US Army Corps of Engineers®

Life Jacket Policy Study

15 Jan 2012

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I. INTRODUCTION. This report documents findings from the second-phase of the HQUSACE Life Jacket Policy Study directed by MG Don Riley, while serving as Director of Civil Works. The earliest results of investigation conducted for MG Riley during 2007-2008 can be read in the "Life Jacket Mandate Study Interim Report" under Addendum A; this report was presented to MG Riley during a briefing on 28 Feb 2008, and covers MSC and field management perspective on proposed Corps life jacket policy, as well as the study team's recommendations to the Commander. While he agreed with most of the study team's recommendations presented with the Interim Report, MG Riley did not readily accept the recommendation that "no change be made to our current policy regarding life jacket wear on Corps waters"; he requested further information before making a final decision. When the team proposed controlled testing of life jacket policy as a method of gathering practical information, MG Riley directed that field demonstrations begin as soon as possible in "one or more Corps districts", and agreed on a three-year field test with actual policy implementation.

II. BACKGROUND. As explained under Paragraph II of the Interim Report, dated 2 May 2008, the U.S. Army Corps of Engineers is the nation's largest provider of outdoor recreation. In 2008, when the study began, the Corps hosted more than 357 million visits to its recreational projects nationwide, and more recently 317 million visits were recorded in fiscal year 2011. Of the many recreational opportunities available on Corps lands and waters, boating and swimming rank among the highest; it is most unfortunate that more visitors' lives are lost while engaged in these activities in Corps management areas than any other form of outdoor recreation. This fact has challenged Corps leadership for decades to seek consistently more effective methods to keep visitors safe. As early as the 1970's, Corps facilities established park ranger staffs to enhance public safety initiatives and to educate the public on the risks associated with some recreation behaviors. Staff outdoor recreation planners, safety specialists, park architect and engineering staffs aggressively have pursued park facility and beach designs that incorporate strong safety standards. Because the majority of public fatalities experienced in Corps-managed areas involve water-based recreation, park rangers traditionally use interpretive opportunities, such as school visits, campground programs and community events, to deliver key water safety messages; ranger boat and park patrols are utilized routinely for more focused awareness and visitor assistance.

III. STUDY PROCESS. In a memorandum dated 1 May 2008, Michael Ensch, then Chief, Operations Division announced MG Riley's decision to "conduct an applied, and monitored for effectiveness, life jacket wear requirement field test", and asked MSC commanders to give "serious consideration to voluntary participation in this demonstration exercise." (See Addendum A.) While several districts were openly hesitant to participate, Vicksburg District leadership did volunteer for the test, with the caveat that they be able to limit testing to specific lakes. In discussions with Ohio Lakes and Rivers Division Operations leadership and the study PDT, it was determined that it would also be beneficial to include Pittsburgh District in the study to provide a comparative measure of policy effect, and to provide foundational data for the district

related to their policy that had been established in 1990 (in research done for the Life Jacket Mandate Study Interim Report, little or no documentation was found by district personnel or others that documented policy effect).

For most districts, the perceived challenges of participating in the field testing of policy kept many managers from volunteering. By the end of May, Operations made the decision to move forward with testing, with only Vicksburg and Pittsburgh Districts participating. Because the 2008 recreation season was already underway, it was decided to use the remainder of 2008 to prepare for the field test at the start of 2009 recreation season.

Upon hearing that the Corps was planning to conduct life jacket policy field tests, US Coast Guard Boating Safety Division Chief Jeff Hoedt offered to track wear rates at applicable test locations. USCG was just finishing its 10th year of a national *voluntary* wear rates study under a grant awarded to JSI Research and Training, Inc., and while wear rate data would prove to be tremendously beneficial to the Corps in assessing policy effectiveness, it would also provide the USCG with key information important to their own recreational boating safety efforts. This service was provided to the Corps at no cost other than a small amount of on-site staff coordination with JSI to assure project access and locate prime observation areas. The timing of the USCG offer was perfect, allowing JSI to move immediately to establish wear rate baselines at the test sites for a full recreation season, prior to public notification of intent to test and actual policy implementation.

The Study PDT worked with research experts from the Corps Engineer Research and Development Center (ERDC) and test-districts leadership to determine appropriate measurements for the four-year field test (baseline plus three test years). While public fatality reduction was the primary motivation for policy testing, the commitment to MG Riley was to capture management challenges and weigh end benefits of implementing life jacket policies on agency-managed waters. In final, the discussion group identified several measurements to track throughout the test:

- Life jacket wear rates
- Recreation effects (loss of visitation, etc.)
- Budget and staffing implications
- Congressional, partners/stakeholders and general public reaction
- Recreation-related fatalities in areas with policies

When these measurements were shared with MG Riley, he asked that one additional consideration be included:

- Cost to the agency of not having a life jacket policy

Once measurements and basic test parameters were established, it was agreed by members of the Study PDT that no further action was required of them until field testing was completed; at that

point, they would regroup to review the findings and present final recommendations to Headquarters. While district and lake staffs truly managed their own field tests, national policy test oversight and upward reporting was managed by the National Operations Center for Water Safety (NOC). Headquarters leadership was kept informed through annual in-progress-review briefings and/or white paper updates (sample in Appendix F).

Following the end of the first policy implementation year, MG Riley, who had promoted to Deputy Chief of Engineers, was provided an IPR briefing at his request; a similar IPR was provided for MG Merdith "Bo" Temple, who as in the position of Deputy Commanding General for Civil Works and Emergency Management. During this briefing, impressed by the 70% wear rates documented on the Vicksburg lakes (with no citations written), MG Riley directed the NOC to expand the test to include one or more districts and attempt to include a river system in the test to provide comparative data on the differences between compliance on lakes that Corps solely manages versus rivers that tend to have multi-jurisdiction management.

When asked to participate, Sacramento District Operations leadership agreed but requested to limit testing to Pine Flat Lake only; available staff and recreational boating levels at this lake were determined to provide their best options. JSI Research and Training, Inc. began gathering baseline wear rate observations late in the recreation season of 2010, and policy was implemented 1 April 2011.

Portland District tentatively agreed to consider inclusion of reservoirs they manage along the lower Columbia River (John Day, The Dalles, and Bonneville Lock and Dam Projects). However, prior to commitment, district leadership requested time for additional review and internal discussions with district and project managers. After several months of consideration, on 26 October 2010, Portland District provided a thoroughly-written position paper (Appendix E), identifying the pro's-and-con's of testing policy along these reservoirs. They based their final decision to *not* participate in the national study on identified challenges that would make policy implementation difficult and unsuccessful in their region. Their greatest concerns included:

- Area of enforcement versus available resources.
- Number & locations of river access sites versus ability to inform users and post the restriction.
- Needed supplemental resources for study participation versus significant cuts to the recreation budget slated for FY12 and CE-CW specifically stating that no additional funding or staffing allocations would be provided to support this effort.
- Limited number of adequately trained rangers versus the need for competent river patrol.
- Corps rangers as the sole enforcers of this Title 36 regulation versus the number of enforcement jurisdictions on the Columbia River.

IV. POLICIES

Later in this report, expanded information is provided about each participating district and policy tests. Comparatively though, each district opted to test life jacket policies that specifically address public fatality issues of their area; unfortunately this resulted in three sets of test policies. In hindsight, it may have been more beneficial for test purposes to have the exact set of policies in all areas, simply to have a greater grasp on whether certain triggers caused the results received. For example, it remains unclear now at test-end whether Pine Flat Lake's policies would have been less controversial to their boating group if they had tested the identical policies applied at the Mississippi Lakes Project or whether conversely, Pine Flat Lake's policies would have created the same level of public pushback in Mississippi.

USACE Study Lakes

Region	Test Lakes	Control Lakes
Pittsburgh Test	Youghiogheny River Lake Shenango River Lake (All Western PA)	Berlin Lake (OH) Tygart Lake (WV)
Vicksburg Test	Grenada Lake Enid Lake Arkabutla Lake Sardis Lake (Mississippi)	Ross R. Barnett Reservoir Bay Springs Lake (Mississippi)
Sacramento Test	Pine Flat Lake (Central CA)	Millerton Lake (Central CA)

Policies by USACE Test Region

Site	Non-motorized	Boats Less than 16 feet	Boats 16-26 feet	Boats greater than 26 feet	Swimming
Pittsburgh District	Less than 16 feet	At all times	No policy	No policy	Non-swimmers
Vicksburg District	At all times regardless of size	At all times	When under main propulsion	No policy	When outside designated area
Sacramento District (Pine Flat Lake)	At all times regardless of size	At all times	When under main propulsion (with exception)	When under main propulsion (with exception)	When 100' from shore (CA law)

Pittsburgh District opted to make no changes to their life jacket policy adopted in 1990, which required life jackets be worn by occupants of vessels – motorized or not - under 16 feet. They held to this decision even after the 2008 baseline and 2009 "test year" wear rate observations reported their wear rates for vessels affected by the policy hovered around 14%, and at only 3% of all boaters on their test waters.

The Mississippi Lakes Project's policies were the most consistent in gaining compliance, with wear rates staying in the 70% or higher range throughout the three test years. Wayne Stogsdill, the operations project manager for the Mississippi Lakes Project, explained that the rules they set closely matched those of B.A.S.S.-sponsored fishing tournaments common in their part of the country. Popular events, the fishing tournament rules were already familiar with the boaters who typically recreated on one or more of the four Mississippi test lakes. However, the posted restrictions and knowledge of the life jacket regulations seemed to motivate those who would not generally wear a life jacket when not participating in a tournament; the difference measured by wear rates measured at the nearby control lakes.

Notably, Pine Flat Lake's test included vessels of all lengths, under certain operating conditions. Given that Pine Flat Lake typically attracts a large number of vessels such as cabin cruisers and houseboats, some of the protest against the policy test in Sacramento District may have been

resulted from inclusion of watercraft greater than 26 feet in length. Many boaters feel strongly that larger craft, which are inherently more stable plus have additional safety features such as higher gunwales, do not present the same level of risk as most smallcraft or paddlecraft. Also, word-of-mouth information shared among boaters led many to believe that the large craft policies applied at all times, rather than when operating under main propulsion; for example, houseboat owners complained about having to sleep in a life jacket, not realizing that the policy did not apply when inside a cabin.

When setting life jacket wear policies, all three sites included a life jacket regulation applicable to swimmers, primarily due to the fact that swimming accounted for nearly half of public recreation fatalities in each of their regions. In Pittsburgh District, the policy adopted in 1990, along with the boating policy, applies only to "non-swimmers"; on the Mississippi Lakes Project, swimmers outside of designated swim beaches were required to wear life jackets; and at Pine Flat Lake, where there are no designated swim beaches due to heavy lake fluctuations, life jackets were required for swimmers 100 feet from shore. All three test regions reported that the swimming regulations were by far the most difficult to enforce.

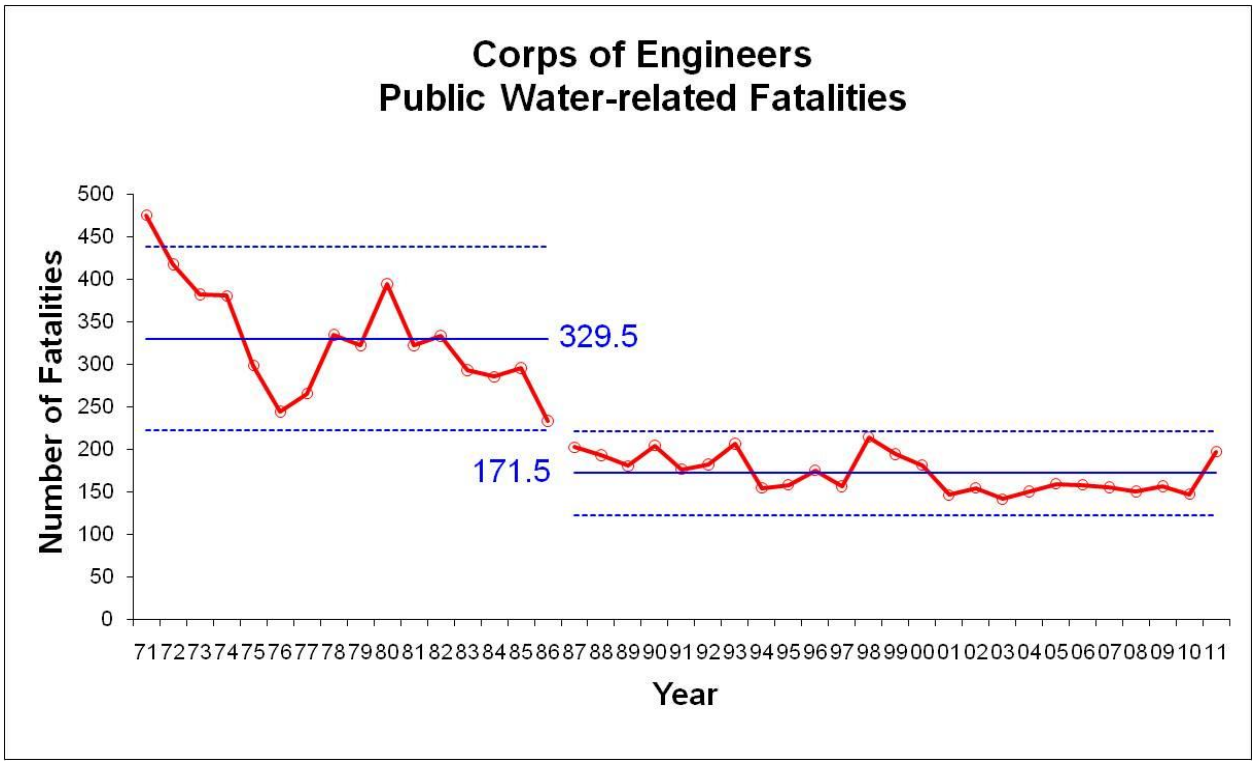
Related Policies in Other Agencies

Several actions have been taken since the Corps began its study on life jacket policy. It should be noted that the Corps is not the first agency to consider life jacket policy as a means of reducing public fatalities; U.S. Coast Guard (USCG) adopted a life jacket policy for children under the age of 13 in 2002, a move that resulted in the majority of the U.S. states adopting related state laws. The subject Final Rule was published in the Federal Register on February 27, 2002 [67 FR 8881], and became effective on March 29, 2002. It requires that children aboard recreational vessels wear personal flotation devices (PFDs), or lifejackets. The Federal requirement applies to children under 13 years of age, except when they are below decks or in an enclosed structure. However, the Federal requirement adopts the applicable age of children set by a State statute within that State/Territory/District even when it was a lesser requirement. Also, states not having their own law had to abide by the Federal law. In recent years, New York passed a law that requires life jackets be worn by adult boaters as well, during in winter months and additional states are considering adopting similar regulations. In 2010, USCG asked their National Boating Safety Advisory Council (NBSAC) if the USCG should pursue life jacket policies for adults. After much review and lively debate on the issue, the Council eventually proposed that USCG seek life jacket policies for vessels under 18 feet in length (Addendum H). Although gaining the NBSAC recommendation was an important step in the USCG consideration of policy, there is much work and lengthy, defined process to follow before a USCG regulation on adult life jacket wear becomes a reality.

Adult life jacket policy is also being seriously considered at state levels throughout the nation. A topic of discussion at numerous National Association of State Boating Law Administrators (NASBLA) gatherings, it is clear that not all State BLAs support regulations of this nature. Others who do support it have either experienced or anticipate difficulty getting regulations of this nature passed through their state legislation. NASBLA reports that their members are fairly split on the matter, but continue to participate in discussions and seek facts.

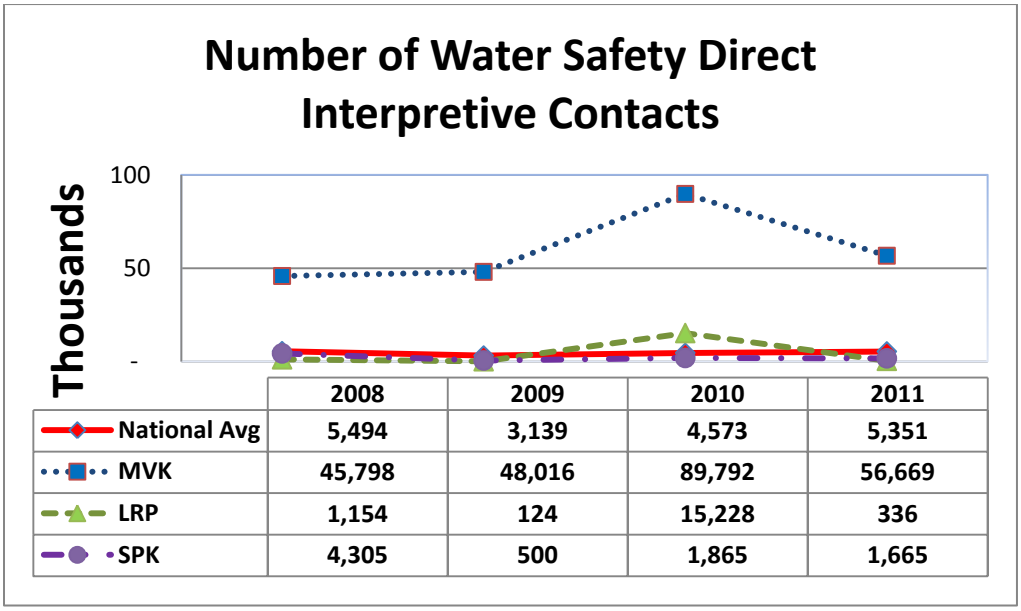
V. REGULATIONS VERSUS EDUCATION

It is clear that everyone desires to see fewer lives lost. Many support education as the answer, and in addition to considering life jacket regulations, a heavy push is underway to adopt mandatory boater education before life jacket wear laws. The Study PDT does not disagree with the fact that education can have a dramatic effect in fatality reduction, as demonstrated in the Corps' own statistics: since the earliest days of public recreation management, Corps has used education as its primary tool for fatality reduction, with great success.



While highly successful in bringing numbers of fatalities down from nearly 500 in the early 1970's to an average 150/year in most recent times, the fact is that the 150/year average has held steady over the past decade. Considering that educational outreach for water safety is at an all-time high, it is unclear if education alone is enough. MG Riley took note in 2007 that greater than 90% of public fatality victims were not wearing a life jacket when they drowned. That trend continues today.

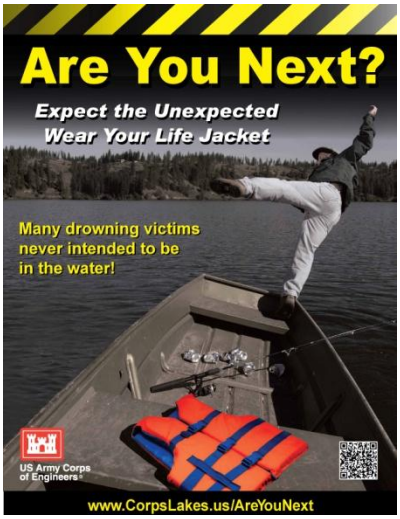
It was important to the process that all three test regions continued their educational outreach throughout the course of the life jacket policy test. Not only did this allow the park rangers at the project to deliver water safety and other key recreation safety messages, it allowed opportunity to educate members of the public on policy test as well as the importance of life jackets in general. In 2010, direct interpretive contacts took a dramatic spike, particularly in Vicksburg District, but this can be related to a national partnership the NOC secured with Collaborative Summer Reading Libraries, a nationwide effort linking Corps park rangers and others into programming at community libraries in 48 states.



