and Y geographic position coordinates. The geo-coding results provide location codes that indicate the accuracy of the location assigned to a particular address. There are two types of geo-codes—address and ZIP+4 centroids. Address geo-codes are simple to interpret, as they indicate a geo-code made directly to a TIGER segment (or two segments in the case of an intersection). The address location codes detail the known qualities of a particular geo-code.

The geo-coding results for the OWCs conducted in Lee (Estero Bay, Pine Island Sound, and Caloosahatchee River) and Manatee Counties are presented in Table 2. Seventy-six percent of all Lee County vessels surveyed by FSG were linked with addresses located in Lee County, while 84 percent of Manatee County vessels were linked with Manatee County addresses. The preliminary results presented in this interim report are for this subset of vessels. Ninety-

seven percent of all vessels with Lee or Manatee County addresses were successfully geo-coded. When comparing vessels assigned an address level geo-code, there is greater discrepancy between the two counties: 82 percent of Lee vessels were assigned an address level geo-code versus 73 percent of Manatee vessels.

Table 2. OWC Vessels with County Addresses.

Location	Vessel Count	Number Geo-coded	Percent	Address Geo-coded	Percent
Lee	22,108	21,462	97%	18,122	82%
Manatee	3782	3747	99%	2760	73%
Total	25,890	25,209	97%	20,882	81%

Next, the geo-coded vessels and VTRS records were linked. Seventy-one percent of the geo-coded Lee County vessels matched VTRS records, while 64 percent of Manatee County vessels matched VTRS records. A partial explanation for the geo-coding disparity between Lee and Manatee Counties is revealed by examining a breakdown of OWC vessel counts by boating facility (Table 3). The majority of OWC vessels in both counties are located at single-family residences (Lee—66%; Manatee—54%), followed by marinas¹ (Lee—23%; Manatee—42%). During each OWC, vessels were associated with the address of the facility at which they were located. Thus, vessels located in a marina were linked with the parcel address of the marina facility. In most instances, the marina address is not the address under which the vessel was registered in the VTRS. A preliminary review of 234 OWC vessels located at one Lee County Marina showed that only 14 matched address records contained in the VTRS. The significance of this observation is apparent when it is noted that 76 percent of Lee County OWC vessels were located at single- and multi-family residences, compared to only 58 percent in Manatee County. By comparison, 23 percent of Lee County vessels were located at marina facilities, while nearly double that percentage (42%) were located at marina facilities in Manatee County. Thus, a greater OWC-VTRS match rate is expected in Lee County due to the greater proportion of single- and multi-family residences.

¹ Note: the marina category includes boatyards, yacht clubs, restaurant/shops, industrial facilities, and hotel/motels; however, 94 percent of the vessels in this category were located at marinas, boatyards, or yacht clubs.

Table 3. OWC Vessel Counts by Boating Facility.

Facility	Lee		Manatee	
	Count	Percent	Count	Percent
Single-Family	14663	66%	2027	54%
*Marina	5140	23%	1589	42%
Multi-Family	2305	10%	166	4%
Total	22108	100%	3782	100%

*Includes yards, clubs, restaurant/shops, hotel/motel, industrial, and other

Due to this discrepancy, a follow-up survey was initiated in Lee County to collect a sample of vessel registration numbers in marinas, canals, and waterways. This additional task is explained in task G below. Task G also will be implemented in Manatee County.

D. Measure VTRS/OWC congruency: An initial assessment of the type and degree of error will begin with GIS mapping and point-pattern analyses to expose potential geographic irregularities in data matching/non-matching (for the five consistency/discrepancy scenarios described in the FSG proposal previously submitted to FMRI). The point patterns will highlight the spatial distribution of congruence or non-congruence between the OWC data and the VTRS. Data points will be color-coded to display each of the five possible scenarios/data layers. Corresponding spatial pattern(s) will be analyzed under the null hypothesis that the spatial distribution in congruence/non-congruence between the OWC and VTRS is non-random (i.e., there are external factors which account for variation in error).

The congruency analysis (Task D) has been postponed due to the implementation of an additional task (G) that was not originally proposed. Task G involves the collection of vessel registration numbers for a sample of marinas (including boatyards and yacht clubs), canals, and waterways in Lee County. The additional information collected during Task G is expected to improve the robustness of the OWC/VTRS congruency analysis. The congruency analysis will be completed after the information collected during Task G is processed.

For Task D, geo-coded OWC and VTRS vessel records for Lee and Manatee County were imported into ArcView GIS to perform an initial visual comparison of the “geographic locations” of matching and non-matching records. In order to compare geographic locations, a latitude and longitude was assigned to each OWC and VTRS vessel record based on a street address. OWC vessels were assigned the address of the property parcel where they were located at the time of the field census (e.g., at a dock behind a residence). The mailing address contained in the VTRS was used for vessel records.

Three congruency scenarios were compared: 1) OWC vessels with parcel addresses that matched a corresponding VTRS vessel record address, 2) OWC vessels with parcel addresses that did not match a VTRS vessel record address,

and 3) VTRS vessel record addresses that did not match an OWC vessel parcel address.

