The Visitation Estimation and Reporting System (VERS)

by

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What is VERS?

The Visitation Estimation and Reporting System is a family of microcomputer-based programs designed to collect, analyze, estimate, and report recreation use at Corps of Engineers projects.

The overall program was designed to meet reporting requirements to the Headquarters, U.S. Army Corps of Engineers (HQUSACE), as set forth in the Natural Resources Management System database and Federal reporting requirements. The primary focus of VERS is to provide an efficient, reliable, and standardized method of collecting, analyzing, and reporting data on recreation use across Corps projects.

With the April 1991 memorandum from the Office of Civil Works, VERS became the official reporting system for the Corps. As stated in the memorandum, "Recreation visitation for all Natural Resource Management System (NRMS) projects will be computed using VERS from that date [1 October 1991] forward. Visitation data derived from VERS will be reported in the 1992 NRMS update. No other visitation computation method will be authorized."

The primary source of data for VERS is from interviews with visitors to Corps facilities. The program systematically analyzes this information and provides weighted averages of survey results. Traffic counts, which are collected by meters at developed recreation areas, are then applied to the weighted averages to develop estimates of recreation use.

The four main components of the VERS software are described below. Together, these provide recreation managers the capability to obtain "the numbers," which fulfill their visitation reporting requirement.

The Direct Data Entry System allows project personnel to collect visitor information interactively.
Data entry

The Direct Data Entry System (DDES) is the primary data collection component of VERS. While VERS is designed to operate in an office environment, the DDES software component can be detached for field use on a laptop or notebook computer. The DDES component allows the project to collect survey information interactively at the recreation area. It prompts the interviewer with the questions, awaits the response, and then branches to the next appropriate question based on the response.

DDES was designed to minimize impact on the visitor while providing all the essential information needed to produce estimates of use as required for the Natural Resource Management System. The program displays a list of activities that project personnel can choose from in developing a survey. The project is limited to asking three optional questions that are either activity or facility based in nature. These data are collapsed into the reporting category of “Other Activities” in the NRMS database.

During the interview process, which typically lasts 2 to 3 minutes, the program checks for logic and range errors and will not proceed until a correct response is entered. Alteration of survey information is by design limited in the system. All changes to visitor information must be made at the time of the interview.

To assist in the monitoring of contracts, the program provides a means to verify the start and stop times recorded by the interviewer. These times are available in a report option in VERS and should be compared with the survey plan to determine if the surveyors were onsite at the appointed times. Data collected with DDES are consistent with the survey questions in Engineer (ENG) Form 4835 with improvements and enhancements.

Data edit

The data entry and editing features of VERS allow data from Automation at the survey site improves accountability, accuracy, and reliability of survey information
visitation, and stores the information for future use. VERS provides both a comprehensive survey report (with detailed survey information) and a condensed survey site summary (with load-factors required to report visitation).

**Data analysis**

The analysis component of VERS summarizes the visitor survey information and develops the data required in reporting. This program component tests each data set for sufficient sample size in day use and overnight parties and warns the user of small or highly variable survey information. The program summarizes the data for both weekday and weekend sampling periods and develops weighted averages or load-factors for the survey site. These load-factors are automatically stored, and the data source (ENG Form 4835 or DDES) is recorded.

For each site, the program calculates the load-factors or weights to be used in conjunction with individual traffic counters and stores the information for future use. VERS provides both a comprehensive survey report (with detailed survey information) and a condensed survey site summary (with load-factors required to report visitation).

**Visitation reporting**

The reporting component of VERS computes monthly visitation estimates for each recreation area and a total for the project. For each meter location identified in the VERS system, the program will require that a traffic meter reading be entered. Applying the meter reading to the previously developed load-factors, the program produces estimates of visitation in the format required in the NRMS. For those locations where survey information is unavailable, the program permits the user to either copy load-factors from a like area (Proxy) or develop them independently (Create). VERS allows for input of estimates of use for dispersed-use settings. These data are tagged as Created, and local project documentation provides input as to the accuracy of the numbers. These data may be actual head counts of visitors or estimates based on the number of households with permitted docks or other documented project uses.

VERS allows for the input of estimates or meter readings for a variety of combinations. Both magnetic loop (vehicle) and pneumatic hose (axle) counters can be used. These may count in either half-count or full-count increments. In addition, the counter may be covering one (1-way) or both (2-way) entrances and egress roadways. Traffic counts can be provided to VERS as the difference between this month’s and last month’s meter reading, or VERS can compute the difference.

The program allows for reporting areas to consist of a single meter or multiple meters. The system also permits the identification of multiple reporting areas behind a single counter.