	2008	2009	2010	2011
National Avg	5,494	3,139	4,573	5,351
MVK	45,798	48,016	89,792	56,669
LRP	1,154	124	15,228	336
SPK	4,305	500	1,865	1,665

Over the course of 10 years, USCG Voluntary Life Jacket Study has disclosed that on average, only about 8% of adult boaters actually wear a life jacket when boating. In discussions with boaters using Corps-managed waters, park rangers have learned that perception of risk while riding in a boat is low; most boaters have no intentions of entering the water and advise that "if something happens" they have life jackets on board. Without the experience of sudden immersion, there is little comprehension of the challenges they'll face should it happens. While some survive with ease, our statistics confirm that many do not.

It should be noted that traditionally, much of Corps water safety outreach has been targeted towards children; many park rangers theorize that educating youth is a proactive way of instilling strong safety values in future adults. Also, research has determined that educating the "influencers" (spouses and children) in an individual's life, positive changes can result in an adult's behavior. This approach benefitted the Corps immensely when first adopted in the mid-1980's, and statistics now show drownings involving children have declined dramatically over the years. Today, however, our trend data discloses that our greatest at-risk visitors are older adolescent and young adult males, ages 18-35; in 2011, 44% fell into this category. Unfortunately, this is the most difficult group for our park rangers to reach with key water safety messages. One traditional method of educational outreach – handing out printed publications – is no longer an effective tool, as this age group now seeks and receives their information online, from their smart phones and via social media. The NOC recognizes all of these facts, but is challenged by field educators' continued demands for youth-oriented materials, such as stickers and coloring books. Annual product development managed by the NOC is based on field requests and the Water Safety Product Advisory PDT. The current national team is focusing heavily on educational materials and methods that will be more effective in reaching the target age group. The current campaign theme is "Are You Next?"



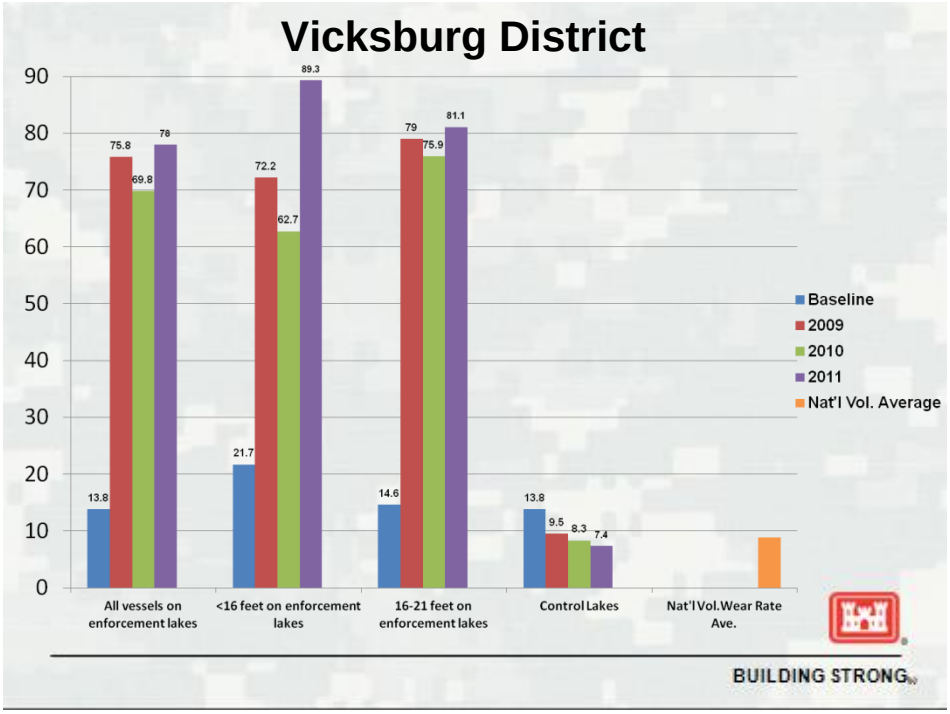
For the purposes of the test, all participating regions were monitored for educational outreach made through both direct and indirect contacts. Comparatively among the three regions, Vicksburg's level of outreach far exceed that of the other two districts, likely due to the fact that they maintained a greater number of park rangers on staff, some of whom were assigned duties specifically related to water safety outreach. Pittsburgh District sought to work large scale events, such as the Pittsburgh Pirates ballgame, where a high number of contacts could be made with no additional effort. Pine Flat utilized a Student Conservation Association (SCA) water safety intern whose only job was to assist project park rangers with public water safety education.

VI. RESULTS

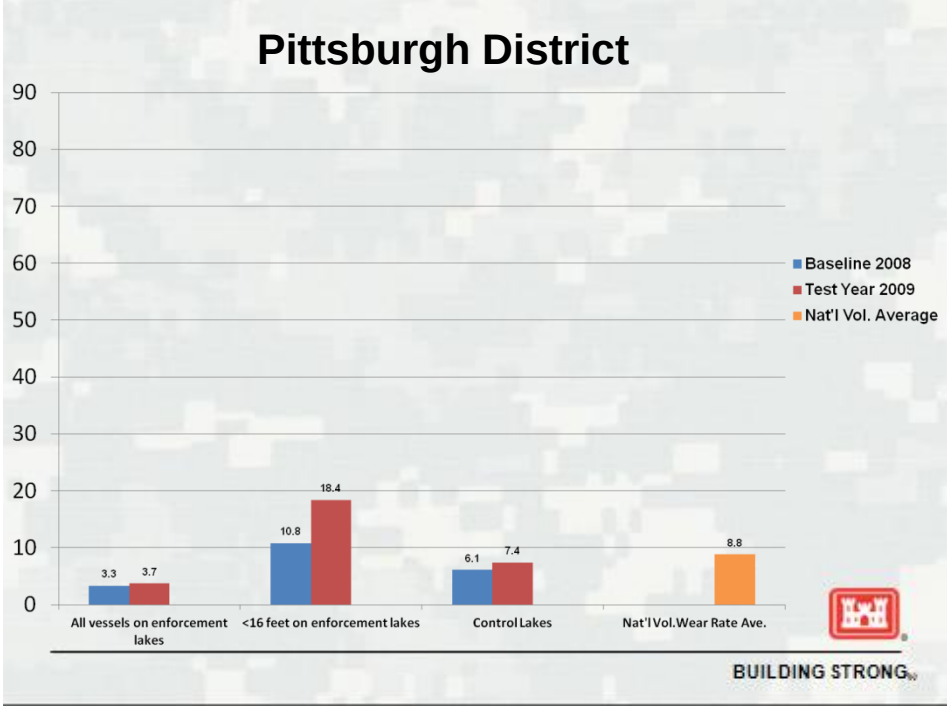
It is difficult to declare the overall policy test under this study as highly successful. Three test regions brought three very different set of results. A summary of the measurements from all regions is provided below, and further discussed in each of the individual summaries that follow in this report:

Wear rates

The Study PDT concluded that the greatest success of policy implementation under the study occurred in Vicksburg District; wear rates over the course of the three-year policy test not only registered high, the levels of compliance held consistent in the 70% percentile during the primary months of the recreation season. Staff reports show that man hours and boat patrols did not change significantly, and project staff messaging changed from solely educational to a combination of educational and enforcement. Fatalities reduced by 75% (from four in the baseline year to only one in each of the test years). Vicksburg District Commander Colonel Jeffrey Eckstein was so pleased with the test outcome that he recently directed to adopt the very same policies indefinitely for the Mississippi Lakes Project. It must be recognized that Vicksburg District and the Mississippi Lakes Project were better staffed and equipped to work the initiative in their region and did not experience implementation controversy from the public.

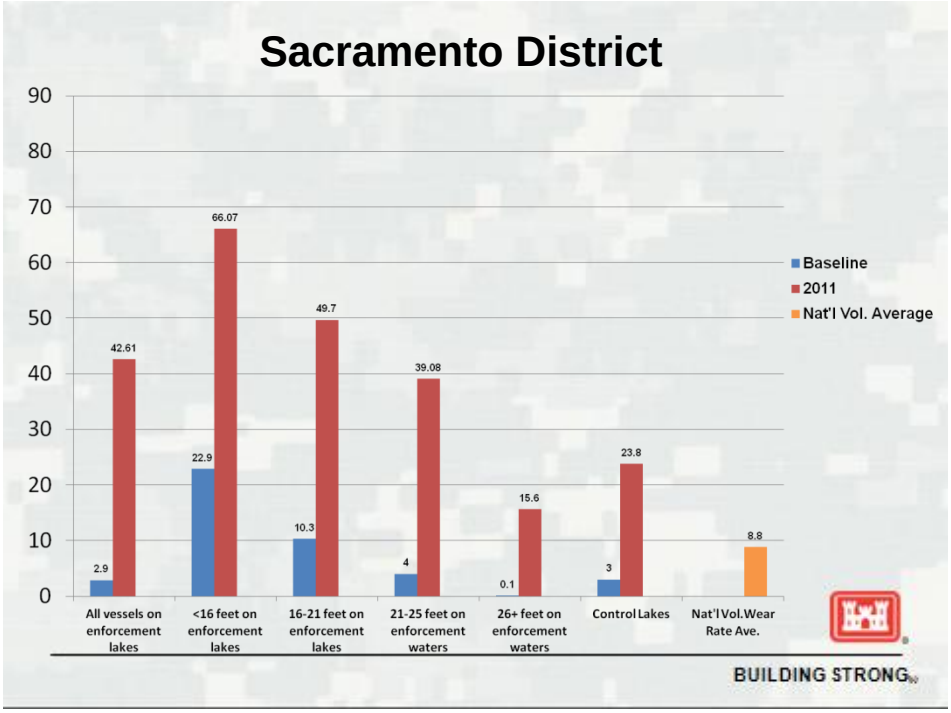


Pittsburgh District, on the other hand, showed surprisingly low wear rates among boaters on waters they manage where life jacket policy has been in place since 1990; even more surprising considering the policy is enforceable by both Corps and state officers. Wear rates in the regulated group of motorized vessels less than 16 feet in length did increase from the baseline of 7.3% in 2008 to less than 20% in 2009, but when Pittsburgh District management refused to make changes to established policy and/or enforcement effort, U.S. Coast Guard opted to end the wear rate study on Pittsburgh Lakes. Funding from Corps sources to continue wear observations in the District was not available and wear rate statistics from subsequent years of the study are not available from that region. After reviewing the information available, the Study PDT could come to no other conclusion but that the policy in this region had become ineffective, most likely from inconsistent or minimal enforcement activity by law enforcement. The outcome of this region's study offers a very clear example of what can happen when a policy is allowed to go stale and truly illustrates the non-compliance that can occur if not worked diligently.



The most challenged among the test areas was by far Pine Flat Lake in Sacramento District where managers were met with a number of complaints from local residents, recreation groups, lake concessionaires and general members of the public. Most interesting is the fact that a significant number of public comments came from boaters from far outside the Pine Flat Lake region, due largely from efforts of manufacturer and marina operators groups and boating organizations. While many of the written and voiced complaints expressed concern over federal government interference with personal choices, others addressed fears that life jacket policies

would give the appearance that recreational boating is unsafe, and that if perceived that way by the public, could impact boating sales and the associated industries in the long run.
Despite the controversy, public compliance with the posted restrictions was high early in the recreation season, reaching nearly 88% wear rates in the high visitation month of June. By season's end, as fewer smallcraft were present on the water and larger vessels such as cabin cruisers and houseboats accounted for most of the lake's boating, over all policy compliance fell. This was not especially surprising, as owners in this group were most resistant to the policy applied to large craft. Additionally, local business staffs were incorrectly advising visitors that the policy test had ended, which may have led to reduced compliance.



Recreation effects

Despite much speculation from industry and concessionaires, implementing life jacket policy on Corps waters did not result in tremendous loss of recreation use of the lakes, nor did it seem to impact local commerce. Other effects felt in the regions did a lot more to impact recreation, such as unusual and often extreme weather conditions, high water, economic impacts (i.e., gas prices, more families taking "stay-cations", city pool closings) , and large community events. While the Corps lakes had some visitation fluctuation, it was mimicked at non-test lakes of the regions.

Annual Visitation During Study at Test Projects				
FISCAL YEAR	2008	2009	2010	2011
National Total	357,066,721	369,509,157	364,789,063	317,005,782
Arkabutla	958,210	965,005	1,049,722	903,666
Enid	649,029	768,690	731,182	671,502
Grenada	1,966,496	1,994,428	1,995,276	1,978,944
Sardis	2,007,017	1,536,706	1,469,932	1,329,209
MVK- MS Lakes	5,580,752	5,264,829	5,246,112	4,883,321
MVK all projects	9,501,219	9,426,648	9,164,955	8,888,117
SPK- Pine Flat	345,873	395,626	415,204	420,305
SPK total	2,159,428	2,357,535	1,025,424	2,294,968
Shenango	448,388	531,487	584,728	459,785
Youghiogheny	483,205	493,654	451,471	449,622
LRP test projects	931,593	1,025,141	1,036,199	909,407
LRP total	5,908,395	5,784,401	5,814,486	5,549,945

Management Impacts/Benefits

All regions reported that they did little to change their day-to-day operations while implementing the policies and all treated the posted restrictions as routine visitor assistance regulations applicable in their management areas. Pittsburgh and Sacramento Districts, both who had smaller staffs and therefore conducted fewer patrols to enforce the regulations, were not as successful in maintaining consistently high wear rate percentages. It should be noted, however, that Pine Flat Lake achieved remarkable early season wear rates, their numbers only declining as the season progressed. It is surmised that as word got out in the area that park rangers were not being aggressive in enforcing the policy, and merely issuing warnings for first time offenses, boaters were less apt to comply. Boaters would don their life jackets if they saw park rangers patrolling the lake, but when the patrol boat was docked and park rangers were not in sight, they did not always comply with the policy. Other factors may have contributed to the end-of-the-season decline in wear rates, including extreme heat, misinformation from local businesses, and the inability of the Sheriff's department to enforce the regulation. Lake Manager Tom Ehrke personally was challenged by an onslaught of public calls and emails, as well as negative news articles and Congressional letters and contacts. While Pine Flat Lake's park ranger staff and other resources may not have been impacted, Manager Ehrke's exceptional efforts to follow-up on all complaints or questions about the policy test or new regulations on the lake did cause disruption to his normal project operations.

Despite some challenges, the benefits during the policy test were valuable; fewer lives were lost in any of the test areas throughout the test. It should be noted that none of these districts historically registered high numbers of drownings or other water-related deaths, but throughout the test, for the most part, no fatalities occurred in the test areas. Additionally, Vicksburg

documented several testimonials where near-drowning victims attested that had it not been for the life jacket requirement, they would have not survived. (See Vicksburg summary.)

Each of the three test districts reported that they did not add new equipment and utilized boats and other project resources already available to their park ranger staffs. The only exception involved signage; the policies tested were new to both Vicksburg and Sacramento District, and each region had to purchase signs in order to adequately post their newest "posted restrictions". A summary of costs can be found in each region's summary. Pittsburgh District did not need to post new signage, except in cases where replacements were required as part of routine operations.

Cost to Agency of Not Having Policy

The final consideration that MG Riley asked the PDT to consider was what it was costing the agency to not have a policy. While this question lends itself to a dollar amount, the PDT was unable to provide such because of privacy information policies and undocumented costs. Instead, the PDT opted to identify the tangible and intangible "costs".

- Defense or settlement of tort claims or other law suits (protected information)
- Emotional costs on staff summoned to work public fatality incidents (untracked)
    - Rescue and retrieval efforts
    - Assistance to distraught family and/or friends at the scene
- Management challenges to maintain "safest" recreation environment (untracked)

PROS and CONS:

PROS:

- Life jackets save lives.

- Potential to save lives would be enhanced with Corps-implemented life jacket policy: Life jacket policies can successfully reduce boating-related public fatalities when resources (staff and equipment) are adequate to regularly enforce the policy.

- Life jacket policy can be successful when a communication plan is implemented that adequately addresses public, business owners, political and stakeholder concerns and minimizes negative or inaccurate public responses.

- Policies based on local conditions are the easiest to justify to the public. For example, if boating fatalities are high in the area or a recent incident in their area awakens public concern, compliance is more likely.

- Life jacket policy can be highly successful when complemented by public educational outreach.

- Policy would increase life jacket wear among high-risk boater groups. Currently, nearly 90% of all USACE water-related fatality victims were not wearing life jackets. US Coast Guard reports that eight out of ten boaters who drowned were using vessels less than 21 feet in length.

- Life jacket policy would support Corps efforts to reduce public recreation fatalities.

CONS:

- Boat length information is not readily available in USACE public fatality statistics; however, boating-related fatalities are only 33% of the total USACE water-related fatalities, therefore a life jacket mandate policy applied only to boaters does not address the problem of swimmers drowning.

- Life jacket policies would require active enforcement initially to gain desired results. Corps projects do not all currently have the appropriate levels of resources to meet this requirement. Limited staffs and budgets in some districts could result in inconsistent enforcement of policy and initial start-up costs for signage, equipment and other resources would create an undue burden on project budgets.

- Corps lakes, rivers and waterways differ greatly. While establishing a new Corps life jacket policy may mesh well with routine operations in some areas, others would be severely taxed to adequately prepare and enforce. Challenges such as multiple jurisdictions, access points, public and political pushback can hamper effective implementation.

- Corps-wide adoption of policy may temporarily result in some loss of recreation.

- Nearly half of annual Corps public fatalities involved swimming activities. Life jacket policies work most effectively when applied to vessels; swimming life jacket policies are difficult to enforce.

- Under current budget planning, recreation business line faces budget reductions in the next few fiscal year cycles. Historically, these types of budget cuts in the recreation business line have resulted in staff cuts that specifically have affected park ranger boat patrols and water safety educational outreach.

- Current public sentiment opposes Government-imposed controls and/or regulations of any type, as demonstrated by “Tea Party” politics and “Occupy Wall Street” demonstrations.

- The US Coast Guard is recognized by most as the leader in establishing federal boating regulations and when they initiate new federal laws, the states usually follow in compliance or risk the loss of federal support.

- The state and local agencies that conduct boat patrol and enforcement on our waters would not be able to enforce USACE regulations unless they adopt similar rules. In a survey conducted for the Life Jacket Mandatory Study Interim Report (Appendix A), district staffs reported that on average 77% of patrol hours during the recreation season were conducted by other agencies and only 23% by Corps park rangers.

- Corps projects that have high public use visitation on land may see an increase in problems in those areas if they redirect their visitor assistance to focus on regulation enforcement for water-based recreation.

- Some Corps projects have not had complete support of US Magistrates and US Attorneys in enforcing our regulations due to other case load priorities. Regulations under Title 36, part 327.12a (posted restrictions) may be perceived by some of them as not worth their time. Once someone has their case dropped, word travels fast that our tickets mean nothing.

VII. RECOMMENDATIONS

The Study PDT carefully reviewed and considered without bias all findings collected during the Life Jacket Policy Study. Based on review and discussion, the team offers the following recommendations and basis of their determinations:

- The PDT recommends that no additional regulation be added to Title 36, CFR 327, that would require life jackets be worn while recreating on all Corps-managed waters at this time. Current authority under 327.12(a) allows for District Commanders to set life jacket requirement policies under what is referred to as "local posted restrictions authority."
    - Many Corps areas are patrolled by other than agency personnel who would not necessarily be able to enforce Corps policy; this combined with staffing concerns in some Corps regions could result in inconsistent enforcement and greater confusion to the public.
    - Most evident of all findings was that, while life jacket policy can be an effective tool for increasing survival rates on Corps waters, the policy rapidly loses its value if not regularly and aggressively enforced.
- The PDT recommends that the Corps collaborate with the U.S. Coast Guard, working "selective expansion" of policy, to include wear rate observations to assess implementation effectiveness. Policy should be heavily considered in districts where boating fatality rates run significantly high.
    - This Life Jacket Policy Study evaluated management challenges and benefits. Although fatality reduction was the overriding goal of the effort, testing did not provide adequate proof that end results would be measureable fatality reduction.