Figure 1 displays the three congruency scenarios mapped for a canal system located in Lee County. The map shows the distribution of matching and non-matching OWC and VTRS vessel records as color-coded symbols. For display purposes, the mapped positions of the OWC vessels (dots) are those obtained using DGPS during the field census, and not the position that would be assigned based on the vessel parcel address. The mapped positions of VTRS vessel records are along street segments, as determined during the geo-coding process. For congruency scenario 1, OWC vessels with parcel addresses that match a VTRS vessel record address are represented as blue dots, and VTRS records with addresses that match an OWC parcel address as blue crosses. OWC vessels that did not match a VTRS vessel record (scenario 2) are represented as red dots, and non-matching VTRS records (scenario 3) as red crosses.

Figure 1 depicts 253 OWC vessels that were logged within the canal system, of which, 85 percent (215) matched a VTRS vessel record and 15 percent (38) did not. These preliminary results are encouraging, but they are based solely on a comparison of location information. The complete congruency analysis will compare vessel characteristics, as well as location, in order to more fully determine the utility of the VTRS for geographically locating vessels within canal systems.

E. Organize an advisory committee: Form a committee to facilitate the implementation of research findings and recommendations. With assistance from FMRI in the identification and solicitation of appropriate committee members.

The selection of advisory committee members coincided with the organization of the workshop (Task F). The list of persons attending the workshop (Appendix 2) includes a broad range of individuals that represent numerous entities: federal (U.S. Coast Guard, Sea Grant), state (FWCC Law Enforcement, Florida Marine Research Institute, Department of Highway Safety and Motor Vehicles), regional (West Coast Inland Navigation District, Southwest Florida Harbor Board), county (Lee, Manatee, and Sarasota), industry (Florida Marine Industries Association, Southwest Florida Marine Industries Association, INFOLINK), and non-profit (Mote Marine Laboratory).

- F. Workshop: Coordinate and host a one-day workshop to be held at FMRI in early June with assistance from FMRI. Initial findings will be presented to the advisory committee at this time.

A workshop was held at the Florida Marine Research Institute on June 11th, from 10:30 am to 2:30 pm. Appendix 2 contains a list of the participants and the meeting agenda.

- G. Survey of Vessel Registration Numbers in Lee and Manatee Counties: Obtain vessel registration numbers for a sample of marinas, canals, and waterways in areas where FSG conducted OWCs.

An important objective of this study is to determine the degree of correspondence between the VTRS and the OWC with respect to accurately identifying vessel/owner locations and characteristics. Initial analysis revealed that such comparative analyses would benefit greatly from an update of location and boat information obtained from Lee and Manatee County OWC (Table 1). This section outlines the methods to identify and re-survey a sub-sample of vessels in Lee and Manatee counties. Some initial findings also are presented.

The vessel re-survey includes the identification of vessel registration identification numbers, an important piece of information for this study that was not collected during the original OWC. The re-survey consists of two separate components. The first obtains the make, model, and the vessel registration number of vessels in marina wet slip and dry-stack storage facilities. The second updates the boat characteristics and obtains registration numbers for vessels docked in a sample of canal systems. The re-survey of vessels in Lee County is currently underway. A sub-sample survey of vessels in Manatee County is scheduled to begin in December.

Rationale: The OWC identified over 6300 vessels in Lee and Manatee County marinas, yacht clubs, and boat yards for which we have no corresponding owner address. This sub-set of OWC vessels was given the address (obtained from property tax records) of the facility where they were located. For these vessels, the owner's address is not known. In addition, many vessels in marinas either are from another state or county, or they are unregistered (federally documented). We want to determine what proportion of vessels in marinas they might be and to investigate alternative methods for identifying owner locations for these vessels. For example, with registration numbers or documented vessel numbers we can access additional databases to obtain information that can be used to locate boat owners. The identification of FL numbers from vessels in marina wet slips and dry stack storage facilities will be used to address the following issues:

- Identify the boat owner's mailing address so that they can be included in the follow-up telephone or mail survey.
- Estimate the proportion of transient vessels located in marinas.

- Determine linkages between the resident address and the boat location.
- Explain matching incongruities between VTRS and OWC locations.

A re-survey of vessels in a select number of canal systems will be used to address the following issues:

- To update existing boat locations and characteristics.
- To add the locations and characteristics of ‘new’ boats or boats not present during the initial census.
- To determine rates of change in the location and types of vessels.

Methods

Data Compilation—the following databases were obtained:

- STF-3A demographic information for the study areas from the 1990 U.S. Census (internet download).
- Census block group boundaries for the study areas (GeoPlan FGDL internet site).
- Marina locations and associated attributes (FMRI).

Marina Selection Criteria—a local boating expert (the same individual who conducted the OWCs) was contracted to conduct vessel surveys for a sample of Lee County marinas and canal systems. Marinas (Figure 2) were selected on the basis of the geographic distribution, the number of wet slips, dry storage capacity, the proportion of “local” or “transient” vessels, vessel type (large versus small), and storage costs.