The VERS program produces both month and year-to-date totals for either a fiscal or calendar reporting year. Standard reports are by recreation area and project in the units of visits, visitor hours, and visitor days, which are reported by total use, day-use, and overnight-use categories. In addition to providing the hard-copy output of the monthly visitation report, the program produces electronic copies that can be extracted and used to develop local reporting systems.

**Who has VERS?**

Currently, those designated VERS Coordinators who attended a summer 1991 VERS workshop have a copy of VERS. They are authorized to distribute this software to the projects in their chain of command. Each Corps District office determined if VERS would reside in the District or at the Project office. Contractors may use a Corps project’s copy while under contract. There is no authorization for providing the software outside the current chain of command. A listing of VERS Coordinators is provided on the next page. Inquiries concerning the system may be directed to the U.S. Army Engineer Waterways Experiment Station (WES) VERS technical staff or program management.

**What else does VERS do?**

VERS was designed to meet the reporting requirements set by HQUSACE, but there are many other uses for the data. VERS produces monthly visitation reports in a media format that can be used for local reporting efforts. For example, there is no standard report providing recreation days of use, but the
information can be extracted from the disk files. Also, several Districts currently use VERS as the basis to compute historic visitation trends and District-wide estimates of use.

The raw visitor survey data have a number of secondary applications. Currently at WES, the Regional Recreation Demand Modeling Work Unit, managed by Jim Henderson, uses visitor survey origin data as a component in the regional travel cost modeling (Henderson 1990). Historically, the origin data from the visitor survey have been a key variable in secondary data analysis. To date, no standard reports have been requested.

Additionally, the visitor survey data have been used in recreation needs analysis (relating recreation supply to demand) (Perales 1987). The data were used to provide information on the distribution of boaters on a project throughout the day. Incorporating these data into a needs analysis provided local variability to the standard calculations for determining what facility requirements were lacking or were in excess. The application tracked boaters and provided information on the distribution of design-day boats. The data can provide information describing ramp usage, surface acreage, and parking requirements. No standard reports have been requested thus far.

### What training and support are available?

Historically, WES provides three types of training sessions that encompass various aspects of VERS. A 32-hour Proponent Sponsored Engineer Corps Training (PROSPECT) class, "Recreation Use Estimation..."
Procedures," focuses on development of the project survey plan. Other topics addressed in this course include the evaluation of survey procedures, resources settings, meter locations, and facilitator training for survey coordinators.

The recently released exportable training package entitled "Visitor Surveys for Developed Recreation Areas" now substitutes for the 8-hour surveyor training provided by WES. This package consists of three parts: the facilitator guide, the student study manual, and the video. These materials are available through each District's training officer (USAED, Huntsville 1992a,b,c).

Additionally, as directed by the HQUSACE, a 24-hour VERS training workshop is available. This workshop focuses on the software's visitor survey data processing, load-factor data imputation, data interpretation, and monthly visitation reporting.

WES also provides one-stop and Natural Resources Technical Support (NRTS) assistance in the area of visitor surveys and VERS. The VERS technical support team logged over 217 calls and seven NRTS requests during the first half of FY 1993.

Who can help?

To assist in implementation, District Coordinators were designated and trained in VERS. These are your representatives. All field inquiries are to go through the VERS Coordinators prior to coming to WES. WES will assist any field office that has received clearance from the District Coordinator.

Can the system be changed?

VERS or DDES can be changed only by field request and HQUSACE approval. Requests for alteration of the system should be forwarded to Ms. Judy Rice, HQUSACE. The WES VERS technical team members are available to discuss any component of VERS. If the system is not working for you, it's not working!

References


U.S. Army Engineer Division, Huntsville. 1992a (Jan). "Visitor Surveys for Developed Recreation Areas; Facilitator's Guide," Control No. 750, Huntsville, AL.

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WES develops process to determine carrying capacity

by
John Titre and James Vogel, U.S. Army Engineer Waterways Experiment Station

As the popularity of boating continues to grow, more recreational waters are seeing problems related to overuse and crowding. As stewards of an important segment of public waters in the United States, managers of the over 400 U.S. Army Corps of Engineers lakes are frequently required to address these problems. They have reported an increased incidence of congestion at boat launch ramps and marinas and on the water, and conflicts between different types of boats on their lakes. Though these problems are most often associated with peak-use periods of summer weekends and holidays, management is concerned with the quality of recreational boating opportunities for the off-season or early-morning fisherman as well as the Sunday afternoon pleasure boater.

Since 1991, outdoor recreation planners at the Waterways Experiment Station (WES) have been working to develop a new and unique approach to addressing these problems. The objective has been to develop a manager-oriented carrying capacity determination approach that allows lake managers to systematically gather key data at low cost and to apply these data to current management issues such as shoreline allocation, boat access, and management of boat traffic and boater activities. A major portion of the data collection effort is directed to boaters, by asking them how they use the lake, what the most important elements of quality boating are to them, and how their boating experiences might be improved.