    - Several Corps districts annually register significant numbers of boating fatalities. District commanders should be encouraged to seriously consider some type of life jacket policy that addresses problems of their region.
- The PDT recommends that field water safety education focus on the greatest "at risk" age/gender group: the older adolescent and adult males.
- The PDT recommends further expansion of the Corps' Life Jacket Loaner Program. (Guidelines – Appendix G)

APPENDIX A

LIFE JACKET MANDATE STUDY

INTERIM REPORT

US Army Corps of Engineers®

Life Jacket Mandate Study Interim Report

2 May 2008

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I. INTRODUCTION. A Life Jacket Mandate Study was initiated at the request of USACE Director of Civil Works, MG Don Riley, in April 2007, to analyze the impacts and benefits of establishing a Federal regulation under Title 36, CFR 327 that would require members of the public to wear a life jacket while recreating on Corps waters. The study, led by the HQUSACE National Operation Center for Water Safety, was conducted in-house by a product delivery team (PDT) comprised of a variety of recreation and safety managers from Corps headquarters, division, district and lake staffs. The PDT used data collected from a district questionnaire, an employee survey on the Corps NRM Gateway web site, interagency discussions and written comments, fatality and accident report statistics, general comments from field leadership, and self-analysis of current national educational materials and programming, to determine their final recommendations for MG Riley.

On 28 February 2008, the PDT briefed MG Riley with their findings. Based on information gathered from district and field offices as well as U.S. Coast Guard, state agencies and other non-Corps partners, the PDT's recommendation was to not change Title 36 to establish a regulation requiring life jacket wear on Corps waters at this time. The PDT recommended that the Corps continue to support U.S. Coast Guard's life jacket wear initiatives and to aggressively pursue voluntary wear of life jackets through targeted public education actions, life jacket loaner programs and increased partnerships. MG Riley decided to defer his decision on establishing a policy until additional information can be gathered. Specifically, he requested that the PDT identify districts willing to conduct a field test exercise in which the life jacket wear requirement is applied and monitored for effectiveness. This is the interim report of the PDT findings prior to the initiation of a field test.

II. BACKGROUND. The US Army Corps of Engineers is the Nation's largest provider of outdoor recreation, operating more than 2,500 recreation areas at 456 projects (mostly lakes) in 43 states and leasing an additional 1,800 sites to State or local park and recreation authorities or private interests. The Corps hosts nearly 372 million visits a year at its lakes, beaches and other areas, and estimates that 25 million Americans (one in ten) visit a Corps project at least once a year.
The US Army Corps of Engineers is the steward of the 12 million acres of lands and waters at Corps water resources projects. Our rangers and park staff are the stewards serving and supporting our visitors and the nation. Since the vast majority of our recreation areas are located next to water, the Corps, in partnership with other agencies, is active in the National Water Safety Program. From 1998 through 2007, the Corps recorded 1,641 accidental and unintentional deaths resulting from activities around or near bodies of Corps managed waters. Statistical records on Corps of Engineer facilities indicate that 92% of the water-related fatalities involved persons who were not wearing a PFD.

III. STUDY PROCESS. The initial phase of the study consisted of two internal questionnaires designed to gather opinions regarding critical information needed to assist the PDT in formulating a recommendation. A district questionnaire was distributed in September 2007 to 34 district points of contact (POCs). Their responses were consolidated and placed on the Natural Resource Management (NRM) Gateway web site at "http://corpslakes.usace.army.mil". It was suggested that those POC's informally contact state partners to ascertain a preliminary partner position.

A short 12-question version of the district survey was placed on the NRM Gateway for employees to anonymously share their opinions. The results of that survey are also posted on the NRM Gateway.

On 15-16 November 2007, the PDT met in HQ for internal discussions and to formally and initially meet with known partners for an open discussion concerning the study topic. A summary of that meeting report is in Section VIII of this report. Formal written comments regarding a life jacket mandate were solicited from partners at that meeting and via email following that meeting. The meeting report and written comments from states are available on the NRM Gateway.

MG Riley was briefed on the PDT findings on 28 February 2008. He decided to defer his decision on establishing a policy and requested that the PDT identify districts willing to conduct a field test exercise in which the life jacket wear requirement is applied and monitored for effectiveness. He also agreed to meet with the US Coast Guard to discuss their role in mandating life jacket wear. This launched the second phase of this study which is not part of this interim report.

IV. PDT INITIAL RECOMMENDATIONS.

A. The following PDT recommendations were not accepted by MG Riley in their entirety.

1. PDT recommends that no change be made to our current policy regarding life jacket wear on Corps waters.
2. PDT recommends that a letter be prepped for MG Riley's signature advising the US Coast Guard of the findings of our study. This letter will encourage the USCG to consider adopting a life jacket wear policy for adults that would have broader application than a policy set by the US Army Corps of Engineers.
3. PDT requests that the DCW concur with team's alternate recommendations that specifically address education outreach, partnerships and facility management. These recommendations include:

a. Educational outreach

(1) Refocus public education/awareness directed at targeted risk groups

(2) Revamp marketing strategy to develop key messages and actions for targeted audiences

(3) Further investigate brokering educational incentive products at the national level

b. Develop national life jacket loaner program policy and standards.

c. Expand partnerships for recreational safety.

V. STATISTICAL INFORMATION.

To approach this study, the PDT needed to fully understand the statistics and trends associated with drownings, not only from a Corps perspective, but from a National perspective. Statistical information from a National perspective was gathered from the Center for Disease Control, (CDC), United States Lifesaving Association (USLA), and the National Park Service.

In the CDC data, all drownings regardless of source or activity are recorded. This presents a frequency rate, based on population, which gives an understanding of the national scope of the issue. For example, this data includes home accidents (drownings in bathtubs; toilets; laundry tubs; swimming pools), occupational drowning and drowning as a result of water based recreational activity. While it is this last category (water-based recreational activity) that the Corps is most concerned with, little archival data was found that provides adequate detail to allow us to use this activity exclusively in our study approach. The following paragraphs provide summary data from different sources. While this data cannot be used as exact statistical comparisons, it provided the team with circumstantial data that allowed the study team to better evaluate the relative degree of success of the current Corps water safety program and water-based accident rates.

A. Center For Disease Control (CDC) – The CDC provides a national perspective for all deaths listed as caused by drowning. The following tables, charts and graphs provide trend data for drownings in all settings, recreational, industrial, etc. It helps us to understand trends and demographics relative to all national drownings.

10 Leading Causes of Unintentional Injury Deaths, United States, 2005, All Races, Both Sexes

	Age Groups										
Rank	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	All Ages
1	Unintentional Suffocation 748	Unintentional Drowning 493	Unintentional MV Traffic 560	Unintentional MV Traffic 763	Unintentional MV Traffic 10,657	Unintentional MV Traffic 7,047	Unintentional Poisoning 6,729	Unintentional Poisoning 6,983	Unintentional MV Traffic 4,287	Unintentional Fall 15,802	Unintentional MV Traffic 43,667
2	Unintentional MV Traffic 140	Unintentional MV Traffic 489	Unintentional Fire/burn 138	Unintentional Drowning 132	Unintentional Poisoning 2,484	Unintentional Poisoning 4,386	Unintentional MV Traffic 6,491	Unintentional MV Traffic 6,179	Unintentional Poisoning 2,007	Unintentional MV Traffic 7,048	Unintentional Poisoning 23,618
3	Unintentional Drowning 64	Unintentional Fire/burn 208	Unintentional Drowning 121	Unintentional Fire/burn 85	Unintentional Drowning 649	Unintentional Drowning 385	Unintentional Fall 607	Unintentional Fall 1,181	Unintentional Fall 1,451	Unintentional Unspecified 5,069	Unintentional Fall 19,656
4	Unintentional Fire/burn 36	Unintentional Pedestrian, Other 129	Unintentional Other Land Transport 47	Unintentional Other Land Transport 63	Unintentional Other Land Transport 298	Unintentional Fall 295	Unintentional Drowning 497	Unintentional Fire/burn 506	Unintentional Suffocation 509	Unintentional Suffocation 3,271	Unintentional Unspecified 6,551
5	Unintentional Unspecified 22	Unintentional Suffocation 126	Unintentional Suffocation 44	Unintentional Suffocation 59	Unintentional Fall 236	Unintentional Other Spec., classifiable 229	Unintentional Fire/burn 340	Unintentional Drowning 492	Unintentional Fire/burn 405	Unintentional Fire/burn 1,178	Unintentional Suffocation 5,900
6	Unintentional Poisoning 20	Unintentional Natural/ Environment 38	Unintentional Pedestrian, Other 25	Unintentional Firearm 37	Unintentional Firearm 203	Unintentional Fire/burn 228	Unintentional Suffocation 306	Unintentional Suffocation 466	Unintentional Natural/ Environment 376	Unintentional Natural/ Environment 1,069	Unintentional Drowning 3,582
7	Unintentional Fall 16	Unintentional Fall 34	Unintentional Natural/ Environment 17	Unintentional Poisoning 34	Unintentional Unspecified 198	Unintentional Other Land Transport 199	Unintentional Other Spec., classifiable 305	Unintentional Natural/ Environment 459	Unintentional Unspecified 369	Unintentional Poisoning 931	Unintentional Fire/burn 3,299
8	Unintentional Natural/ Environment 16	Unintentional Struck by or Against 31	Unintentional Poisoning 17	Unintentional Other Transport 32	Unintentional Suffocation 175	Unintentional Suffocation 196	Unintentional Other Land Transport 272	Unintentional Unspecified 388	Unintentional Drowning 266	Unintentional Other Spec., NECN 506	Unintentional Natural/ Environment 2,462
9	Unintentional Struck by or Against 9	Unintentional Other Land Transport 25	Three Tied 15	Unintentional Pedestrian, Other 22	Unintentional Fire/burn 171	Unintentional Unspecified 196	Unintentional Unspecified 259	Unintentional Other Spec., classifiable 365	Unintentional Other Spec., classifiable 219	Unintentional Drowning 465	Unintentional Other Land Transport 1,533
10	Two Tied 4	Unintentional Firearm 22	Three Tied 15	Three Tied 18	Unintentional Other Transport 138	Unintentional Other Transport 152	Unintentional Natural/ Environment 238	Unintentional Other Transport 235	Unintentional Other Transport 210	Unintentional Other Land Transport 263	Unintentional Other Spec., classifiable 1,479

WISQARSTM Produced By: Office of Statistics and Programming, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention Data Source: National Center for Health Statistics (NCHS), National Vital Statistics System

TABLE 1

Statistics from the 2005 CDC data indicate that drowning of all forms (recreation, domestic, occupational) is the #6 cause of unintentional injury death for all ages in the United States, as shown

in Table 1. Note that the trend indicates that drownings occur in the top three cause range within the age groups from less than age 1 through 34, then begin a steady decrease.

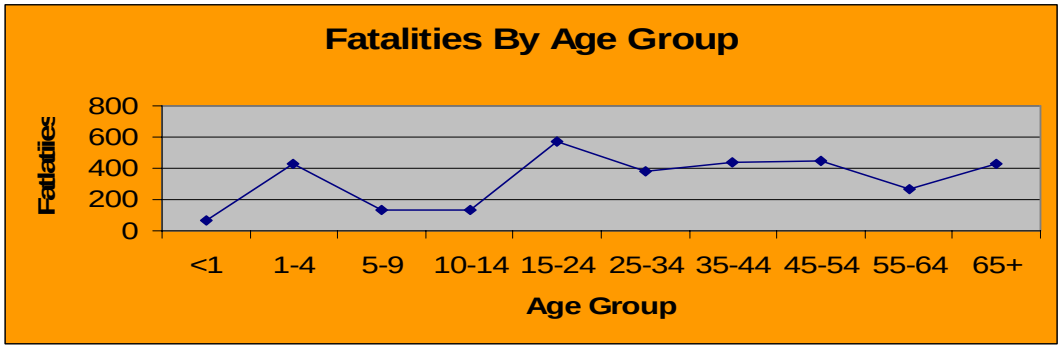

TABLE 2

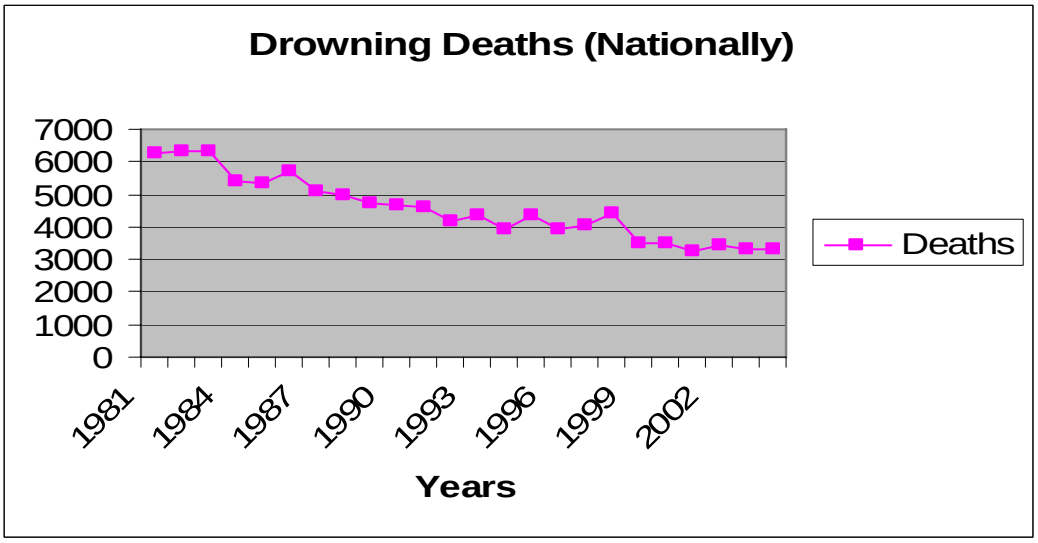

TABLE 3

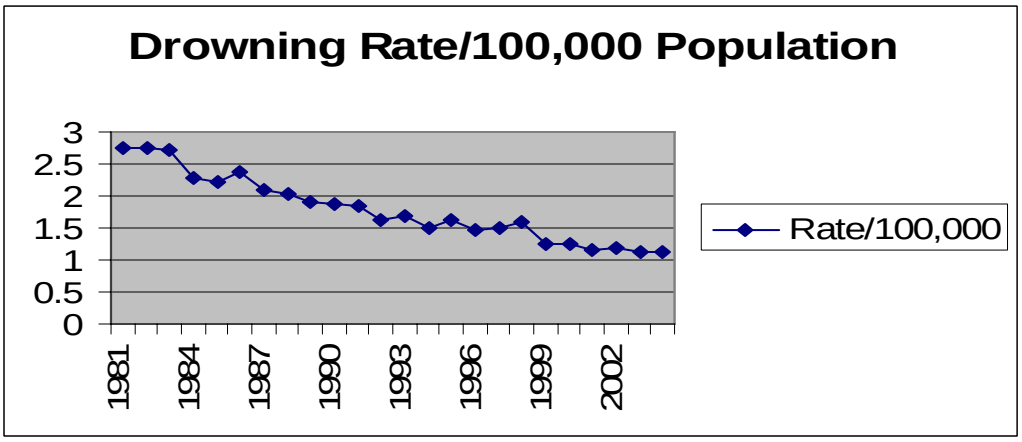

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TABLE 4

Over the course of record keeping, CDC has charted the trend in all drowning deaths as illustrated by Tables 2 through 4. Additionally, a one year snapshot of data for water-based recreational fatalities was found in a Center for Disease Control document. The document is titled "Non-fatal and Fatal Drownings in Recreational Water Settings" --- United States, 2001 – 2002.

B. Corps of Engineers Statistical Information. The Corps of Engineers archival information on public fatalities was somewhat fragmented and deemed unreliable prior to 1998. That was when the gathering and consolidation of ENG 3394s (United States Army Corps of Engineers Accident Investigation Reports) began at the National level to evaluate water-related fatalities. With the advent of the new reporting requirements associated with ENGLINK in 2005, Corps of Engineers public fatality statistics are considered to be more accurate. Unlike the Center for Disease Control however, the Corps groups their deaths as "recreation fatalities" or "water-related fatalities". For the purpose of this study, the PDT separated water-related fatalities from the overall recreation fatality category. Water-related fatalities from FY98-07 include drownings (86%), trauma deaths (9%) typically as a result of boat collisions, hypothermia (2%), medical (1%), carbon monoxide (1%) and unknown (1%). However, we only began tracking CO deaths in FY06 and we suspect there were more before it was identified as a problem.

Table 5 provides insight into the trends associated with recreation fatalities from 1972 to present. This illustrates a decrease in public fatalities since public safety educational efforts were introduced and a leveling out as educational efforts have remained steady. Also, since 1998 water-related fatalities have been categorized by activity type as shown by the colored bars.