Marina Survey Data Collection—the following characteristics are collected for each registered vessel: vessel registration number, make and/or model, vessel type, and draft. If a boat is verified to be not registered and is documented, the vessel name and hailing port are logged.

Identification of Sample Boating Areas—It is hypothesized that the degree of correspondence (or congruity) between the OWC and VTRS will be related to wealth and retirement factors. For example, wealthy retirees have a greater amount of discretionary income and leisure time and, therefore, their vessels are more likely to be absent during the time of the OWC. To test this hypothesis, Census GIS data were used to identify sample boating areas on the bases of wealth and retirement potential (WRP) for the OWC vessel update.

Median household value and per-capita income variables were aggregated to classify block groups according to “wealth potential.” Breakpoints for low, medium, and high wealth potential were established by sorting the data; determining the upper and lower bounds of the data range; and dividing the

range into three intervals based on logical breakpoints. Population figures for those drawing social security and for those greater than 65 years of age were divided by the total population of the block group, and expressed as percent of the total block group population. Areas of low, medium, and high "retirement potential" are identified as being less than 30 percent, from 30 to 60 percent, and greater than 60 percent of the block group population, respectively (Table 1).

A composite value was generated, to map all combinations of low, moderate, and high wealth and retirement potential by block group (Table 4). For example, 10_3 indicates low retirement and high wealth potential; 20_3 indicates moderate retirement and high wealth potential (Figure 2).

Table 4. Criteria for Census Block Evaluation.

Category	Retirement Potential			Wealth Potential		
	WRP Value	Percent Social Security Income	Percent > 65 years	WRP Value	Median House Value (000s)	Per Capita Income (000s)
Low	10	< 30	< 30	1	\$27-\$100	<\$13
Moderate	20	30 - 60	30 - 60	2	\$100-\$200	\$13-\$32
High	30	> 60	> 60	3	>\$200	>\$32

Boating areas were further stratified and selected according to the following criteria:

- Geographic location: Estero Bay, Caloosahatchee River, Orange River, San Carlos Bay, Matlacha Pass, Barrier Island
- Physical Shoreline: Bay front, creek, or man-made canal
- Accessibility: Distance to open water

An effort was made to select at least one example each of a low, moderate, and high WRP site for each geographic, physical and accessibility condition. This method was used to select 26 areas (Figure 3), containing 5446 vessels (roughly 20 percent of the total OWC population), for the "update" survey. All vessels within a selected area are to be surveyed.

Data Collection

The same individual who carried out the OWC conducted the fieldwork. A large-scale map was generated for canal systems selected to be re-surveyed. The map included 1-meter DOQQ imagery and a unique number plotted for each OWC vessel location. A corresponding field datasheet was generated that contained the ID for each vessel, pertinent information that allowed the field observer to "match" each vessel, and a blank FL number field to be filled in. Two supplementary forms also were constructed: The first is used to enter information

for new boats encountered (update form); the second, to enter information for federally documented vessels that might be encountered (documented vessel form). In addition, the location of “new” boats (boats that were not present during the OWC), were marked on the map, and assigned a unique number. Post processing included updating the OWC information within the GIS, digitizing the location of new vessels, and cataloging attributes.

The following attributes are verified or updated for each registered vessel: vessel registration number, make and/or model, boat type, and draft. If the boat is not registered, but is documented, the vessel name and hailing port are collected. A more detailed description of data collection procedures can be found in Appendix 3.

Results

A sub-sample of vessels inventoried as part of the Lee County Regional Waterway Management System, were re-surveyed during the months of April and May 2002. Vessels were surveyed within canal systems and at prominent marinas (Figure 3). A breakdown of the number of vessels surveyed at prominent marinas is presented in Table 5. The percent total column reflects the proportion of vessels surveyed at each marina (vessels surveyed divided by the number of vessels present at the time of the survey). A breakdown of vessels surveyed within WRP areas is presented in Table 6.

Table 5. Lee County Marinas Surveyed.

Marina Name	Vessels Surveyed	Percent Total
Burnt Store Marina	235	33%
Caloosa Isle Marina	102	90%
Cape Coral Yacht Basin	50	50%
Centennial Marina	45	98%
Deep Lagoon	145	75%
Four Winds Marina*	35	*15%
City of Ft Myers Yacht Basin	151	90%
Ft. Myers Beach Marina	137	90%
Gulf Harbor	106	95%
Gulfstar Marina - Dumonts	69	85%
Pineland Marina	78	85%
Salty Sam's (Palm Grove)	70	90%
Tarpon Point Marina	100	90%

* Four Winds Marina would not grant access to the dry stack facility.

Table 6. Vessel Counts by Aggregate WRP Areas.

WRP Value	Retirement Potential	Wealth Potential	Number of Vessels	Surveyed Vessels	Percent of Total Surveyed
10_1	Low	Low	577	161	28%
10_2	Medium	Low	0	0	-----
10_3	High	Low	353	117	33%
20_1	Low	Medium	10,082	1680	17%
20_2	Medium	Medium	6076	1173	19%
20_3	High	Medium	4721	915	19%
30_1	Low	High	3314	828	25%
30_2	Medium	High	1306	405	31%
30_3	High	High	167	167	100%
TOTALS			26,595	5446	20%

Future Tasks

The following tasks will be performed during the period: 6/15/2000 to 03/2003.