A successful pilot test of the approach was completed in 1992 at Youghiogheny River Lake, a 2,800-acre Corps reservoir in southwestern Pennsylvania and western Maryland. A WES researcher assisted project staff and local volunteers in a comprehensive effort to gather data from boaters about their use of the lake and their perceptions of the quality of boating there. Measurements were also done to determine use levels throughout the boating season on different days of the week and times of day. Use of project staff and volunteers kept the cost of collecting this important management information low.

Some innovations of the pilot-tested procedure that met with success were the production of "Management Information Bulletins" that summarized the data collection activities and results as the study progressed, and the collection of mapped data on boaters' use patterns. The Management Information Bulletins provided timely material for managers to use in discussing the data collection with the public and may allow immediate use of the collected data to improve management.

The mapped (or spatial) data were collected during boater surveys and from a boat on the water. Managers have responded well to this first opportunity to see in a graphic way how different types of boaters use the lake and how use changes through a day and from day to day.

Perhaps the most important innovation has been the close working relationship between Corps researchers and managers, from planning data collection in the spring of 1992 to recent "roll-up-your-sleeves" discussion of the collected data. This type of relationship and cooperation is the key to developing practical methods managers can use to collect the information they need to make carrying capacity-related decisions.

A draft report of the pilot test at Youghiogheny Lake is available for review. A video demonstrating the spatial data collected and the final report are scheduled to be available in November 1993. In addition, the Pittsburgh District is preparing a public information brochure for use at public meetings and other outlets in which the results of the ongoing data collection are summarized and plans for future data collection are outlined.

For more information contact John Titre, (601) 634-2199, or James Vogel, (601) 634-3110.
Marina development was the topic of the April 1993 workshop sponsored by the Natural Resources Research and Technical Support programs (NRRP and NRTS).

Approximately 50 individuals, primarily from the Corps of Engineers, participated in the workshop conducted at Arlington, TX. Other organizations that were represented include the Bureau of Reclamation, Ohio Division of Watercraft, Minnesota Department of Natural Resources, Michigan Department of Natural Resources, Maricopa County (Arizona) Parks and Recreation Department, WESTREC Marina Management, Inc., Southern Illinois University, University of Kentucky, and the International Marina Institute.

The workshop was designed to exchange information from the private and public sectors related to non-Federal facility expansion on Corps lakes. The overall objective was to gain a better understanding of the information required in evaluating marina/concession proposals, to examine how different Corps functions coordinate their responsibilities, and to better anticipate the information needs for improved decision-making.

The workshop combined short presentations and group discussions. This format was intended to inform and stimulate discussion, cover a variety of issues, and encourage dialogue. Participants were asked four questions dealing with marina development decisions. They were then asked to rank the top five issues for each question. Figure 1 lists the three highest ranked responses for each of the four questions.

Proceedings of the workshop are in the process of being published. Based on the discussion results, workshop coordinators derived a number of preliminary conclusions, which are summarized below.

- Information from carrying capacity studies (based on user perception data) should be incorporated into marina development proposals.
- It should be recognized that the public and private sectors share the same goals of customer satisfaction and environmental quality.
- There is a need to improve consistency with regard to any proposed development.

Point of contact at WES for further information is John Titre, (601) 634-2199.

Question 1. What aspects of the marina development process do you think are most important to judge if the facility is a good proposal?
1. Socio-environmental impacts.
2. Public need/services provided.
3. Economically feasible.

Question 2. What actions can be done to improve coordination among local authorities, private developers, and the Corps?
1. Keep communication open; continue information exchange through meetings, formal scheduled mailouts, and workshops.
2. Fully involve others in early planning.
3. Be consistent in application of rules.

Question 3. Based on your experience, what are some of the reasons the public opposes marina development/expansion?
1. Produces overcrowding on lakes (safety, vehicular traffic, noise, litter, etc.).
2. Environmental impacts/potential fear.
3. Creates adverse impacts on "my experience;" limits others uses (loss of freedom).

Question 4. Where do we go from here?
1. Encourage more definitive and more cooperative/consistent directions from Headquarters, U.S. Army Corps of Engineers; develop a mission statement.
2. Publish carrying capacity study results; make it defendable and field-oriented.
3. Improve relationship between Corps and marina owners (eliminate "we/they" mentality); increase public involvement.