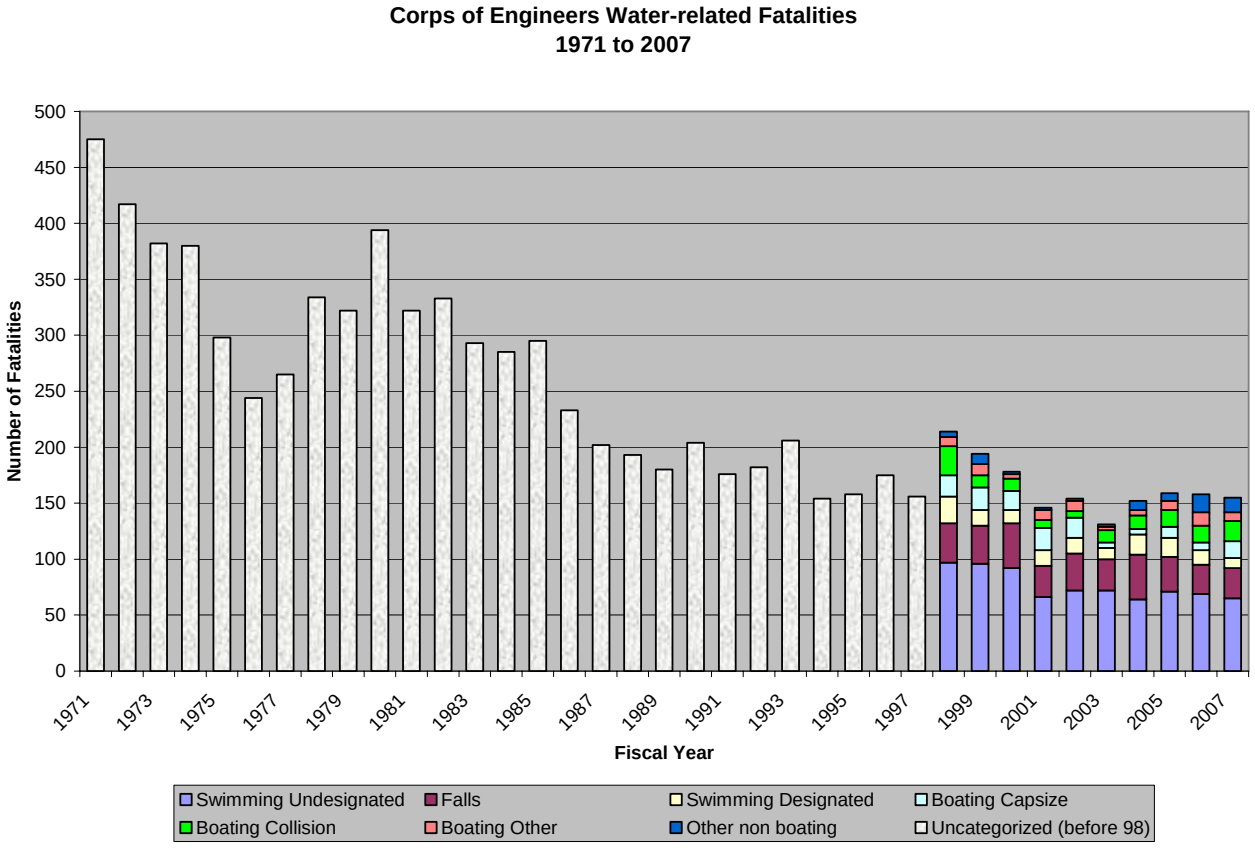


TABLE 5

Corps of Engineers
Public Water-related Fatality Activity Categories
By Number

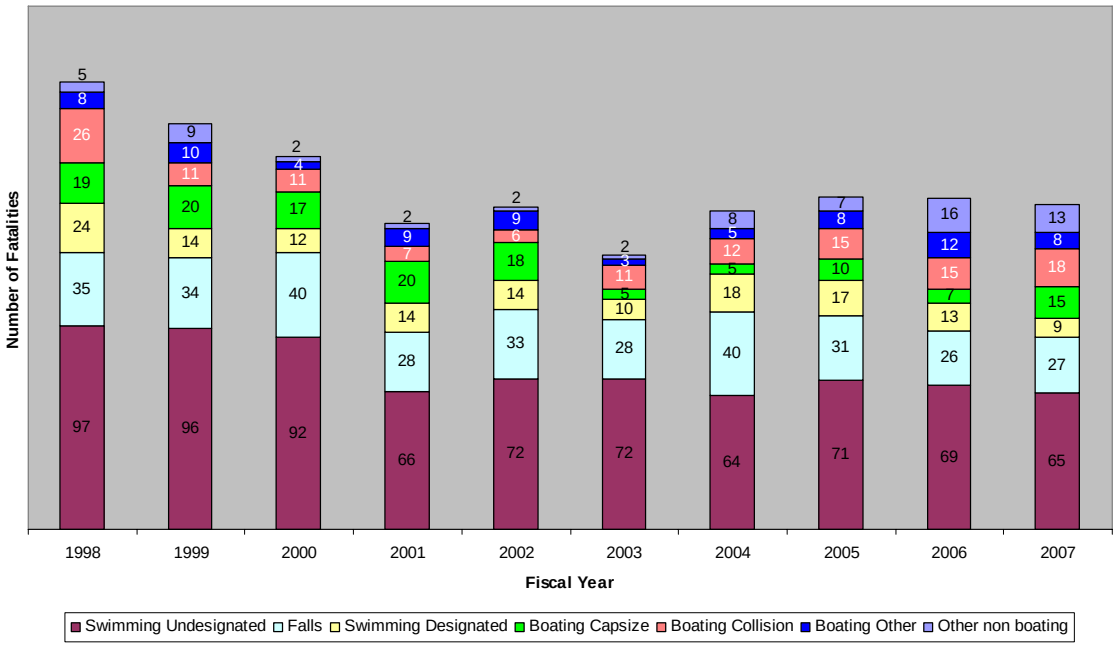
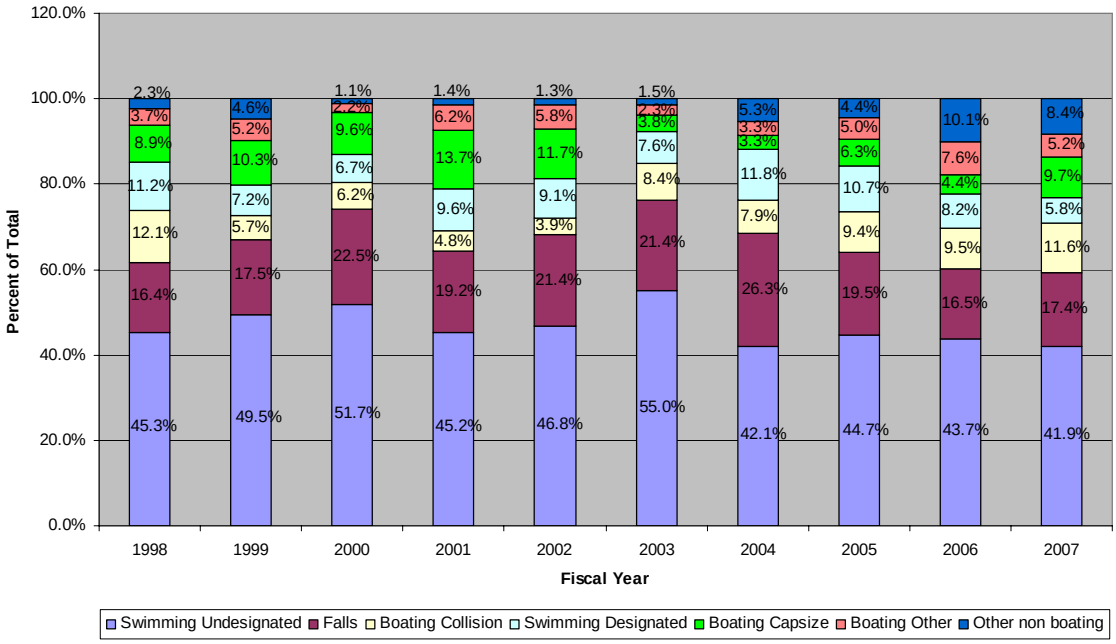


TABLE 6

Corps of Engineers
Public Water-related Fatality Activity Categories
By Percentage



` **TABLE 7**

Tables 6 and 7 illustrate the categories of activities visitors are engaged in that result in public recreation fatalities. When we combine all of the swimming in undesignated area fatalities, it makes up the highest risk activity category for the 10-year period showing an average of 46.6%. In most cases, these individuals were exceeding their swimming abilities. The second highest risk activity average at 19.6% are those who fall either from boats (12.5%) and other places i.e. docks, shoreline etc. (7.1%). The other activity category averages are 8.8% swimming in designated swimming areas, 8.3% capsizing usually due to weather or overloading and 8% collisions. Only 4.7% of all water-related fatality victims in the 10-year period were wearing a life jacket.

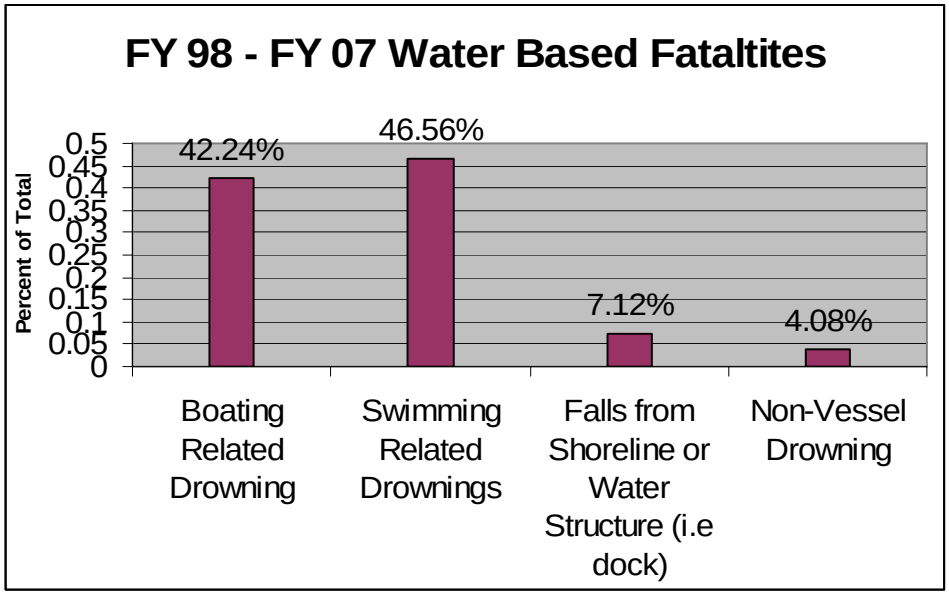


TABLE 8

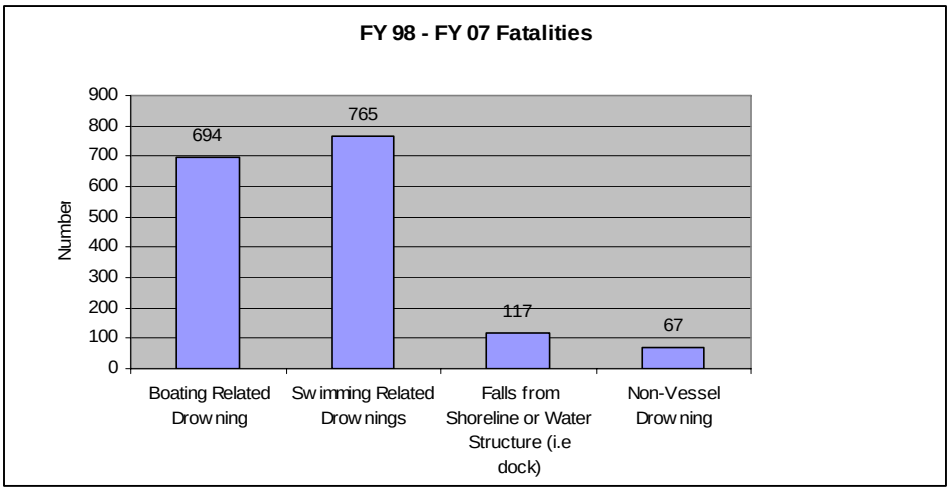


TABLE 9

The data indicates in Table 8 and 9 that over the course of the past 10 years fatalities have fallen into the following four (4) general groupings. A swimming-related fatality is when an individual intentionally enters the water. However, if they are swimming from a boat those are included in the

boating category in these tables. It should be noted that 113 or 16.28% of the boating-related fatalities in Table 8 and 9 were people swimming around a boat who intentionally entered the water.

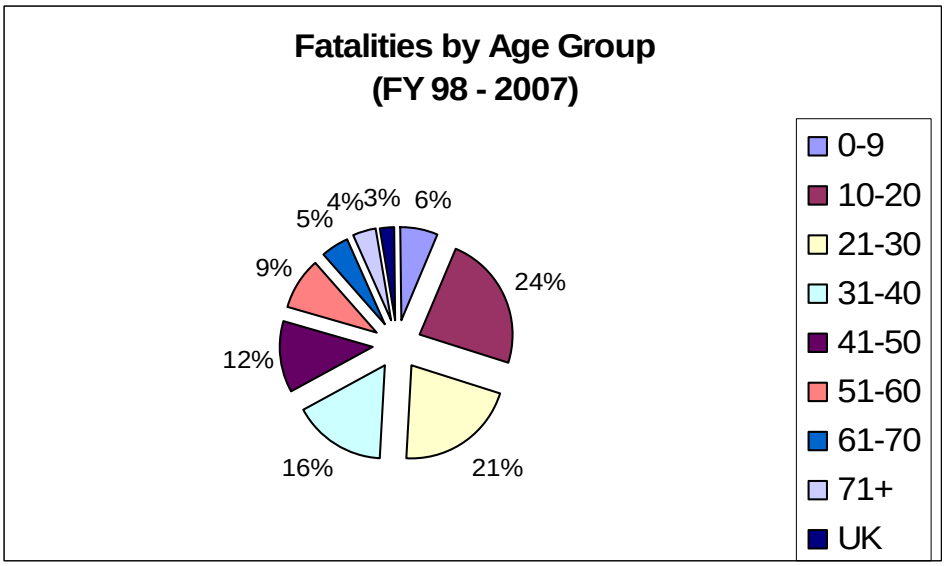


TABLE 10

Table 10 illustrates the ages of water-related fatality victims in 10-year periods from FY98-07. The majority (24%) are in the aged 10-20 range with 21% in the 21-30 year old age groups. However, if when we break this down into an 18-35 year old age group, it shows 38% is the highest risk age group.

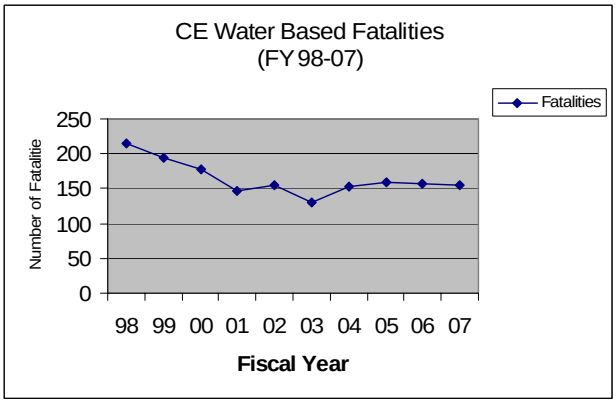


TABLE 11

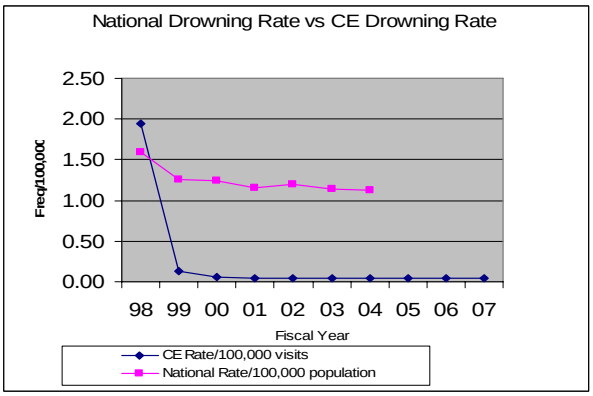


TABLE 12*

*Note: Table 12 - 1998 statistical trend inaccurate due to incomplete visitation data in OMBIL

There is no direct comparison in Tables 11 and 12 between the USACE water-related fatality experience and the national drowning rate since the USACE water-related fatality experience includes all water-related fatalities rather than exclusively drowning. However, drownings are 86% of all USACE water-related fatalities. Water-related fatalities on Corps of Engineers Water Resource Development Projects compositely average 4.71% of the nation's drowning deaths over the past 10 years. The much lower frequency rate experienced by the Corps lends some credence that our various water safety programs are having a positive impact.

C. US Lifesaving Association Statistics. Data was found for recreational beach fatalities as reported and compiled by the US Lifesaving Association. Their statistics are collected annually from America's beach lifeguard providers on a collaborative and volunteer basis. Normally, people recreating in the water or on the sand, and at adjacent picnic areas, parking lots, recreation concessions and bike paths are included in the beach visitation data. It does not include people that merely transit on bikes or in cars. The data provides a comparative 6 year trend based on annual population samples ranging from a low of 223.5 million persons to a high of 273.4 million persons.

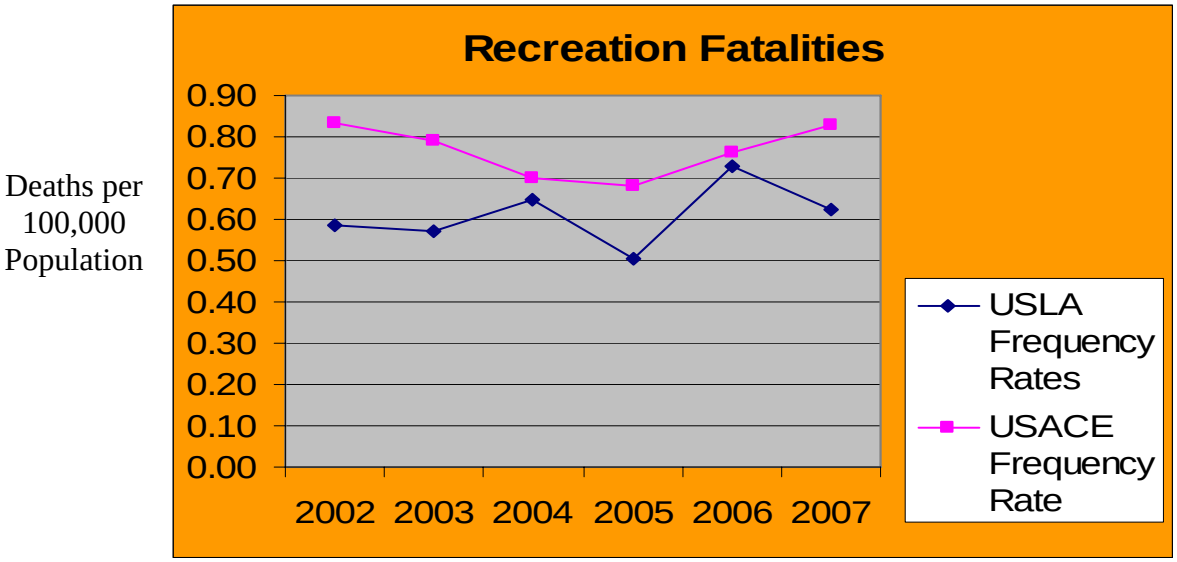


TABLE 13

Table 13 indicates the frequency rate of fatalities based on the number of fatalities per 100,000 populations according to the US Lifesaving Association and USACE data. It should be noted that USLA beach visitation is based on estimates by lifeguards without benefit of a positive methodology to determine actual visitation.

D. National Park Service Statistics. National Park Service data was obtained for the 2007 recreation season. The National Park Service and the Corps of Engineers both develop recreational fatality frequency rates using the same formula (# public recreating fatalities times 1,000,000 divided by visitor days.). The following chart provides a snapshot of comparative data between the USACE and NPS for the 2007 recreation season.

AGENCY	VISITOR DAYS (Millions)	FATALITIES	RATE
USACE	**211.4**	**175**	**.83**
NPS	**109**	**97**	**.95**

VI. PITTSBURGH DISTRICT (LRP) MANDATORY WEAR INITIATVE.

A. The Director of Civil Works asked the PDT to specifically look at a program that was implemented in the Pittsburgh District. The following events and timeline were determined.

May 1981 – May 1985. LRP implements District-wide alcohol ban. Began in 1981, the ban extended to all projects by 1985. Congressional elements were notified and were publicized through news releases. According to some staff, while the alcohol ban has not eliminated alcohol from the projects, recreation areas are no longer party destinations.

May 1990 – LRP establishes the requirement that Personal Flotation Devices (PFDs) must be worn by all people on all boats less than 16 ft in length, all canoes and all non-swimmers. The rulemaking took place under Title 36, Chapter III, Part 327, Rules and Regulations Governing Use of Water Resource Development Projects Administered by the Chief of Engineers, Section 12, Restrictions. Section a of this regulation indicates that …The District Commander may establish and post a schedule of visiting hours or restrictions on the public use of a project or portion of a project. The District Commander may close or restrict the use of a project or portion of a project when necessitated by reason of public health, public safety, maintenance, resource protection, or other reasons in the public interest. Entering or using a project in a manner which is contrary to the schedule of visiting hours, closures or restrictions is prohibited.

- May 8 1990 - PFD policy approved by LTC Roudabush, Pittsburgh District Engineer.
- May 11 1990 - Sixty-two (62) letters were mailed to Federal legislators & State boating law administrators.
- May 15 1990 - A District-wide press release was sent to all newspapers.
- Memorial Day 1990 - Signage installed at lake projects prior to holiday. Flyers and posters developed and distributed prior to the start of the summer recreating season.

By 1991, the regulation was in effect at 13 of the 16 district lakes. Overall, the regulation was accepted by the boating public. In 1991, there were several hundred verbal warnings, 223 written warnings, and 12 citations issued for violations of the new regulation.

In Pennsylvania, although the Boating Law Administrator expressed angst over the LRP Regulation, he did not ask for it to be rescinded. Note that a period of four years passed between the Pittsburgh District Rulemaking and the date of adoption of the rule for Pittsburgh District Lakes by the Pennsylvania Fish and Boat Commission (PF&BC). The adoption of the rule by the PF&BC coincided with the arrival of Mr. Peter Colangelo as the Executive Director for the Pennsylvania Fish and Boat Commission (PF&BC). Mr. Colangelo had served as the US Army Corps Chief of the Natural Resource Management Branch in the Pittsburgh District prior to his retirement from the Corps and subsequent employment by the PF&BC. The regulation currently applies only on Pittsburgh District Lakes in Pennsylvania. Lakes in Pennsylvania under the Philadelphia and Baltimore Districts are not covered by the special alcohol nor PFD requirements initiated by the Pittsburgh District. The enforcement of the regulations on the Pittsburgh District lakes is the responsibility of both the USACE park rangers and Pennsylvania Fish and Boat Commission Officers. Warning and Citations are issued by PF&BC officers under PA Fish and Boat Code, Section 5124.