Develop Geographic Units of Analysis (GUA's)—the units of areal analysis for the study will be derived from the spatial intersection of *traffiched* and census unit (tract, block group, block) boundaries, as performed within the GIS. A *traffiched* defines a geographic area containing a concentration of boats that use a common channel (or channels), exclusive to the *traffiched*, to gain access to primary waterway routes that lead to deep, open water. The geography of the *trafficheds* contained within the two counties ranges from simple to complex, and includes (1) single-finger canals or basins with one common access channel; (2) multiple-finger canals and/or basins with one or more access channels; (3) shoreline channel with one or more access channel(s); (4) shoreline channel linked to multiple finger canals, basins, streams and/or creeks, with one or more common access channels; and (5) natural streams or tidal creek with a single access channel. There are 223 *trafficheds* defined for Manatee County and 145 for Lee County. Contiguous *trafficheds* that have similar geography will be combined, thus reducing the number used in the study. Socioeconomic and demographic information will be obtained from Census 2000 and property appraiser data and then assigned to each analysis unit.

Measurements of Congruency

A hierarchy of statistical procedures and tests will expose geographic consistencies or discrepancies (congruence) between the FSG OWC and the VTRS.

Level I—Visual Inspection and Hypothesis Testing—Visual assessment of the type and degree of error will begin with GIS mapping and exploratory point-pattern analyses to expose potential geographic irregularities in data matching/non-matching (for the various consistency/discrepancy scenarios described above). The point patterns will highlight the spatial distribution of

congruence or non-congruence between the OWC data and the VTRS. Data points will be color-coded to display each of the five possible scenarios/data layers. Corresponding spatial pattern(s) will be analyzed under the null hypothesis that the spatial distribution in congruence/non-congruence between the OWC and VTRS is non-random (i.e., there are external factors which account for variation in error).

Hypothesis testing will be accompanied by an analysis of "proportions" to assess the extent to which there is data congruence (matching/non-matching) between the OWC and the VTRS. The proportions of data points that fall into the various consistency/discrepancy scenarios will be calculated across selected geographic units (e.g., census block, block group, census tract, trafficshed). Confidence intervals will then be constructed about those proportions to reveal the nature and variability of congruence/non-congruence across GUA's. Analysis of Variance (ANOVA) procedures will test for differences among various group means (of proportions) across trafficshed designations or census units.

Level II—Contingency Tables and Measures of Association—A series of contingency tables will be analyzed to determine the degree to which congruence or non-congruence is associated with attributes or explanatory components including trafficshed designation (e.g., canal system, river, bay), boat type (e.g., sail, motor), controlling factors (e.g., depth of waterway), and various socio-economic and demographic characteristics (e.g., housing value, income, age distribution of population). Chi-square statistics will be used to establish the statistical associations between congruence/non-congruence and various demographic and socio-economic attributes across selected GUA's. In addition, standard measures of correlation will be computed to measure the strength of the correlations between congruence/non-congruence and the attributes in question.

Level III—Multivariate Modeling—A multivariate statistical analysis will incorporate the use of both Principal Components Analysis (PCA) and Factor Analysis (FA) to reduce the number of explanatory variables to a set of components/factors (weighted averages of the original variables) when accounting for variations in the proportion of congruence between the OWC and VTRS across selected GUA's. In addition, a Discriminant Analysis (DA) will be employed to explain variations in congruency (where the dependent variable is a classification variable) as a function of various explanatory variables or attributes.