Figure 1. Discussion questions—ranking of results
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Natural Resources Management Careers

Back in the October 1991 RecNotes column, I discussed the efforts of the Natural Resources Management (NRM) Career Development Committee. This Committee has produced a number of excellent products, including the "Career Development Guide for NRM Team Members" that will be distributed to the field this fall. In this column, I'd like to share with you the status of our efforts to establish a professional series for the Corps NRM program.

First, let me say that, as we started this effort, we knew it would be a lengthy process. In 1991 I mentioned an interagency endeavor led by the Forest Service to create a professional series focused on outdoor recreation management. I will have more on that later. In the 1991 column, I also stated that we were pursuing the option of converting the NRM team into the General Biologist (GS-401) professional series.

General Biologist series. Several things have happened since I wrote that column in 1991. Our exploration of the General Biologist series revealed some flaws which I consider significant. The following situations have caused me to cool my support for converting the NRM team to that series:

- The basic education requirement for 24 hours of biological science would not ensure expertise in any biological field. More significantly, there would be little or no training in outdoor recreation, which I see as an essential for at least some segment of the NRM team.

- The Office of Personnel Management (OPM) is hesitant to reverse their audits, appeals, and rulings regarding the classification standards of the GS-025 series. They have told us that we will have to document that the occupation has changed significantly to warrant a wholesale move from the GS-025 to the GS-401 series.

- The General Biologist series is a generic series (like the 301 series) and could subject the NRM program to greater impacts from RIF actions, stopper lists, etc., than we now experience.

Interagency effort. The Forest Service effort regrouped in 1992 and became an truly interagency effort to convince OPM that there is a need for a professional series for outdoor recreation management. This effort includes the Forest Service, Corps, Bureau of Land Management, National Park Service (NPS), Bureau of Reclamation, Fish and Wildlife Service, Soil Conservation Service, and the Bureau of Indian Affairs. Several months ago, I had the honor of representing all of these agencies by making our case through a formal presentation to the chiefs of OPM's qualifications and classification staffs. While progress has been slow, OPM has agreed that there have been significant changes and, since that session, has been working with the group to explore options and identify workable alternatives for change. My evaluation of that effort is that we will probably develop the Outdoor Recreation Planner (GS-023) series into a "de facto" professional series. OPM has already agreed in principle to this.

By "de facto" I mean that the series would be modified to include the full spectrum of outdoor recreation activities from planning to operations (which would make it parallel with all other natural resources professional series). In addition, positive education requirements agreed upon by the land management agencies would be established for the series.

The OPM is resisting the creation of a new professional series for three internal reasons:

- Over the years, numerous appeals and audits have established the precedent that OPM would prefer to maintain or revise an existing series, rather than create a new one.

- There is concern over creating additional professional series with positive educational requirements, as it could be interpreted as an effort to further "fence" positions from applicants with veteran's preference.

- Establishment of additional professional series could limit hiring options.

"Ranger of the Future program." At the same time, as a part of its overall agency revamping effort, the National Park Service (NPS) is reevaluating the Park Ranger/Park Manager (GS-025) series. The NPS
has labeled this effort the "Ranger of the Future" program. They have the ear of OPM and are well under way in an effort that will ensure that the NPS Park Ranger will be a generalist (not a professional in OPM terms). My evaluation is that the GS-025 series will be less suitable for the NRM program than ever when the "Ranger of the Future" effort is finalized.

**Corps direction.** At present, we are pursuing the interagency effort to establish a professional outdoor recreation management series. To make that work for the Corps, we will have to change the way our positions are currently set up. We are exploring the idea of converting existing NRM Park Ranger and Park Manager positions to interdisciplinary positions titled Park Ranger, Park Manager, etc. These interdisciplinary positions would be filled at the selecting officer's option from a number of professional series (e.g., Forester, Wildlife Biologist, General Biologist, and the new "de facto" Outdoor Recreation Management series) according to the specific requirements of the position. This would allow the Corps to meet the various requirements of the NRM job with individuals that are classified in professional series. The higher up the NRM ladder the position is, the longer the list of occupational series that would be considered in the interdisciplinary announcement. A word of caution: I've shared this option with you before any formal discussion with the Human Resources Directorate. I know that we could not accomplish such a radical move overnight. I will be tasking the NRM Career Development Committee with the job of developing the support materials to help us explore this option and, if it proves viable, develop an implementation strategy with the Human Resources Directorate.

**Summary.** This is an important subject. Let me assure you that I have not been frivolous in dealing with it. The goal is for the Corps NRM program to have people who have the right skills and background to accomplish the NRM mission in an effective and professional manner. I will do my best to keep you informed as we proceed. If you have thoughts on any aspects of the NRM professional series or any other NRM career topic, contact your Division's representative to the NRM Career Development Committee.

_DARRELL E. LEWIS_
Chief, Natural Resources Management Branch, HQUSACE