Most state or local agencies cannot enforce Title 36, CFR. The Pennsylvania Fish and Boat Commission (PF&BC) is the primary boating enforcement agency for waters in Pennsylvania, to include waters managed or held in fee by the U.S. Army Corps of Engineers. As a result of the Pittsburgh District initiative, the PF&BC, adopted, under Pennsylvania Code the following to allow its officers to be consistent with Corps's rangers on the waterways in the Pittsburgh District. A sample portion of the regulation for the Corps Youghiogheny River Lake is shown below.

§ 111.26. Fayette County.

(a) Dunlap Creek Reservoir. The operation of boats powered by internal combustion motors is prohibited.

(b) Virgin Run Lake. The operation of boats powered by internal combustion motors is prohibited.

(c) Youghiogheny River Lake. Persons shall wear a Coast Guard approved personal flotation device at all times when on board boats less than 16 feet in length or any canoe or kayak.

Authority

The provisions of this § 111.26 amended under the Fish and Boat Code, 30 Pa.C.S. § 5124.

Source

The provisions of this § 111.26 adopted June 3, 1994, effective June 4, 1994, 24 Pa.B. 2795; amended March 9, 2001, effective March 10, 2001, 31 Pa.B. 1369. Immediately preceding text appears at serial page (227695).

B. General Comments Summarizing Pittsburgh District Mandatory PFD Program. No increase in staffing (temporary or permanent rangers) took place to accomplish the new 327.12.a requirement. A reduction in force (R.I.F.) in 2004 reduced staffing even further. Both the Pittsburgh District staff and officers of the PF&BC reported that violations of this restriction are rarely enforced. Tracking the effectiveness of this policy has been, and continues to be, a problem. While the program has not been "ineffective", there has not been sufficient tracking to quantify its success. Approximately 110 327.12a citations are issued each year. The majority (more than 50%) are issued for alcohol. Averages of three citations per year are issued for lack of PFD usage. Although the policy has been in place in LRP since 1990, a direct correlation to decreased fatalities is not clear.

VII. SIGNIFICANT FINDINGS OF THE SURVEYS SUMMARY.

A. In most cases the Corps of Engineers is not the primary enforcement agency on the waters that it manages. Either by statute or agreements state and other agencies provide primary enforcement capabilities on the water. Cooperative partners generally don't have the capacity to enforce Title 36 nor other Corps of Engineers restrictions under state or local statute or code. As such, the Corps of Engineers would implement any form of mandatory PFD wear without the enforcement cooperation of our partners until such time that state and local entities adopt similar codes for enforcement under their statutes.

It should also be noted that approximately 37% of Corps of Engineers owned water resource development projects have no rangers to provide enforcement of any aspects of Title 36. Additionally, at those projects where rangers do exist, 22% are staffed by only one ranger; 16% by 2 rangers; and 8% by 3 rangers. Only 16% of the Corps of Engineers projects listed have staffing of more than 3 personnel.

Under Title 36, rangers have no arrest authority, but have the authority to issue collateral forfeiture citations. Collateral forfeiture schedules (dollar value for each violation) are set by the Federal Magistrate in the applicable district serving that water resource development project. Federal Magistrates enjoy a great deal of latitude in their interpretation and/or enforcement of Title 36, especially under Section 12 Restrictions, and there are inconsistencies in how Title 36 is enforced by them. Should the Corps of Engineers develop a new restriction; the courts will ultimately determine the effectiveness of prosecution of violators under this rule.

B. Complete versions of all questionnaire results are available on the NRM Gateway. What follows is a summary of the primary concerns identified in those survey responses from district POCs and employees.

1. Enforcement

a.100% of the District POC responses said the Corps alone does not have adequate staffing to enforce a mandate under Title 36, 327.12a, posted restrictions. 80% of 1,193 employees surveyed said the same.

b. Corps average time of boat patrol during a busy week of the recreation season is 8-13 hours per week. Other agencies (i.e. States, Coast Guard, CG Auxiliary, local law enforcement) during same time period patrol an average of 28-34 hours per week. Patrols during non-recreation season drop to 2-3 hours per week for the Corps and 5-7 hours per week for other agencies.

c. In order to adequately enforce a new Corps regulation 55% said it would require an additional 20 or more hours per week of boat patrol and 21% stated it would require 15-20 more hours per week.

d. The types of program adjustments mentioned that would have to be made to accommodate an increase in boat patrol include reduced land-based patrols, reduced outreach/educational efforts, increase costs of equipment (boats) purchases, etc.

e. 93% felt that if adopted, the Corps should allow a minimum of 1-year transition or warning period. Several commented that it may take more time than that.

f. The majority of state agencies who patrol "Corps waters" do so under state laws, not Corps-issued agreements or contracts.

g. When we asked respondents if the public would comply with a posted life jacket requirement even if we didn't have adequate enforcement, all of the District POCs said no. Only 12% of employees surveyed said yes people would comply, and 23% said maybe people would.

2. US Coast Guard

a. The majority (97%) of District responses said it would be best if the USCG took the lead in this effort because states would likely follow or risk losing Federal funds.

b. On a scale of 1-10 with 1 being negative and 10 being positive impacts 68% of District POCs and 53% of employees rated in the more positive (6-10) range if the USCG adopted a life jacket wear requirement. 88% of District POCs and 69% of employees rated (1-5) negative impact if the Corps adopted this policy.

3. Economic Impacts-Local Businesses/Partners/Stakeholders/Leaders

a. 65% responded either yes or maybe we may see a negative impact on local businesses if we implemented a mandatory wear requirement

b. 71% anticipate negative impact on partnerships

c. Most anticipate that we may not have the support of Congress (69%), state legislatures (63%), or local politicians (59%)

4. Education and Outreach

a. 54% of projects reporting do not work with local water safety councils

b. 51% of field educational efforts are directed to elementary-aged children or younger, 23% middle school, 15% direct efforts towards high-school-aged. Only 11% direct their educational efforts to Young Adults (18-30) and 11% to Adults

c. Within current staffing and funding capabilities, the level of educational & outreach efforts were reported as average (29%), above average (47%), or maximized (15%)

5. Opinions. Table 14 shows that the majority (62%) of District Engineers and Operations Chiefs, and 34.49% of Safety Chiefs do not support a life jacket mandate. However, the majority (65.51%) of Safety Office Chiefs support a life jacket mandate in some form, but only 31% of District Engineers and Operations Chiefs do. The most common condition mentioned in support of the "yes with conditions" option was if the US Coast Guard took the lead.

District Engineers, Operations Chiefs, & Safety Chiefs support for implementation of a District regulation to Title 36, 327.12(a) that mandates life jacket wear?						
	# DE	**% DE**	**#OD**	**%OD**	**#SO**	**%SO**
Yes	**4**	**13.79%**	**4**	**13.79%**	**9**	**31.03%**
Yes with conditions	**5**	**17.24%**	**5**	**17.24%**	**10**	**34.48%**
Support Total	**9**	**31.03%**	**9**	**31.03%**	**19**	**65.51%**
No	**16**	**55.17%**	**17**	**58.62%**	**8**	**27.59%**
No with conditions	**2**	**6.90%**	**1**	**3.45%**	**2**	**6.90%**
Do Not Support Total	**18**	**62.07%**	**18**	**62.07%**	**10**	**34.49%**
Not sure	**2**	**6.90%**	**4**	**13.79%**	**1**	**3.45%**
Not applicable	**5**		**3**		**4**	

Table 14

VIII. PARTNER REACTION.

A. Those from outside the Corps of Engineers who attended the16 Nov 07 Interagency meeting to discuss this study proposal included Joseph Carro, US Coast Guard (USCG), Office of Boating Safety; Cindy Squares, National Marine Manufacturers Association (NMMA), Chief Counsel for Public Affairs; Matthew Long, National Association of State Boating Law Administrators (NASBLA), Director, Government Relations; Ruth Wood, National Safe Boating Council, Chair; Margaret Podlich, BoatUS; John Potts, US Coast Guard Auxiliary, Department Chief, Boating; Raphael Kozolchyk, Personal Watercraft Industry Association (PWIA); Gale Alls, US Power Squadron (USPS).

US Army Corps of Engineers attendees were Richard Wright, HQ Chief, Safety and Occupational Health; Jim Walker, HQ, Chief, Navigation; Steve Austin, Senior Policy Advisory for Park Ranger Activities; Karl Anderson, HQ Safety-Construction, Operations, and Training program manager; Lynda Nutt, Manager National Operations Center for Water Safety; Michael Tustin, Great Lakes and Ohio River Division (LRD), Safety Chief; Madeline Morgan, Chief, Safety, Ft. Worth District; Rachel Garren, Natural Resources Specialist, St. Louis District and Policy Advisor HQUSACE Water Safety Team; Charlie Burger, Deputy Chief, Operations, Ft. Worth District.

B. In summary, partners expressed appreciation for being brought into this discussion early in the process. All were very concerned about this initiative because of negative repercussions due to inconsistencies and enforcement issues. BoatUS requested more data and would like to continue being involved with this initiative. NMMA suggested that even if we implement a regulation on a district by district basis it is critical for us to allow public comments. NASBLA said that 47 states have some form of boating education requirement. Their position is that uniformity is essential for law enforcement. It is a nightmare for them and for the public when agencies have inconsistencies in regulations. The Federal Boating Act is what they support. USPS said they support the "under 13 wear requirement" and they have no position on mandatory use. Their priority is to support boating educational initiatives. PWIA supports mandatory PFD wear on all personal watercraft, except they don't support inflatables. Also, they do not have a position on mandatory use for other vessels. USCG would like to see us extrapolate more data such as "under 13 fatalities" that could have been saved by wearing life jackets. USCGA supports the USCG in all their educational efforts. Further written correspondence from partners is posted on the NRM Gateway.

IX. POTENTIAL OPTIONS.

A. There were no set parameters for this study identifying what a life jacket requirement would entail. It should be noted that there are only two ways to implement changes to Title 36 that would be necessary to implement a life jacket mandate at any Corps project. One is for USACE to change Title 36 at the National level, which requires going through the Federal Register public review process. This along with other approval processes can take years to implement. We will not consider doing this until this study is completed. Another way is for a District Engineer to use his authority in Title 36, 12.a. to make additional regulations that apply only to their district or specific projects within their district. There is no authorized process to implement a Title 36 change from the MSC level.

B. Those wanting to participate in the test phase of this study would need to determine parameters at their district in cooperation with members of the Life Jacket Mandate Study PDT. There was some discussion by the PDT about possible parameters. Below is a bullet list of options, starting with those requiring the least amount of effort, and the pros and cons for each option.

1. Mandatory PFD Loaner Program - HQ consistent policy on loaner boards.

2. Status Quo

a. Pro

- Can be performed within existing resource allocations.
- Public reaction unchanged.

b. Con

- Fatality rate will most likely remain consistent.
- Quantifying success is difficult.
- Public reaction unchanged.

3. Increase education/awareness.

a. Pro

- Able to target high risk groups.
- National awareness (professional) using major media.
- Public reaction expected to be favorable.

b. Con

- May be expensive. (resource intensive)
- Quantifying success is difficult.

4. Mandatory boater education training / licensing

a. Pro

- Trained and educated boaters aren't usually involved in accidents

b. Con

- This would need to be done at the state level to be the most effective.
- Quantifying success is difficult.

5. Pittsburgh Example – Mandatory on boats less than 16 ft in length, all canoes and all non-swimmers

a. Pro

- Potential to reduce fatalities in the boating category.

b. Con

- Selective regulation to a small portion of the using public. Nationally we don't know how many boats on our lakes are less than 16'. We do not have statistics indicating accident rate specifically for these vessels?
- Expected negative public reception for this user group.
- Quantifying success is difficult. (CE doesn't require statistical breakdown based on boat size).

6. Mandatory on all watercraft not carrying passengers for hire while underway. (option – at all times)

a. Pro

- Potential to reduce fatalities in boating category.
- Quantifying success should be achievable.

b. Con

- May leave out fishing guides operating "undercover".
- Would eliminate tour boats/ferries.
- From a resource perspective, trade education for enforcement.
- Relocation of recreational opportunities from CE controlled waters to one less restrictive.
- Expected negative public reception for this user group.

7. Mandatory on all watercraft while underway. (option – at all times) May have to make allowances for houseboats – tour boats.

a. Pro

- Potential to reduce fatalities.
- Quantifying success should be achievable.

b. Con

- From a resource perspective, trade education for enforcement.
- Relocation of recreational opportunities from CE controlled waters to one less restrictive.
- Expected negative public reception for this user group.

8. Mandatory for any time someone is on/in the water, to include those swimming outside designated swimming areas (sub-option require only those under age 13).

a. Pro

- Potential to reduce fatalities from the highest risk behavior--swimming.
- Quantifying success should be achievable.

b. Con

- From a resource perspective, trade education for enforcement.
- Relocation of recreational opportunities from CE controlled waters to one less restrictive.
- Expected negative public reception for this user group.
- Concerns that we may increase our liability for fatalities within the designated areas, especially since we don't have lifeguards and often no rescue equipment at designated swim areas.

X. SUMMARY. A Life Jacket Mandate Study was initiated at the request of USACE Director of Civil Works, MG Don Riley, in April 2007, to analyze the impacts and benefits of establishing a Federal regulation under Title 36, CFR 327 that would require members of the public to wear a life jacket while recreating on Corps waters. The study, led by the HQUSACE National Operation Center for Water Safety, was conducted in-house by a product delivery team (PDT) comprised of a variety of recreation and safety managers from Corps headquarters, division, district and lake staffs. The PDT used data collected from a district questionnaire, an employee survey on the Corps NRM Gateway web site, interagency discussions and written comments, fatality and accident report statistics, general comments from field leadership, and self-analysis of current national educational materials and programming to determine their final recommendations for MG Riley.

On 28 February 2008, the PDT briefed MG Riley with their findings. Based on information gathered, the PDT's recommendation was to not change Title 36 to establish a regulation requiring life jacket wear on Corps waters at this time. The PDT recommended that the Corps continue to support U.S. Coast Guard's life jacket wear initiatives and to aggressively pursue voluntary wear of life jackets through targeted public education actions, life jacket loaner programs and increased partnerships. MG Riley decided to defer his decision on establishing a policy until additional information can be gathered. Specifically, he requested that the PDT identify districts willing to conduct a field test exercise in which the life jacket wear requirement is applied and monitored for effectiveness. This Interim Report only summarizes the first inquiry stage of the life jacket mandate study prior to the initiation of a field test.

New initiatives are often put into place without giving thought to the long term determination of the degree of success of that imitative. The obvious benefit of a mandatory PFD requirement could be the potential to save lives and reduce drowning incidences on Corps of Engineers waters. Unknown would be the public's reception toward a new rule, the extent of voluntary compliance, and the actual reduction of the number of fatalities as a result of the rulemaking. Also unknown would be the visitation and fiscal impacts that may result from the public relocating to other recreational opportunities as a result of the rulemaking. Determining the degree of success would involve consistent data collection across all affected Corps of Engineers districts.

During the preparation of this study, it was noted that archival data concerning Corps of Engineers public fatalities was not available in a reliable automated and consistent format. This and future examinations of this issue is reliant on accurate, consistent and relatively complete information.

XI. LIFE JACKET STUDY PRODUCT DELIVERY TEAM (PDT) PARTICIPANTS.

Lynda Nutt, Manager, National Operations Center (NOC) for Water Safety
Stephen Austin, Senior Policy Advisor for Park Ranger Activities, CECW-CO-N
Rachel Garren, Policy Advisor Water Safety NOC, Natural Resources Specialist, CEMVS
Brenda Warren, Public Safety Program, CESO
Kareem El-Naggar, Assistant Chief of Operations, CELRD
Kevin Paff, Natural Resources Specialist, CENWD
Michael Tustin, Chief, Safety and Occupational Health, CELRD
Gary King, Chief, Safety and Occupational Health, CESAD
Charles Burger, Assistant Chief of Operations, CESWF
Madeline Morgan, Chief, Safety and Occupational Health, CESWF
Joe Ferguson, Safety Specialist, CESPK
Dwight Beall, Operations Project Manager, CENAB, Raystown Lake

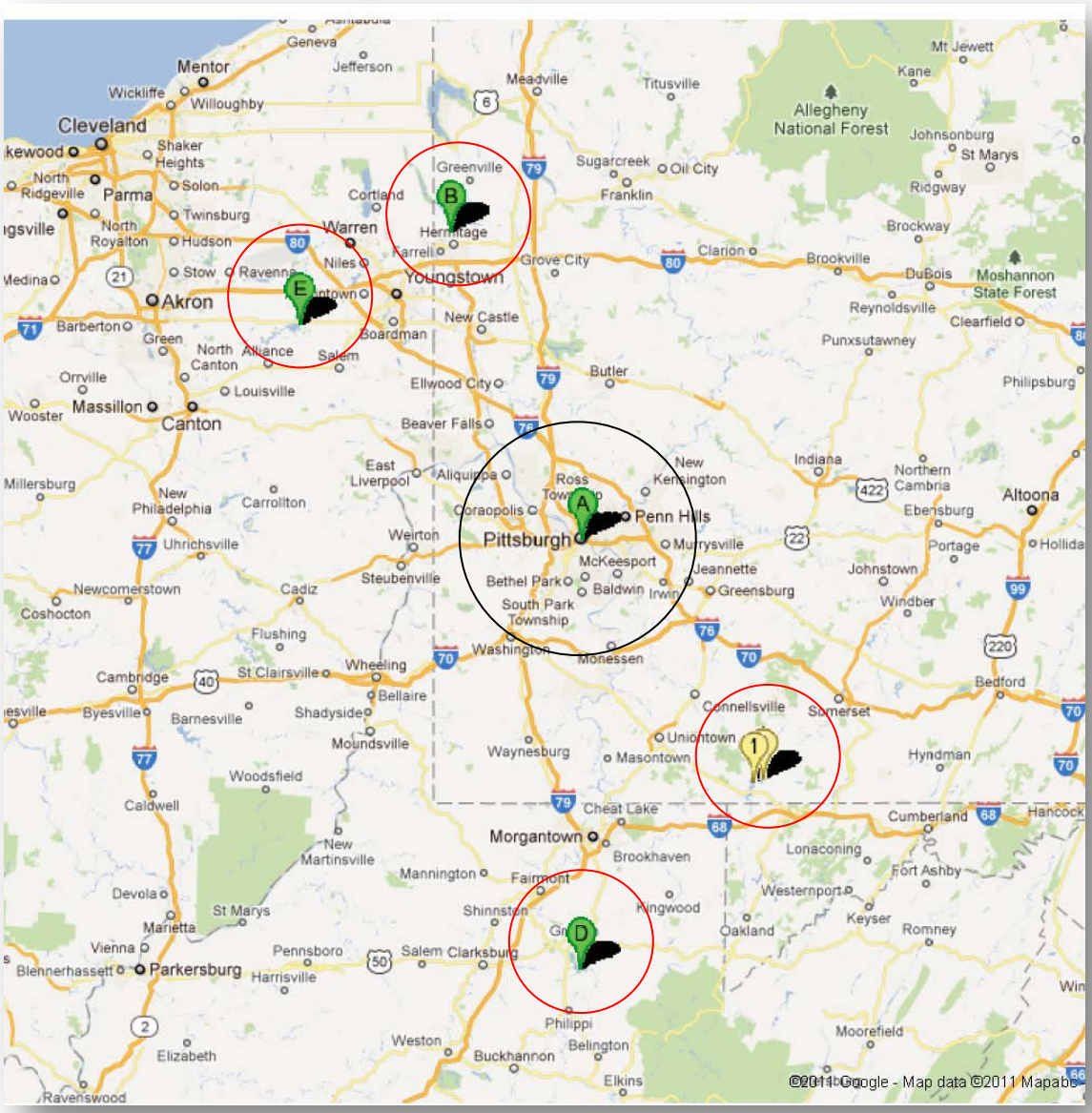
APPENDIX B

PITTSBURGH DISTRICT SUMMARY

Pittsburgh District
Baseline 2008
Test Years 2009-2011

Test observation lakes:
Shenango River Lake (B)
Youghiogheny River Lake (1)

Control lakes:
Tygart Lake (D)
Berlin Lake (E)



Measurements:

Measurement	Baseline 2008	Test 2009	Test 2010	Test 2011
Man-hours for policy patrol	3,184	2,120	2,452	2,132
Wear Rates (overall average)	3.3%	3.7%	Not recorded	Not recorded
Congressional Inquiries	0	0	0	0
Public letters/emails	0	0	0	0
Water-related fatalities	3	2	3	3
Visitation	5908395	5690986	5814499	5531988
Warnings issued (verbal/written)	44	45	37	15
Citations issued	9	25	31	27

Project Description

For the purposes of the HQUSACE Life Jacket Policy Study, Pittsburgh District reporting was limited to two western Pennsylvania lakes where life jacket policies had been previously established. Life jacket wear rates observations were conducted on the Youghiogheny River Lake and Shenango River Lake (both in western Pennsylvania), and the Corps' Berlin Lake (in Ohio) and Tygart Lake (in West Virginia) served as control lakes.