Sample Survey

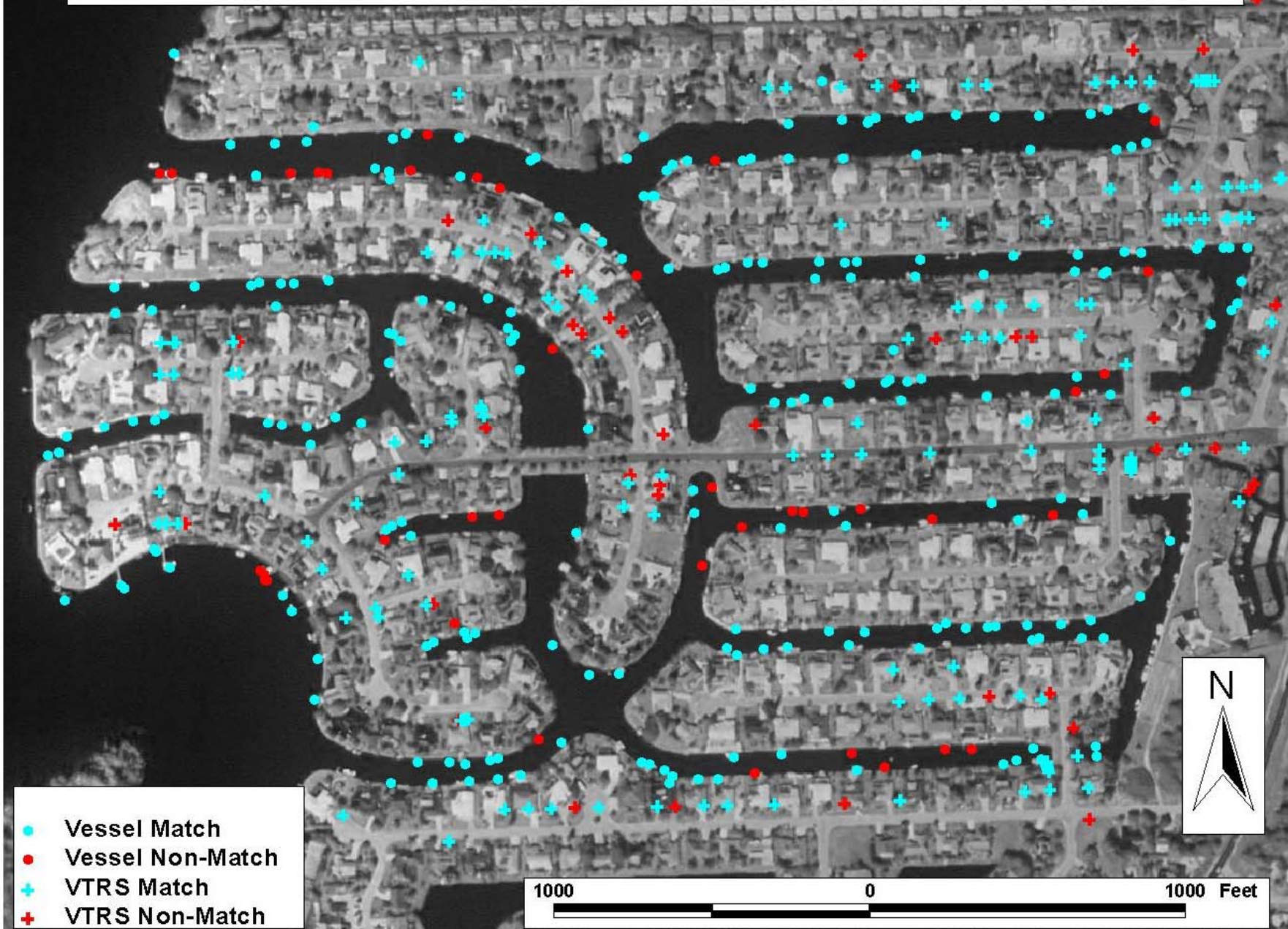
Level IV—Error Sourcing— A follow-up sample survey will assess the degree of non-congruence that can be attributed to either the VTRS or the OWC. For example, the follow-up phone survey will help to determine the degree to which the non-matching of OWC and VTRS data is attributable to boat usage (e.g., the absence of the boat during the time the boat census was conducted).

A stratified random sample of boat owners across GUA's with differential discrepancy rates will be surveyed to explain and validate the reasons for such discrepancies. The sample survey will determine which database (VTRS or OWC) is most accurate when a discrepancy occurs. The results from the OWC/VTRS comparison and the sample survey will be used to derive statistics that describe the inadequacies that are inherent in the VTRS and limit its use for planning and management applications. In addition, county and state officials will be provided with recommendations to enhance and augment VTRS information content and to standardize data collection procedures across counties.

Validation

The implementation of the Regional Waterway Management System in Lee and Manatee Counties included a restriction analysis to prioritize trafficsheds according to their maintenance dredging needs. The trafficshed prioritization was based on both channel and boat characteristics, including boat location and vessel draft. To validate the utility of the VTRS as a replacement for the OWC, the restriction analysis will be duplicated for a subset of trafficsheds using VTRS derived information. Outcomes using VTRS and OWC information will be compared to determine similarity of prioritization rankings.

Figure 1. Location Congruency Between OWC Vessels and VTRS Records.