Study Methodology

Life jacket policy was not a new concept to the recreation managers of Pittsburgh District, in that the District Commander had authorized life jackets policies for occupants of all canoes, kayaks and boats under 16 feet in length and for non-swimmers back in FY90. Those policies along with alcohol bans in recreation areas were instrumental in reducing public fatalities in that region from a cumulative annual average of 4.57 fatalities during the 23 years prior to enactment to a cumulative annual average of 2.45 fatalities over the 22 year period since being established. Additionally, in 1995, the PA Fish and Boat Commission adopted these same policies for each of the nine Pittsburgh District lakes in Pennsylvania so that they could also provide enforcement.

Because of prior unique and independent actions in the arenas of alcohol bans and mandatory life jacket policy, Pittsburgh District was reluctant to change or revisit their long standing practice for purposes of the current National Life Jacket Policy Study. Nevertheless, Pittsburgh District staff agreed to participate in the National Life Jacket Policy Study as a blind control reference of Corps lakes where a mandatory wear policy was already long established. Pittsburgh District's policy requiring life jackets has been in place since 1990 and was implemented under Title 36, CFR 327.12(a), Posted Restrictions. It continues to be enforced as a posted restriction today. Specifically, the posted restriction requires life jackets for:

- Everyone on board all boats less than 16 feet in length, all canoes, all kayaks and all non-swimmers.

For the purposes of this study, project and district staffs continued their routine business, and did not make significant changes in preparation for or during the test phase of the National Life Jacket Policy Study. It was their position that there was no need for fresh notifications to local congressional offices, media or members of the public, since the Pittsburgh District policy would remain unchanged and had already been well established and familiar to regular visitors to the regulated waters; and staff efforts to advise local authorities and stakeholders had already been dealt with when the policy was first established in the early 1990's. While district and lake staff did actively engage in water safety outreach throughout the current study period, educational efforts did not include any heightened emphasis or information related to the National Life Jacket Policy Study.

Related to Pittsburgh District's inclusion as a blind control, there was an original US Coast Guard intention to have JSI conduct wear observations in Pittsburgh District for the full three years of the Life Jacket Policy Study. However, disappointed by low wear rates and perceived lack of enforcement of the standing policies by both Corps park rangers and State law enforcement agents, USCG announced that they would not continue wear observation work in Pittsburgh District. Despite the NOC's efforts to encourage USCG to stay through the full three-year period, once Pittsburgh District made it clear that they were not willing to make changes to its pre-existing mandatory wear policy or enforcement efforts, USCG stood by their decision and ended the JSI observations in that region. This action left a substantial information gap on the Pittsburgh District test lakes, given that the wear rate observations proved to be a valuable tool in measuring success of failure of the policies. Other measurement data continued to be provided by Pittsburgh District staff.

Study Outreach

More information on the early outreach effort history of the Pittsburgh District mandatory wear policy and alcohol restrictions can be found in Appendices attached to this summary.

Enforcement Efforts

Park ranger staffs at Pittsburgh District lakes have long enforced their District life jacket policies under Rules and Regulations Governing Public Use of Water Resource Development Projects Administered by the Chief of Engineers, Title 36, Code of Federal Regulations, Parks, Forests and Public Property, specifically 327.12a Posted Restrictions since 8 May 1990 (see Appendices). The Pennsylvania Fish and Boat Commission, through adoption of the Pittsburgh District policy in 1995, also have the authority to enforce using state regulations on the District's nine lakes in Pennsylvania. Neither Corps nor state game agents made any significant changes to their enforcement efforts as a result of the National Life Jacket Policy Study.

During the test period, park rangers at Pittsburgh District lakes in PA, OH and WV logged approximately 2472 hours of boat patrol each recreation season, writing a total of 141 warnings and 92 citations as reported in OMBIL for violations under 327.12a Restrictions. Pittsburgh does not keep records of verbal warnings nor of the breakdown of written warnings or citations issued under 327.12a Restrictions and it should be noted that these actions may have involved either life jacket violations or possession of alcohol violations or a combination of the two.

Other Water Safety Efforts

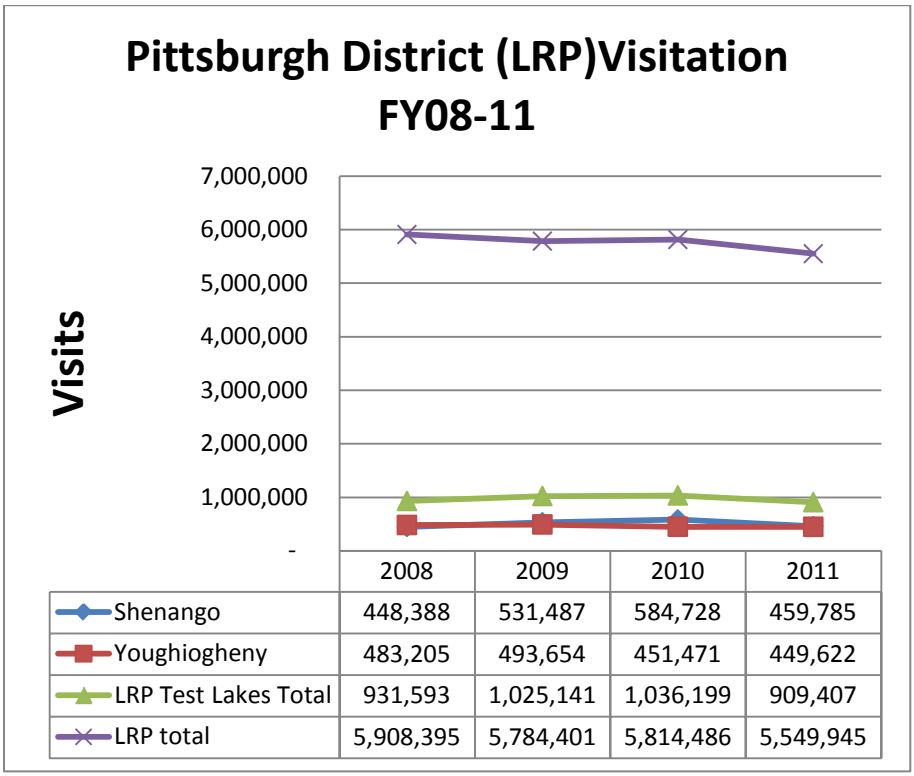
For three years prior to 2008, Pittsburgh District reported having practically eliminated all water safety education and enforcement efforts dating back to a Reduction in Force there in 2004. Subsequently, seasonal and summer staffing was restored in 2008 as a result of an LRD water safety initiative. As part of that initiative, over the four year period from 2008 to 2011, Pittsburgh District purchased new replacement patrol boats for each of its fifteen lake projects and annually hired 24 temporary summer park rangers to assist with water safety education and boat patrol enforcement efforts. The number of boat patrol hours increased from zero (0) in 2007 to an average of 2,500 during the 2008 to 2011 period. Annual public on and off site water safety direct interpretive contacts reported in 2008 numbered 1,154; during 2009, 124 reported direct contacts were made ; in 2010, 15,228 direct contacts; and in 2011, 336 were reported, according to information pulled from their OMBIL reports. District employees also performed 18 water rescues and assisted 155 distressed boaters. Ten life jacket loaner stations were installed and 38 boat ramps and 11 courtesy docks were stenciled with life jacket “wear it” messages.

The Pittsburgh District also implemented a new water safety communications strategy in collaboration with the Pittsburgh Pirates Baseball Club that included PFD “wear it” water safety messages on Pittsburgh Pirate T-shirt giveaways, water safety videos involving Corps, State, USCG and Pittsburgh Pirate team members broadcast on the scoreboard and ROOT Sports network for each home game, and life jacket “wear it” messages on electronic billboards in various locations in the region

Sample interpretive water safety sign used on electronic billboards in Pittsburgh District.

Visitation

Visitation in the Pittsburgh District fluctuated slightly during the baseline and three-year test period, with 5,908,409 visits in 2008; 5,784,401 in 2009; 5,814,486 in 2010; and 5,549,945 in 2011. The two test projects show a slight decrease in visits between the same time periods. The high at Shenango was in FY10 at 584,728 and that went down in FY11 to 459,785. The high at Youghiogheny was in FY09 at 493,654 and it has steadily decreased to 449,622 in FY11.



	2008	2009	2010	2011
Shenango	448,388	531,487	584,728	459,785
Youghiogheny	483,205	493,654	451,471	449,622
LRP Test Lakes Total	931,593	1,025,141	1,036,199	909,407
LRP total	5,908,395	5,784,401	5,814,486	5,549,945

Public Comment

Pittsburgh District does not typically receive any recurring public comment on its mandatory wear policy since the initial flurry of interest when its restrictions were first adopted twenty-three year ago and the district did not publicize that a National Life Jacket Policy Study was being conducted elsewhere on select Corps lakes.

Effects on Staff

All Pittsburgh District actions during the study period were related to the district and LRD water safety initiatives and were independent of the national study. The Pittsburgh District did not alter or initiate any specific actions as part of the Life Jacket Policy Study. The Pittsburgh District's inclusion in this study is only to provide a blind control consisting of a set of Corps Lakes with a now 23 year history of having a mandatory life jacket wear restriction in place.

Conclusions: Pittsburgh District

Wear rate observations captured on Pittsburgh District's western Pennsylvania lakes where life jacket policies have been in place since 1990 showed surprisingly low numbers of around 3%, well under the national average for voluntary wear rate of about 8%. Pittsburgh District reports active patrols and enforcement efforts from both park ranger and state agent patrols, but effectiveness of such efforts are not reflected in the scientific findings.

The Pittsburgh District experience suggests that policy can lose its effect if allowed to go stale and not kept current to evolving recreational use; i.e., in Pittsburgh District staff indicate significantly fewer boats under 16 feet in length on its lakes today versus twenty three years ago with the exception of jet skis. Patrol efforts are spent dealing with watercraft of larger size, resulting in fewer contacts for enforcement the District's established life jacket policy. There is no life jacket wear requirement for vessels 16' and larger.

Despite low life jacket wear rates among smallcraft boaters, the Pittsburgh District experience also demonstrates a sustained lower level of annual fatalities, resulting from adoption of its mandatory wear and alcohol restrictions regardless of varying levels of visitor education or enforcement efforts over time. The rate of fatalities since adoption of special restrictions has remained consistently lower at approximately 2.45 annual fatalities at district lakes versus the 4.57 annual fatalities at those same district lakes over a similar period prior to adoption.

USACE and the USCG should consider review of the Pittsburgh District record and its applicability to current day water based recreation fatalities experienced on their waters.

CEORP-OR-R

17 May 1990
Mr. O'Connell/bee/2798

MEMORANDUM FOR AREA RESOURCE MANAGERS AND PROJECT MANAGERS

SUBJECT: Personal Floatation Device Regulation Requiring that PFDs Must Be Worn by All People on Board All Boats Less Than 16 Feet in Length, All Canoes and All Non-Swimmers

1. The status of the subject regulation is as follows:

a. The new regulation was approved by Lieutenant Colonel William D. Roudabush, District Engineer, on 8 May 1990 (see enclosure 1);

b. Letters to Federal legislators and State boating law administrators were sent out on 11 May 1990 (see enclosure 2);

c. A District-wide press release was sent out to all newspapers on 15 May 1990 (see enclosure 3);

d. Signs are being made at Loyalhanna sign shop and will be distributed to all projects for immediate installation. The new sign is of the same size of the youth PFD signs already installed at all projects. Remove the youth PFD signs and replace with the new PFD requirement signs (see enclosure 4);

e. A 4" x 8-1/2" two-sided flyer is being printed now for availability prior to Memorial Day weekend, 25-28 May 1990 (see enclosure 5);

f. A 17" x 22" poster is being printed now for availability prior to Memorial Day (see enclosure 6).

2. Every effort should be made to educate the public as to the need for this type of regulation through personal contacts, camp fire programs, code-a-phone messages, handing out flyers and an aggressive boat patrol schedule. I have enclosed additional resource materials concerning the importance of wearing PFDs for you to become familiar with, to enable you to convey the rationale behind this regulation to the visiting public (see enclosure 7). Good luck!

Peter Colangelo

7 Encls
as

PETER A. COLANGELO
Chief, Natural Resource
Management Branch

GREAT LAKES AND OHIO RIVER DIVISION
PITTSBURGH DISTRICT

ESTABLISHMENT OF A BAN ON ALCOHOL BEVERAGES AT PITTSBURGH DISTRICT FLOOD CONTROL PROJECTS

3 July 2001
TURAK/ALCOHOL\SUMMARY OF LRP ALCOHO BANS

CEORP-OR-R

1 June 1995
ALCOHOL.BAN
CUMMINGS/TURAK

ALCOHOL BAN WITHIN THE PITTSBURGH DISTRICT

1. During the late 1970's the Pittsburgh District, like most Corps Districts, experienced increased incidents of disorderly conduct, public assaults, public accidents, drownings, increased litter, vandalism, and a general lack of a family atmosphere at its Corps managed recreation areas.

2. After a thorough analysis it became readily apparent that these increasing problems were due to the prevalence of alcohol at our projects. Since Title 36 CFR, Part 327 did not prohibit or in any way regulate the use of alcoholic beverages, and Ohio and Pennsylvania prohibited alcohol in their parks, many of our visitors were primarily coming to our parks so that they had an outdoor setting in which to consume alcohol. Participation in legitimate recreation activities was secondary in their reasons for visiting our parks.

3. At the start of the 1981 recreation season the District implemented an alcohol restriction at three of its fifteen projects. Because of the success of the restriction and the positive public reception, this restriction was later expanded to include all the District's projects in 1986.

4. The following procedures or steps were taken in establishing the alcohol ban in the Pittsburgh District.

a. a Statement of Findings was prepared to document the authority for imposing the ban, to identify the existing situation, and to clearly state the justification for the restriction.

b. after the Statement of Findings was reviewed and found acceptable a memo was prepared presenting the findings to the District Commander for his approval. The memo was originated by the Natural Resource Management Branch and routed through the Chief of OR and Office of Counsel.

c. after approval by the Commander, letters were sent to Senators and Congressmen within the District. These letters reiterated the Statement of Findings and explained the District's position for imposing the restriction. As a courtesy these letters were sent out before a news release was sent to the media.

d. a draft news release was sent to PAO after the congressional letters were sent out.

e. appropriate signs were procured and instructions were sent to the field regarding the enforcement of the restriction.

5. At some projects local governments passed ordinances prohibiting alcohol at public recreation areas so that local police also had the authority to enforce the restriction. A combination of Title 36 enforcement and local police enforcement made the restriction even more effective.

6. There is no question that the alcohol restriction has increased visitor safety and reduced management problems at our projects. Families returned to our campgrounds and day use areas. The number of drownings decreased and incidents of vandalism and the littering of beverage containers greatly declined.

DEPARTMENT OF THE ARMY
OHIO RIVER DIVISION, CORPS OF ENGINEERS
P. O. BOX 1159
CINCINNATI, OHIO 45201-1159

REPLY TO ATTENTION OF

ORDCO-OR

11 DEC 1985

SUBJECT: Public Safety at Civil Works Projects

CDRUSACE (DAEN-CWO-R)
20 Mass. Ave., N.W.
WASH DC 20314-1000

1. In response to your letter of 18 April 1985, subject as above, the Ohio River Division Plan to Prevent Public Fatalities and status of actions to date is enclosed.

2. Through several studies within the division, detailed in the enclosed plan and status report, we have identified four priority actions that would effectively curb the number one cause of public fatalities--drowning. They are (1) prohibit alcohol, (2) require PFD's be worn by boaters when underway, (3) restrict swimming to designated areas and (4) increase public awareness and education of water safety. We firmly believe implementation of these four actions will save lives. However, unprecedented support by HQUSACE is essential to fully implement these actions. Our objective in presenting the following actions to HQUSACE is to emphasize that a new look at Corps policies is needed if the number of public fatalities is to be substantially reduced.

a. Prohibit alcohol on all Corps projects (including the lake surface). Since most drownings involve alcohol, this one restriction can significantly reduce our public fatalities. With the current emphasis on enforcement of laws against drunk driving, now may be the best time to address the same problem on our lake surfaces. An alternative would be to ban alcohol in recreation areas only. While this will help reduce the problem, it would have less influence on reduction of water related fatalities.

b. Require that all children under 10 wear a PFD while in a boat underway on project waters. A similiar law has been successfully adopted by the State of Ohio. This regulation would serve to increase water safety awareness by children and adults and over time could lead to regulations requiring PFD use by all boat occupants when underway.

c. Investigate the political possibilities of amending Public Law 89-72 and current cost sharing policies to allow the construction of swimming beaches at 100 percent Federal expense in the interest of public safety and well-being. If this can be done, consider the merits vs. liabilities of restricting swimming to designated swimming areas.

//

d. Expand the $6 million dollar authority for cooperative law enforcement agreements to permit contracting for increased water safety patrols. With current FTE's, we cannot effectively patrol the lake surface to enforce the additional rules needed to reduce drownings.

e. Conduct a nationwide public affairs water safety campaign, targeted at youthful males, using well-known personalities.

3. We have implemented some of these recommendations on a case-by-case basis as described in the enclosed plan. As a result, public fatalities in ORD have been reduced from a three-year average of 60 fatalities, with a frequency of .71 per million recreation days of use, to 54 deaths in FY 85 (frequency of .63). We believe a frequency rate of .50 is attainable with HQUSACE support.

4. We firmly believe futher major reductions in public fatalities throughout the Corps can only be accomplished with the suggested policy changes. The Ohio River Division is willing to conduct a broader pilot test of any of the recommended actions. We think that at last we have a handle on the methods and the resource commitments needed to save lives. With the proposed policy changes and the additional personnel resources to implement them, substantial progress in reducing tragic loss of life can finally be obtained.

PETER J. OFFRINGA
Brigadier General, USA
Commanding

OHIO RIVER DIVISION
PITTSBURGH DISTRICT

ESTABLISHMENT OF A BAN
ON ALCOHOLIC BEVERAGES

Procedures For Establishing Ban

Statement of findings (By Project and District Office)
--Documents Authority (Title 36, CFR, PART 327.12(a) Restrictions)
--Identifies and discusses existing problem(s)
--Presents findings and recommendations

Approval by Commander
--DF from Chief OR-R with statement of finding enclosed
--Approval by Commander

Public Involvement

Notification of District Congressional Elements
--Letters from DE to District Congressional elements
--Letters sent before news releases

News Releases
--Releases sent to all appropriate news media
--Announces date of implementation and 30 day warning period

Implementation of Alcohol Ban

--Signs posted
--30 day verbal and written warning period
--post-implementation enforcement via Title 36, CFR (verbal and written warnings and citiations) and assistance of local police.

TAB 2

ORPOR-R

14 May 86
Turak/js/4191
FTS 722-4191

OHIO RIVER DIVISION

PITTSBURGH DISTRICT

ESTABLISHMENT OF A BAN
ON ALCOHOLIC BEVERAGES

The following procedures or steps were taken in establishing alcohol bans at PITTSBURGH DISTRICT Flood Control Projects. These same procedures can also be used to develop District Regulations falling under Title 36, CFR.

Statement Of Findings

The Statement of Findings is used to document the authority for imposing the restriction, identify the existing situation, discuss the problem and present the findings. Sample Statement of Findings are inclosed. The headings are as follows: 1. PROJECT; 2. AREAS UNDER CONSIDERATION; 3. RESTRICTION UNDER CONSIDERATION; 4. AUTHORITY; 5. EXISTING SITUATION; 6. PROBLEM; 7. FINDINGS. The above is supplied by the project (s) seeking the restriction, and should be as detailed as possible.

Approval By The Commander

After the Statement of Findings is reviewed and found acceptable, a DF is prepared presenting the findings to the District Commander for his approval. A Sample DF is inclosed. The DF is originated by the Chief of NRMB and routed through Office of Counsel and Chief, Operations and Readiness Division. CMT 2 is prepared for the Commander's signature.

Notification of District Congressional Elements

After approval by the Commander, letters are sent to Senators and Congressmen within the District. These letters reiterate the Statement of Findings and explain our position in imposing the particular Restriction. As a courtesy, these letters are sent out before a news release is sent to the media. This is necessary so that our representatives are aware of our actions before being reported in the media.

/

News Release

A draft news release is sent to PAO after the congressional letters are sent out. The Statement of Findings and text from the congressional letters can be used to develop the draft news release.

Follow-Up

Appropriate signs should be ordered and instructions sent to the field regarding the enforcement of the restriction imposed.

Additional Information on Alcohol Restrictions

Also inclosed is a 11 Dec 85 letter to OCE from BG Peter J. Offringa, Ohio River Division Commander, recommending a prohibition of Alcoholic Beverages on all Corps projects including the lake surface.

originals

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO.

REFERENCE OR OFFICE SYMBOL	SUBJECT
ORPOR-R	Banning of Alcoholic Beverages at Pittsburgh District Flood Control Projects

TO	FROM	DATE	CMT 1
THRU: ~~Office of Counsel~~ ~~BZ~~ 5/5/86	ORPOR	01 May 1986 Turak/js/4191	

TO: Chief, Operations & Readiness

TO: District Commander

1. The problems described in the attached Statements of Findings concerning the imposition of prohibition of alcoholic beverages at Pittsburgh District Flood Control projects are adversely affecting the public health, wealfare and safety, maintenance in certain areas, and protection of Government and private property.

2. The alcohol ban will be enforced at the following projects: Kinzua Dam & Allegheny Reservoir, Woodcock Creek Lake, Union City Dam, Tionesta Lake, Mosquito Lake, M.J. Kirwan Dam & Reservoir, Tygart Lake, Stonewall Jackson Lake, Mahoning Creek Lake, Loyalhanna Lake and Conemaugh Lake. Alcohol bans are presently in force at Berlin, Youghiogheny, Shenango, East Branch and Crooked Creek Lakes.

3. For the above reasons, the following actions concerning the imposition of a ban on alcoholic beverages at the Pittsburgh District projects will be taken.

a. Each area will be posted with signs that read "Alcoholic Beverages Prohibited".

b. Enforcement actions under the authority of Title 36, CFR, Chapter III, Section 327.12a for 30 days after public notice will consist of verbal warnings.

4. Also General Office Engr's letter to CDR USACE, subject Public Safety at Civil Works Projects dated 11 Dec 1985 recommended prohibiting alcohol on all Corps projects

Atchs

Peter A Colangelo
PETER A. COLANGELO
Chief, Natural Resources
Management Branch

CF: PAO
Safety

ORPDE (ORPOR-R/01 May 86)

TO Chief, Oper & Readiness Div.
ATTN: ORPOR-R

FROM ORPDE DATE 06 May 86 CMT 2

Approved.

for RICHARD A. ROTHBLUM MAJ(CE)
Colonel, CE
Commanding

DA FORM 2496

TAB 4

CEORP-OR-R
SUBJECT: Banning of Alcoholic Beverages on the Waters of Pittsburgh District Flood Control Projects CMT 1

4. This DF establishes a District policy prohibiting the consumption, use, and presence of all alcoholic beverages on developed and undeveloped recreation areas and lake surfaces at Pittsburgh District flood control projects. Violators of this prohibition will be cited under Title 36, CFR, Section 327.12A Restrictions.

5. Since all project areas have been posted with "alcoholic beverages prohibited" signs, additional signing may not be necessary. After a 30-day implementation period, enforcement action will consist of verbal and/or written warnings. Repeat offenders will be cited. This prohibition goes into effect on 4 July 1987.

Pete A Colangelo

PETE A. COLANGELO
Chief, Natural Resource
Management Branch

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO.

REFERENCE OR OFFICE SYMBOL	SUBJECT
CEORP-OR-R	Banning of Alcoholic Beverages on the Waters of Pittsburgh District Flood Control Projects

TO: All Facility Managers, Resource Managers, and Area Resource Managers

FROM: CEORP-OR-R

DATE: 3 June 87

CMT 1

Mr. Turak/jk/4191

1. Reference the following:

a. ORPOP-R, 1 May 1986, Subject: Banning of Alcoholic Beverages at Pittsburgh District Flood Control Projects.

b. ORPOP-R, 29 May 1985, Subject: Banning of Alcoholic Beverages at East Branch Lake.

c. ORPOP-R, 31 March 1982, Subject: Banning of Alcoholic Beverages at Crooked Creek Lake.

d. ORPOP-R, 27 May 1981, Subject: Banning of Alcoholic Beverages at Youghiogheny Lake.

e. ORPOP-R, 21 May 1981, Subject: Banning of Alcoholic Beverages at Shenango River Lake.

f. ORPOP-R, 21 May 1981, Subject: Banning of Alcoholic Beverages at Berlin Lake.

g. ORDCO-OR, 11 December 1985, Subject: Public Safety and Civil Works Projects.

2. References 1a through 1f above initiated bans on alcohol at District flood control projects. All bans are supported by a separate "Statement of Findings" submitted for each project. Congressional elements were notified and the prohibitions were publicized through news releases. The bans are effective and continue to be a main factor in eliminating problems associated with erratic behavior at our recreation areas.

3. Several studies within the Ohio River Division conclude that prohibiting alcohol on all projects including the lake surface can significantly reduce public fatalities since most drownings involve alcohol. In a 11 December 1985 letter to CRD USACE, General Offringa reported that the "Ohio River Division Plan to Prevent Public Fatalities" recommends prohibiting alcohol on all Corps projects including the lake surfaces.

Mr. Turak/fl/4191

May 5, 1986

SAMPLE LETTER TO CONGRESSMEN

Honorable
House of Representatives
1508 Longworth House Office Bldg.
Washington, D.C. 20515

Dear Mr.

This letter is to inform you of a prohibition on the consumption, use and presence of alcoholic beverages at all Corps of Engineers Water Resource Development Projects.

This prohibition applies to all Corps-operated camping, picnicking, boat launching, outflow areas, other day use areas and parking lots associated with these areas and any undeveloped areas at the project.

In the past, permitted use of alcohol on project lands has resulted in citations written for problems which could have been avoided. In most cases, the individuals involved were intoxicated and were extremely difficult to reason with.

Project Resource Managers have received complaints every recreation season about beer parties, underage drinking, and loud, boisterous behavior by individuals who sometimes monopolize portions of day use areas and parking lots. This behavior discourages other members of the public from using the Corps developed and undeveloped recreation areas.

It has been estimated that alcohol is involved in at least 50 percent of all drownings and is a major cause of death in recreational boating accidents.

Permitting alcohol has also resulted in a litter problem and hazard to the public because numerous broken beer bottles and rusty cans are found along the shoreline where visitors recreate.

Pennsylvania and Ohio State Parks' rules and regulations do not permit alcohol. We feel the present abuse directed toward the facilities, project personnel and the public can be significantly reduced if alcoholic beverages are also prohibited in Corps areas.

Presently there are such prohibitions in place at Berlin Lake in Ohio, Shenango Lake in Pennsylvania and Ohio, Youghiogheny Lake in Pennsylvania and Maryland and Crooked Creek Lake and East Branch Clarion River Lake in Pennsylvania.

The prohibitions will be extended to the following Pittsburgh District Projects and will apply to all Corps-operated portions of these projects including undeveloped areas: Conemaugh River Lake, Mahoning Creek Lake, Tionesta Lake, Woodcock Creek Lake, Union City Dam, and Loyalhanna Lake in Pennsylvania; Mosquito Creek Lake and Michael J. Kirwan in Ohio; Kinzua Dam and Allegheny Reservoir in Pennsylvania and New York; and Stonewall Jackson Lake and Tygart Lake in West Virginia.

During June, project personnel will be warning visitors about the ban. Beginning July 1, use of appropriate signs, verbal and written warnings, citations and assistance of local law enforcement agencies will be used to enforce this regulation. Violators may be required to appear for a hearing before a United States Magistrate.

The purpose of the ban is to consider the public interest by providing the public with safe and enjoyable recreation opportunities while protecting and enhancing these resources.

Sincerely,

Colonel, Corps of Engineers
District Engineer

NEWS RELEASE

SAMPLE
NEWS RELEASE

ALCOHOL PROHIBITED AT CORPS OF ENGINEERS LAKE PROJECTS

(PITTSBURGH) ALCOHOLIC BEVERAGES WILL BE PROHIBITED AT ALL CORPS OF ENGINEERS OPERATED RECREATION AREAS, ACCORDING TO COL. RICHARD ROTHBLUM, DISTRICT ENGINEER FOR THE CORPS' PITTSBURGH DISTRICT.

THIS RULING, EFFECTIVE AS OF MIDNIGHT, JUL. 1, 1986, WILL PROHIBIT THE CONSUMPTION, USE AND PRESENCE OF ALL ALCOHOLIC BEVERAGES.

"IN THE PAST," ROTHBLUM SAID, "PERMITTED USE OF ALCOHOL ON PROJECT LANDS HAS RESULTED IN CITATIONS WRITTEN FOR PROBLEMS WHICH COULD HAVE BEEN AVOIDED. IN MOST CASES, THESE INDIVIDUALS WERE INTOXICATED AND WERE EXTREMELY DIFFICULT TO REASON WITH."

HE ADDED THAT THERE ARE ALSO COMPLAINTS EVERY RECREATION SEASON ABOUT BEER PARTIES, UNDERAGE DRINKING, AND LOUD AND BOISTEROUS BEHAVIOR BY INDIVIDUALS WHO MONOPOLIZE PORTIONS OF DAY USE AREAS AND PARKING LOTS. THIS BEHAVIOR DISCOURAGES THE PUBLIC FROM USING CORPS DEVELOPED AND UNDEVELOPED CORPS RECREATION AREAS.

IT HAS BEEN ESTIMATED THAT ALCOHOL IS INVOLVED IN AT LEAST 50% OF ALL DROWNINGS AND IS A MAJOR CAUSE OF DEATH IN RECREATIONAL BOATING ACCIDENTS.

"PERMITTING ALCOHOL," ROTHBLUM SAID, "HAS ALSO RESULTED IN A LITTER PROBLEM AND HAZARDS TO THE PUBLIC BECAUSE NUMEROUS BROKEN BEER BOTTLES AND RUSTY CANS ARE FOUND ALONG THE SHORELINE WHERE VISITORS RECREATE."

PRESENTLY THERE ARE SUCH PROHIBITIONS IN PLACE AT BERLIN LAKE IN OHIO, SHENANGO LAKE IN PENNSYLVANIA AND OHIO, YOUGHIOGHENY LAKE IN PENNSYLVANIA AND MARYLAND AND CROOKED CREEK LAKE AND EAST BRANCH CLARION RIVER LAKE IN PENNSYLVANIA.

THE PROHIBITIONS WILL BE EXTENDED TO THE FOLLOWING PITTSBURGH DISTRICT PROJECTS AND WILL APPLY TO ALL PORTIONS OF THESE PROJECTS, INCLUDING UNDEVELOPED AREAS: CONEMAUGH RIVER LAKE, MAHONING CREEK LAKE, TIONESTA LAKE, WOODCOCK CREEK LAKE, UNION CITY DAM, AND LOYALHANNA LAKE IN PENNSYLVANIA: MOSQUITO CREEK LAKE AND MICHAEL J. KIRWAN IN OHIO:

KINZUA DAM AND ALLEGHENY RESERVOIR IN PENNSYLVANIA AND NEW YORK: AND STONEWALL JACKSON LAKE AND TYGART LAKE IN WEST VIRGINIA. ALCOHOLIC BEVERAGES WILL PROHIBITED AT ~~CORPS~~ CORPS-OPERATED CAMPING, PICNICKING, BOAT LAUNCHING, OUTFLOW AREAS, OTHER DAY USE AREAS AND PARKING LOTS ASSOCIATED WITH THESE AREAS AND ANY UNDEVELOPED AREAS AT THE PROJECT.

FEDERAL REGULATIONS ALLOW A DISTRICT ENGINEER TO CLOSE OR RESTRICT THE USE OF A CORPS PROJECT OR PORTIONS OF A PROJECT WHEN NECESSITATED BY REASON OF HEALTH, PUBLIC SAFETY, MAINTENANCE OR OTHER REASONS HE FEELS ARE IN THE PUBLIC INTEREST.

THE PENNSYLVANIA AND OHIO STATE PARKS" RULES AND REGULATIONS DO NOT PERMIT ALCOHOL. ROTHBLUM FEELS THAT THE PRESENT ABUSE DIRECTED TOWARDS FACILITIES, PROJECT PERSONNEL AND THE PUBLIC CAN BE SIGNIFICANTLY REDUCED IF ALCOHOLIC BEVERAGES ARE ALSO PROHIBITED IN CORPS AREAS.

"IT IS THE POLICY OF THE CORPS OF ENGINEERS TO CONSIDER THE PUBLIC INTEREST BY PROVIDING THE PUBLIC WITH SAFE AND ENJOYABLE RECREATIONAL OPPORTUNITIES WHILE PROTECTING AND ENHANCING THESE RESOURCES," ROTHBLUM SAID.

DURING JUNE, PROJECT PERSONNEL WILL BE WARNING VISITORS ABOUT THE BAN. BEGINNING JULY 1, USE OF APPROPRIATE SIGNS, VERBAL AND WRITTEN WARNINGS, CITATIONS AND ASSISTANCE OF LOCAL LAW ENFORCEMENT WILL BE USED TO ENFORCE THIS NEW REGULATION. VIOLATORS MAY BE REQUIRED TO APPEAR FOR A HEARING BEFORE A UNITED STATES MAGISTRATE.

Establishment of a ban of alcoholic beverages at Pittsburgh District Flood Control Projects.

21 May 1981 - Shenango River Lake
Berlin Lake

27 May 1981 - Youghiogheny River Lake

31 March 1982 - Crooked Creek Lake

29 May 1985 - East Branch Lake

01 May 1986 - Kinzua Dam, Woodcock, Union City, Tionesta, Mosquito, Loyalhanna, Conemaugh, M.J. Kirwan, Tygart, Stonewall Jackson, Mahoning

DISPOSITION FORM

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

REFERENCE OR OFFICE SYMBOL	SUBJECT
ORPOP-R	Banning of Alcoholic Beverages at Shenango River Lake.

TO
THRU: Office of Counsel
TO: District Engineer

FROM: Chief, Opera Div

DATE: 21 May 81
Turak/6870

CMT 1

1. The problems described in the attached "Statement of Findings Concerning an Imposition of a Prohibition of Alcoholic Beverages at Shenango Lake, Pittsburgh District" are adversly affecting the public health, welfare and safety, maintenance in certain areas, and protection of government and private property.

2. For the above reasons, the following action concerning the imposition of a ban on alcoholic beverages at Shenango Lake will be taken:

a. Each area will be posted with signs that read - "Alcoholic Beverages Prohibited".

b. Enforcement actions under the authority of Title 36, CFR, Chaper III, Section 327.12 for 30 days after public notice has been given, will consist of verbal warnings.

c. After the initial 30 days implementation period, enforcement action will consist of verbal and/or written warning. Repeat offenders will be cited.

WILLIAM H. COMBS
Chief, Operation Div

incl as

ORPOP-R (21 May 81)
TO: Chief, Opera Div
ATTN: ORPOP-R

FROM: District Engineer DATE: 21 May 81 CMT 2

Approved.

JOSEPH A. YORE
~~Colonel~~, Corps of Engineers
District Engineer

DA FORM 1 FEB 67 2496 REPLACES DD FORM 96, WHICH IS OBSOLETE.

Statement of Findings
Concerning Imposition of a Prohibition of
Alcoholic Beverages at Shenango Lake,
Pittsburgh District

1. PROJECT. Shenango Lake.

2. AREAS UNDER CONSIDERATION. All Corps operated recreation areas within the project boundaries (examples; Mahaney Public Use Area, Shenango Recreation Area, Mercer Recreation Area, fishermen access area, etc).

3. RESTRICTION UNDER CONSIDERATION. Banning of all alcoholic beverages from all Corps of Engineers developed and operated areas at Shenango Lake. Prohibition would include the consumption, use and presence of all alcoholic beverages.

4. AUTHORITY. Title 36 of the Code of Federal Regulatons, Part 327.12, Restrictions, states that "The District Engineer may establish and post a schedule of visiting hours and/or restrictions on the public use of a project or a portion of a project. The District Engineer may close or restrict the use of a project or portion of a project when necessitated by reason of public health, public safety, maintenance or other reasons in the public interest. Entering or using a project in a manner which is contrary to the schedule of visiting hours, closure or restrictions is prohibited."

5. EXISTING SITUATION. The Shenango Lake Project has an annual average visitation of approximately one million-five hundred thousand people. The project is located in a semi-urban setting within the Shenango Valley with several cities within easy driving distance. Warren and Youngstown, Ohio and New Castle, Pa. are within a 25-mile radius while Pittsburgh is approximately 80 miles away.

The project consists of approximately 15,000 acres of public land including a 3,500 acre recreational lake. A number of public recreation areas have been developed by the Corps within the confines of the project lands. Heavy usage of these areas and heavy alcoholic consumption by some members of the public contribute to many of the problems encountered at Shenango Lake.

36 CFR Part 327 does not prohibit or in any way regulate the use of alcoholic beverages. Therefore, Shenango tends to attract people whose first concern is to find a place to drink rather than a place to camp or picnic. This attitude among some campers and recreating public has led many unnecessary situations which probably would have not happened if the partiers would not have been drinking on project lands.

6. PROBLEM. Permitting alcoholic beverages within recreation areas have resulted in the following problems at Shenango:

a. Littering of alcoholic beverage containers and paraphernalia associated with the consumption of alcoholic beverages on Shenango project lands.

Littering continues to be a problem at Shenango Lake and seems to be on an increase within the recreation areas as well as the outlining project areas. Shenango garbage collection methods are ineffective and sufficient manpower is not available to continually police the recreation areas for littered material. The resultant accumulation of litter poses a public health and safety problem.

b. Incidents associated with the consumption of alcoholic beverages: Approximately 40 incidents concerning problems associated with alcoholic beverages were logged at Shenango Lake by Corps employees during the 1980 recreational season. Problems such as loud noise, music and abusive language in the camping areas, intoxication of members of the public using Shenango recreation area, vandalism to government and private property, physical abuse and under-age drinking occurred at Shenango Lake.