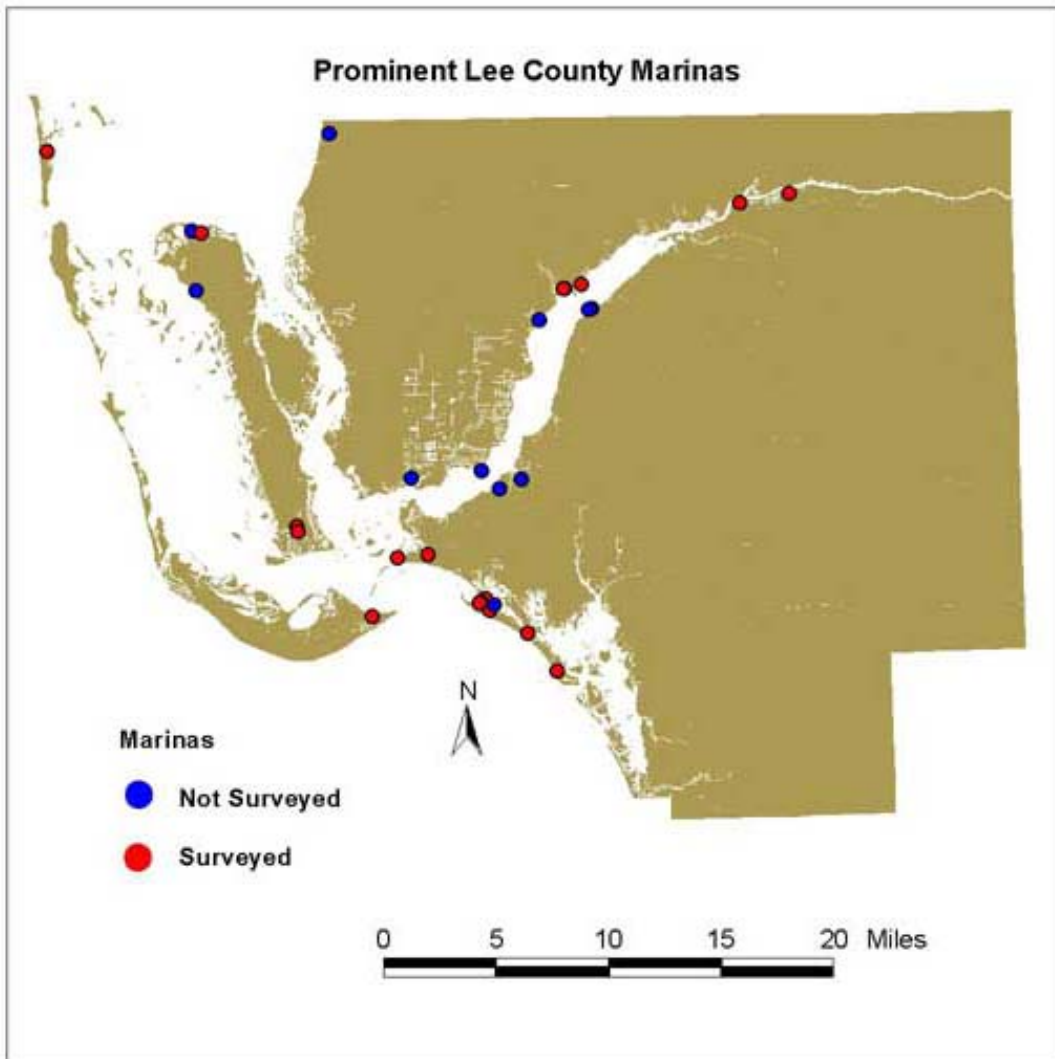


Figure 2. Prominent Lee County Marinas

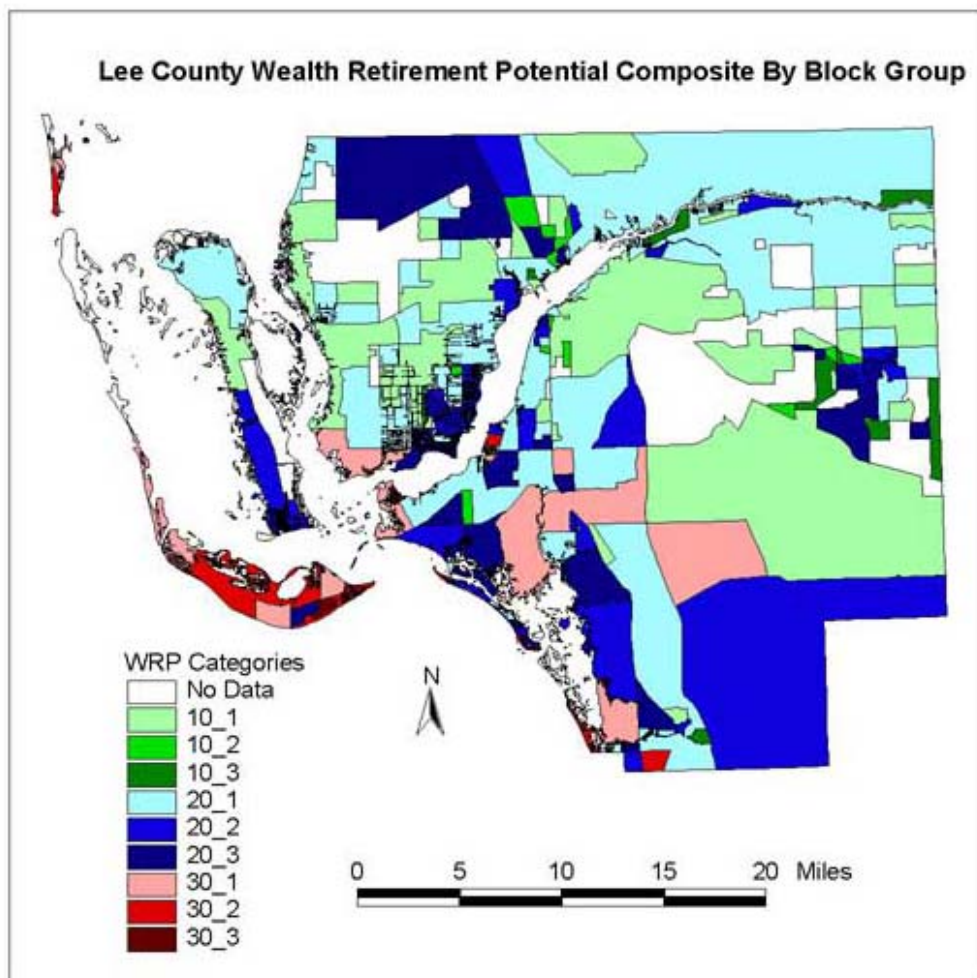


Figure 3. Lee County Wealth Retirement Potential Composite by Block Group.

Appendix 1. Vessel Title Registration System Fields and Data Structure.

Element Number	From	Thru	Size	Elem. Char.	Data Element Name And/ Or Description
1	1	10	10	N	VEHICLE NUMBER
2	11	11	1	A/N	CUSTOMER TYPE
3	12	31	20	A/N	REGISTRANT 1 LAST NAME
4	32	47	16	A/N	REG 1 FIRST NAME
5	48	63	16	A/N	REG 1 MIDDLE NAME
6	64	64	1	A/N	REG 1 SUFFIX
7	65	114	50	A/N	STREET ADDRESS
8	115	119	5	A/N	APT NUMBER
9	120	149	30	A/N	CITY
10	150	151	2	A/N	STATE
11	152	156	5	N	ZIP5
12	157	157	1	A/N	FILLER
13	158	161	4	N	ZIP4
14	162	163	2	A/N	RESIDENT COUNTY
15	164	171	8	N	REG 1 DOB
16	172	172	1	A/N	REG 1 SEX
17	173	192	20	A/N	REGISTRANT 2 LAST NAME
18	193	208	16	A/N	REG 2 FIRST NAME
19	209	224	16	A/N	REG 2 MIDDLE NAME
20	225	225	1	A/N	REG 2 SUFFIX
21	226	233	8	N	REG 2 DOB
22	234	234	1	A/N	REG 2 SEX
23	235	239	5	A/N	VEHICLE MAKE CODE
24	240	243	4	N	YEAR MAKE
25	244	246	3	A/N	COLOR ONE
26	247	249	3	A/N	COLOR TWO
27	250	251	2	A/N	BODY CODE
28	252	254	3	N	LENGTH FEET
29	255	275	21	A/N	IDENTIFICATION NUMBER
30	276	285	10	N	TITLE NUMBER
31	286	293	8	N	TITLE ISSUE DATE
32	294	295	2	A/N	TITLE STATUS CODE
33	296	297	2	A/N	PREVIOUS TITLE STATE
34	298	305	8	N	PREVIOUS TITLE ISSUE DATE
35	306	315	10	A/N	LICENSE PLATE NUMBER
36	316	325	10	A/N	DECAL NUMBER
37	326	329	4	N	DECAL YEAR
38	330	337	8	N	REGISTRATION EXPIRATION DATE
39	338	340	3	A/N	LICENSE PLATE CODE
40	341	343	3	N	VEHICLE CLASS CODE
41	344	345	2	A/N	ACTIVITY COUNTY

42	346	347	2	A/N	FUEL TYPE
43	348	354	7	N	ODOMETER MILEAGE
44	355	362	8	N	ODOMETER DATE
45	363	363	1	A/N	ODOMETER STATUS
46	364	365	2	A/N	VESSEL PROPULSION TYPE
47	366	367	2	A/N	HULL MATERIAL TYPE
48	368	369	2	A/N	VESSEL TYPE
49	370	377	8	N	ACTIVITY DATE
50	378	383	6	N	GROSS WEIGHT
51	384	389	6	N	NET WEIGHT
52	390	391	2	N	WIDTH FEET
53	392	393	2	A/N	VEHICLE TYPE
54	394	395	2	A/N	REGISTRATION USE
55	396	396	1	A/N	VEHICLE USE
56	397	425	29	A/N	FILLER

Appendix 2. Workshop Participant List and Agenda.

Workshop Title: Determining the Utility of Florida's Vessel Title Registration System (VTRS) to Characterize Florida's Boat and Boating Populations

Location: Florida Fish and Wildlife Commission, Florida Marine Research Institute, St. Petersburg, Florida.

Date: June 11, 2002

Purpose: To discuss the utility of the VTRS in filling current information needs not met by other data sources, as well as further uses of the vessel and boater information in the VTRS, both as it now exists and with potential system enhancements.

Objectives:

- 1) Identify current uses of boat and boater data.
- 2) Establish information needs from business, law enforcement, and resource planning/management perspectives.
- 3) Develop strategies to implement user recommendations and project outcomes.

Agenda:

- 1) Present, as an example, a Florida Sea Grant application that would benefit from use of Vessel Title Registration System information.
- 2) Facilitate a discussion to assess and prioritize boat/boater information needs and applications.
- 3) Present initial results of the FSG/FMRI VTRS project.
- 4) Lunch.
- 5) Facilitate a discussion of VTRS issues, problems, and limitation.
- 6) Facilitate a discussion of strategies to improve the VTRS, or to obtain boat/boater information from alternate sources.

Participants:

- 1) Captain Paul Ouellette, Boating Safety Division, Florida Fish and Wildlife Conservation Commission, Law Enforcement Division.
- 2) Tony Conboy, Director of Current Collections, Manatee County Tax Collectors Office.
- 3) Jim Englehardt, Community Services Department, Manatee County.
- 4) David Fann, Geographer, Florida Sea Grant, University of Florida.
- 5) Jay Gorzelaney, Senior Biologist, Manatee Program, Mote Marine Laboratory.
- 6) Bob Fluke, Environmental Manager, Manatee County Natural Resources Department.
- 7) Chris Koepfer, Biologist, Lee County Natural Resources Division.
- 8) Bill Ledig, President, Marine Industries Association of Tampa Bay.
- 9) Pam Leasure, Water Resources Department, Pinellas County.
- 10) Charles Listowski, Executive Director, West Coast Inland Navigation District.

- 11) Justin McBride, Senior Environmental Specialist, Lee County Natural Resources Division.
- 12) Doug Means, Environmental Management, Manatee County.
- 13) Harry Norris, Program Administrator, Florida Fish and Wildlife Conservation Commission, Florida Marine Research Institute.
- 14) Roger Rasbury, Dredging Coordinator, Sarasota County.
- 15) David Ray, Executive Director, Marine Industries Association of Florida.
- 16) Richard Flamm, Research Scientist, Florida Fish and Wildlife Conservation Commission, Florida Marine Research Institute.
- 17) Pat Riley, Chairman, Marine Advisory Committee, Southwest Florida Regional Planning Council.
- 18) Bill Sargent, Research Scientist, Florida Fish and Wildlife Conservation Commission, Florida Marine Research Institute.
- 19) Sarah Shapiro, Compliance Director, Florida Fish and Wildlife Conservation Commission, Florida Marine Research Institute.
- 20) Charles Sidman, Marine Planning Specialist, Florida Sea Grant, University of Florida.
- 21) Mike Spranger, Assistant Director, Florida Sea Grant, University of Florida
- 22) Ken Stead, Executive Director, Southwest Florida Marine Industries Association.
- 23) Robert Swett, Program Leader, Urban Boating and Baywater Management Program, Florida Sea Grant, University of Florida Sea Grant.
- 24) Charles Walter, Water Services Department, Sarasota County
- 25) Jesse Wells, info-Link, Inc.
- 26) Gustavo Antonini, Professor Emeritus, University of Florida.

Appendix 3. Procedure Sheet for Canal Surveys.

There are three templates to be used. The first is a booklet that contains data for boats inventoried during the original survey. The booklet contains **Boat Census Datasheets** for each boat area (101, 103, 203, etc.) that we identified on the basis of wealth and retirement data. Each spreadsheet contains the ID for each boat, pertinent information that will hopefully allow you to 'match' each boat, and a blank FL # field to be filled in.

The second two templates are supplementary. The second is a form to be used to enter info for new boats encountered (update form). The third is info for larger federally documented vessels that you may encounter (documented vessel form).

A. There are five possible scenarios with respect to the blank FL # field in the Boat Census Datasheets.

- 1. Enter the FL # if you match the boat and can read the FL #**
- 2. Enter a 1 if the boat is not there**
- 3. Enter a 2 if you match the boat but can't read FL #**
- 4. Enter a 3 if you match the boat but there is no FL #**
- 5. Enter 4 if the boat is different than the one previously surveyed (go to update form).**
- 6. Enter a 5 if you match the boat but its federally documented w/out FL # (go to documented vessel form).**

B. Use **update form for the following two UPDATE conditions**

(1) You encounter a 'new' boat at an existing location (i.e. the current boat does not match the info for the boat that was originally surveyed). Then you will transfer the corresponding Unique ID from the Boat Census Datasheet to the **update** form's Unique ID field, ad a No to the Newboat field and fill in the rest of the data fields.

(2) You encounter a boat at a new location (i.e. there is a boat at a location where no boat was originally surveyed. Here, you will have to increment the highest unique ID from the Boat Census Datasheet to the **update** form and label a new point on the map with the same ID. For example, if the highest unique ID for area X was 215, then any new boats added to the update form would start at 216. Also, add a Yes to the Newboat field and fill in the reset of the data fields.

*Note the FL # field in the update form also will have five possible scenarios as described for the Boat Census Datasheet.

C. Use **documented vessel form for federally documented vessels.**

(1) For scenario 5, transfer the corresponding Unique ID from the Boat Census Datasheet to documented vessel form, enter 'no' in the Newboat field; fill in the data fields.

(2) If you encounter a documented boat at a new location enter 'yes' in the Newboat field. Also, increment the Unique ID in documented vessel form as per UPDATE condition 2, mark this point on the map, and label the point with the incremented Unique ID #.