The Pymatuning Township Police Department, whose authority includes the Shenango and Mercer recreation "camping and day use" areas, responded to 15 calls concerning alcoholic beverages and made 13 arrests within the above two mentioned areas during the 1980 recreation season.

7. FINDINGS. The use of alcoholic beverages within recreation area contributes to many of the problems encountered at Shenango Lake.

It is the policy of the Corps of Engineers to consider the public interest by providing the public with safe and enjoyable recreational opportunities while protecting and enhancing these resources.

The use of alcoholic beverages in the recreation areas of Shenango Lake contributes to many problems which otherwise might be nonexistant. Since our present authority limits management practices to an inadequate level in coping with the alcohol problem, it is felt that the present abuse directed toward the facilities, project personnel and the public can be significantly reduced if the use and possession of alcoholic beverages are prohibited.

The use of appropriate signs, verbal and written warnings, citations, and assistance of local law enforcement personnel will help to enforce this regulation.

Statement of Findings
Concerning Imposition of a Prohibition of
Alcoholic Beverages at Berlin Lake, Ohio
Pittsburgh District

1. PROJECT. Berlin Lake.

2. AREAS UNDER CONSIDERATION. All recreation areas within the project boundaries (examples; Mill Creek Recreation Area, German Church campground, the dam site picnic area, etc.) at the following locations:

a. Mill Creek Recreation Area is located on the Dale Road, one mile south of Ohio State Route 224, and four miles east of Deerfield, Ohio.

b. German Church Campground is located on German Church Road, ¼ mile east State Route 225, and five miles north of Alliance, Ohio.

c. Dam picnic area is located on the west abutment on Berlin Dam off of Bonner Road, 1½ miles north of State Route 224.

d. Other areas within project boundaries operated by the Corps of Engineers.

3. RESTRICTION UNDER CONSIDERATION. Banning of all alcoholic beverages from all Corps of Engineers developed and operated recreation areas at Berlin Lake. This would include the consumption, use and presence of all alcoholic beverages.

4. AUTHORITY. Title 36 of the Code of Federal Regulations, Part 327.12, Restrictions states that: The District Engineer may establish and post a schedule of visiting hours and/or restrictions on the public use of a project or portion of a project. The District Engineer may close or restrict the use of a project or portions of a project when necessitated by reason of public health, public safety, maintenance or other reasons in the public interest. Entering or using a project in a manner which is contrary to the schedule of visiting hours, closure or restrictions is prohibited."

5. EXISTING SITUATION.

a. Mill Creek Recreation Area consists of a large, heavily used picnic and swimming area adjacent to a 305 site Class A campground through which boaters must drive to get to a six-lane boat launching ramp. Visitation in July and August, 1980, exceeded 50,000 people. Other areas on the project also had quite high visitation during the 1980 recreation season.

b. German Church Campground is a primitive campground which has 36 camp sites. This area has been a trouble spot for a few years and was closed by the Corps in 1980 due to the many problems which were occurring. It was closed in 1976 by police order after a major disturbance which resulted from the excessive use of alcoholic beverages.

c. The dam picnic area is a small, secluded area which has 25 picnic sites and a capacity for 100 cars. This area is not as heavily used as the Mill Creek Recreation Area.

36 CFR Part 327 does not prohibit or in any way regulate the use of alcoholic beverages. Therefore, Berlin Lake tends to attract people whose first concern is to find a place to drink rather than a place to camp or picnic. This attitude among some campers has led to many unnecessary situations which probably would not have occurred if the "partiers" would not have been drinking on project lands.

6. PROBLEM. Permitted use of alcohol on the project has resulted in the following problems:

a. Citations were written in 1980 which could have been avoided. Sixteen citations were written for 36 CFR Section 327.9, Sanitation. In nearly all of these incidents, empty beer cans made up the bulk of the litter. Seven citations were written for 36 CFR Section 327.26, Interference with Government Employees. In most cases, these individuals were intoxicated and failed to comply with a lawful directive of a Corps Ranger.

At Berlin Lake in 1980 eleven citations were written for Section 327.26. This was more than at any other project throughout the country. In most cases, the subjects had been drinking excessively and were extremely difficult to reason with.

b. Berlin attracts people who are not condusive to family-type camping and tend to discourage the family unit from using the area.

The Ohio State Parks rules and regulations do not permit alcohol, so the "partiers" tend to congregate at Berlin Lake. The general attitude among the campers and picnikers is that if alcohol were to be prohibited Berlin, particularly at the Mill Creek Recreation Area and the German Church Campground, only an undesirable clientele would be adversely affected.

36 CFR 327.12b, Restrictions, state that "Quiet hours shall be maintained in all public use areas between the hours of 10 p.m. and 6 a.m. Excessive noise during such times which unreasonably disturbs persons is prohibited." In every case of excessive noise after quiet hours in 1980 and previous years, the subjects warned and/or cited were drinking. This noise usually consists of loud talk and laughter interspersed with whooping, hollering and screaming, usually accompanied by loud music, profanity and obscenities.

There are complaints every recreation season from campers who are kept awake well into the night by loud, boisterous neighbors. The complainers rarely return. This is our loss because they are usually families who come to Berlin to relax and enjoy what nature has to offer, not to see how much beer other campers could drink in one night.

c. Hazards to the Public. The shoreline area where most visitors swim in the Mill Creek Recreation Area is a depository for beer bottles and cans. Many small children use this area and are quite susceptible to injuries due to stepping or falling on broken bottles and rusty cans. The glass and metal containers found along the shoreline are almost exclusively beer bottles and cans. In most cases, people who drink alcoholic beverages in excess, tend not to properly dispose of their litter, thereby causing this hazard along the shoreline.

Last summer a very young girl was cut on broken glass in the swimming area. She was taken to a local hospital where she received 8 stitches. Fortunately, no more accidents of this type were reported as having occurred.

d. The rangers cannot effectively handle individuals who are under the influence of alcohol, especially the ones who display violent behavior.

Corps of Engineers rangers do not have the authority to deal with violent behavior effectively, in other words, they cannot arrest, detain or otherwise control the person. They must wait for the proper authorities. Alcohol tends to aggravate violent behavior, therefore, making the ranger's job even more difficult than it has to be. The less violent and even just rowdy behavior that project personnel have to contend with, the easier their job becomes and the better the Corps looks in the eyes of the public.

7. FINDINGS. Alcoholic beverages, while permitted at Berlin Lake Recreation Areas have caused a nuisance not only to the employees of the project but to the rest of the public who come to enjoy themselves at the facility. Berlin Lake's reputation as a "party place" reflects mainly on the Corps of Engineers in general and the project in particular. It is the policy of the Corps of Engineers to manage its projects in the best interest in the public, providing it with safe, pleasant recreational opportunities while protecting the natural resources. Since our present authority limits management practices to an inadequate level in coping with the alcohol problem, it is felt that the present abuse directed towards the facilities, project personnel and the public can be significantly reduced if alcoholic beverages are are prohibited.

The use of appropriate signs, verbal and written warnings, citations and the assistance of local law enforcement personnel will help to enforce this regulation.

Statement of Findings
Concerning Imposition of a Prohibition of
Alcoholic Beverages at Kinzua Dam and Allegheny Reservoir
Pittsburgh District

1. PROJECT. Kinzua Dam and Allegheny Reservoir.

2. AREAS UNDER CONSIDERATION. All Corps-operated recreation areas within the project boundaries. This includes the picnicking, visitor center, boat launching, outflow area, the parking lots associated with these areas, and any undeveloped areas at the project.

3. RESTRICTION UNDER CONSIDERATION. Banning alcoholic beverages from all Corps of Engineers-operated recreation areas at Kinzua Dam and Allegheny Reservoir including developed and undeveloped areas. Prohibition would include the consumption, use, and presence of all alcoholic beverages.

4. AUTHORITY. Title 36 of the Code of Federal Regulations, Part 327.12, Restrictions, states that "The District Engineer may establish and post a schedule of visiting hours and/or restrictions on the public use of a project or a portion of a project. The District Engineer may close or restrict the use of a project or portion of a project when necessitated by reason of public health, public safety, maintenance or other reasons in the public interest. Entering or using a project in a manner which is contrary to the schedule of visiting hours, closure or restrictions is prohibited".

5. EXISTING SITUATION. Title 36 has no provisions governing the use of alcohol on Federal projects. The portion of the project which lies in Pennsylvania is under Forest Service jurisdiction which does not prohibit alcoholic beverages. The New York portion, under the jurisdiction of Allegany State Park, prohibits the use of alcoholic beverages.

6. PROBLEM. The permitted use of alcohol on the project has resulted in the following problems:

a. The main problem at Kinzua Dam has been the consumption of alcohol in cars while parked at the Overlooks and Visitor Center. While there has not been an apparent increase in vandalism, littering has increased. The problem is with people who drink off-project and then visit our areas already intoxicated.

b. Corps of Engineers Rangers are frequently criticized for their inability to deal effectively with such rowdy and boisterous groups as are commonly involved in complaint-type situations. Corps Rangers do not have the authority to handle uncooperative or violent behavior which is typically encountered in situations involving alcohol consumption. They can neither arrest nor detain uncooperative individuals. Alcohol tends to aggravate aggressive and uncooperative behavior, therefore, amking their job more difficult and potentially hazardous.

7. FINDINGS. There have been a number of altercations which involved the consumption of alcohol. Undoubtedly, alcohol was a prime contributing factor toward the incident. Attempting to deal with such situations places the C orps Ranger and Park Technician, with his very limited authority, in a very touchy and potentially hazardous situation. To ignore an incident draws immense criticism from onlooking visitors and reflects badly on both the Ranger and the Corps.

Similar documents on file for other LRP parks.

POSTED: JANUARY 14TH, 2012

NEW PENNSYLVANIA LIFE JACKET RULES FOR COLD WEATHER

I was at a dinner last week when a friend and I were talking about the lack of winter weather so far in December and January. In fact, he was telling me about how just that afternoon, he had taken his canoe and put in at the lagoons and paddled for over two hours. He said it was great, and this extension of his season was wonderful.

He then went on to tell me that in a few corners filled with tall grass, a little glaze of very thin ice was still present in the water. I ask him if he was aware of the new "mandatory cold-weather life jacket regulations" that just went into effect in Pennsylvania. You guessed it! He did not know what I was talking about.

The new regulation, which takes effect as of **November 1, 2012,** is as follows:

A person shall wear a Coast Guard approved personal flotation device (PFD or Life Jacket) during the cold-weather months from November 1st through April 30th while underway or at anchor on boats less than 16 feet in length or any size canoe or kayak.

His first reaction was that he never wears a life jacket in the lagoons. He feels that he is a good swimmer, so it is not needed.

My answer was that next year, all that is going to change in cold weather. He will not have a choice during cold weather. I fell that the new rule is very good, and am sure that the Fish Commission and other agencies will be enforcing it come next

November.

The reasoning behind this change is that cold-water shock is a major factor in boating fatalities when the water temperatures fall to less than 70 degrees. This shock causes people to involuntarily gasp and can result in the person hyperventilating, aspirating water and reducing their ability to swim and breathe properly.

After a bit of discussion, he agreed with the reasoning. We then talked a bit about a few other cold-water safety ideas, which are as follows:

- The life jackets offer additional insulation from the cold.
- Know the waters where you are going to boat.
- Let someone else know where you are boating.
- Have a cell phone that is fully charged.
- Wear clothes that still insulate even when wet, (Fleece, polypropylene).
- If you should fall into the water, cover your mouth and nose with your hands.
- Stay with the boat; get back in it or at least on top of it.
- Do not remove your clothing while in the water.

I think in cold weather, it is not a good idea to canoe, kayak or boat alone. You

are just asking for trouble if you should fall into the water. Enjoy Presque Isle, but do it safely.

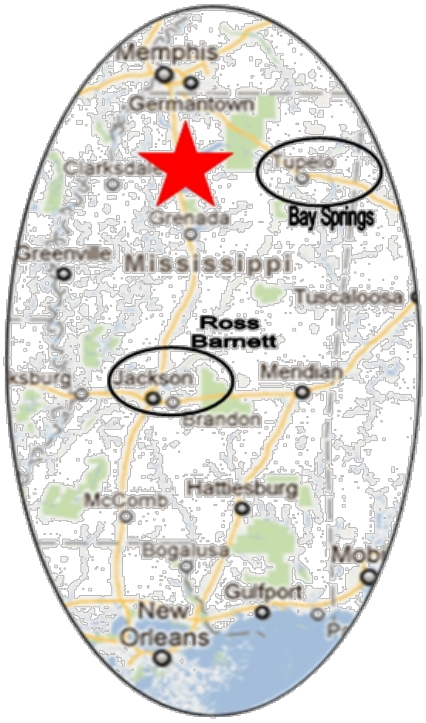
APPENDIX C

VICKSBURG DISTRICT SUMMARY

Vicksburg District
Mississippi Lakes Project
Baseline 2008
Test Years 2009-2011

Policy lakes:
Arkabutla Lake
Sardis Lake
Enid Lake
Grenada Lake

Control lakes:
Bay Springs Reservoir
Ross Barnett Reservoir



Measurements:

Measurement	Baseline 2008	2009	2010	2011
Man hours for policy (boat patrol)	++	1248	1199	1291
Wear Rates (Overall Average)	8.8%	74%	71%	70.6%
Congressional Inquiries	0	0	0	0
Public Letters/emails/phone calls*	-	34	2	1
Water-related Fatalities	4	1-Boating	1-Swimming	1-Swimming
Visitation	5,565,443	5,271,841	5,238,368	4,883,321
Warnings Issued	-	876	1488	945
Citations Issued	-	0	3	120
News Articles/Radio/Television	104	26	50	22

*These totals include all types of contacts fielded by the Project Office along with emails and letters received by Lake Resource Managers. The lake offices did not track telephone calls individually; they were included in the weekly contact numbers.
++ Estimated in the Interim Report: 12 boat hours per week Corps and 8 per week other agency during recreational boating season.

Project Description:

Vicksburg District was the first district to voluntarily agree to test policy for the Life Jacket Policy Study. Testing occurred only on the four lakes located in North Mississippi: Arkabutla, Sardis, Enid, and Grenada lakes. Each lake is an independent organization with a Resource Manager, ranger staff and O&M personnel. All four lakes are under the direct management of the Mississippi Project Management Office. These four lakes were formed by dams constructed as part of the comprehensive flood control plan known as the Mississippi River and Tributaries Project. They were built between the late 1930s and the mid-1950s. Vicksburg District made a wise decision to conduct policy testing only on the waters of the Mississippi Projects to minimize public confusion over Corps policy. Although the district manages lakes in the state of Arkansas, they were not included in the study due to their close proximity to Little Rock District lake projects. Staff realized that testing on Arkansas waters might confuse visitors in that Little Rock District lakes would not be involved in the test and therefore would not have life jacket policies in place. The state of Mississippi is split between the Vicksburg and Mobile districts; however, lake projects in the Mobile District are not located close to the North Mississippi lakes and it was determined they would not be impacted by the life jacket policy. Additionally, Mississippi lakes' management was confident the distance was great enough to Mobile projects to prevent visitors from leaving the Mississippi lakes due to the new policy.

The four Mississippi lakes have proven to be popular recreation destinations for local residents and regional visitors once they were made accessible in the early 1940's. By 1970, a significant number of recreational fatalities had been documented by lake managers, leading district leadership to hire staff park rangers to monitor recreational activities of lake visitors and provide educational outreach on associated risks. At Sardis Lake alone, a total of 160 lives were lost due to drowning since the project became operational in 1940. In the 1990s, when it was noted that a significant number of drownings involved alcohol consumption, lake managers acted to adopt alcohol restrictions and bans. Each of these initiatives proved to be effective, resulting in a reduction of public fatalities by nearly 50% between 1972 and present day. Review of the public fatalities that have been documented since 1998 shows that 92% of drowning victims were not wearing a life jacket; this trend was a key motivator for district leadership to agree to participate in the HQUSACE Life Jacket Policy Study when it was announced in 2007.

Vicksburg District's participation in the Life Jacket Policy Study provided the Corps with the opportunity to study the effects of policy introduction, including visitor compliance and management impacts. Most valuable to the study was the ability to document findings at several lakes within the same region. It was significant that the four lakes were the primary recreational waters of that region, each attracted large numbers of visitors, offered year-round recreation and hosted a variety of recreational activities.

Study Methodology:

Since Vicksburg District did not have established life jacket policies, such as those in place in Pittsburgh District, their first step in prepping for participation in the Life Jacket Policy Study was to determine what policies would be tested. Vicksburg's managers determined early on that the established Pittsburgh District policy which required life jackets be worn on vessels under 16 feet in length would not adequately address recreational risks found on their own waters. Through careful review of their fatality records, staff determined that to seriously be effective in fatality reduction, testing would have to encompass larger sized vessels, and all paddlecraft. Additionally, with nearly half of their fatalities involving swimming in non-designated waters, staff opted to include a life jacket policy for swimmers outside of designated beach areas. A "swimmer" for this policy was defined as an individual in waters outside of a designated swim area who was unable to touch lake bottom; the policy did not apply to waders and excluded activities such as hand grabbling or noodling for fish.

Policies were specifically set to achieve the maximum possible impact by reaching the majority of visitors involved in water-based recreational activities. Internal review identified boaters in small classes of vessels (< 26') and swimmers in non-designated areas as Vicksburg District's greatest recreation risk groups. In addition to review of recreation fatality records, staff closely examined State life jacket laws, determining that current Mississippi law requires life jackets be carried for each person on board all vessels <26' in length; however, actual wear is only required by boaters less than 13 years old while the vessel is underway. Life jacket wear is currently

mandatory in Mississippi under state law for users of personal watercraft. Beyond activities already covered under State laws, Vicksburg staff determined that their greatest risk groups were boaters in smallcraft actively fishing, hunting and/or generally boating. Under further review, staff explored fishing tournament regulations that set life jacket standards for boating anglers participating in local events held on Mississippi Lakes Project waters and discovered a successful level of compliance among participants; it was believed that adopting similar policies for their test might result in greater compliance overall from boaters from the region. In final, Vicksburg determined that their test policies would include requirements for:

- All boaters on vessels 16'-26' to wear a U.S. Coast Guard-approved life jacket while the vessel is under power by the main propulsion unit. Boaters on this class of vessel are permitted to remove their life jacket while the primary power source of the vessel is not running. Boat operators are required to ensure that all occupants of the vessel are in compliance with regulations.

- All boaters on powered vessels <16' and non-powered vessels, regardless of length, are required to wear a U.S. Coast Guard-approved life jacket at all times. Boat operators are required to ensure that all occupants of the vessel are in compliance with regulations.

- All swimmers outside of non-designated areas to wear a U.S. Coast Guard-approved life jacket.

Study Outreach:

Project staff took exceptional care in prepping for test implementation once their participation was determined. Using a slow and methodical approach, they initiated regional awareness by first advising local Congressional offices, state and local law enforcement agencies, and Federal Magistrates, before making their announcements to local media, public user groups, and onsite visitors. Interpretive and posted restriction signage was developed and installed at access points around the lakes. Although actual policy implementation and enforcement did not begin until 22 May 2009, district and project staff were actively engaged in community relations and education on the planned changes as early as the previous fall. In the interim, existing State life jacket requirements continue to be enforced through 36 CFR 327.3 (e) Vessels; once test policy went into effect, it was enforced under Title 36 CFR 327.12 (a) Posted Restrictions. Test policy was reviewed and approval by HQUSACE Office of Counsel before program implementation. Staff also continued routine educational outreach with water safety messaging, making small revisions to information shared to inform on the new life jacket requirements established at the lakes, for instance park rangers placed more than 40,000 information flyers on vehicles in project parking lot as one method of making park visitors aware of the new policies. Although implementation did initially add to man hours of certain staff members, it did not interfere with normal project operations. Outreach was a standard activity for the purposes of this test; however its focus was on policy rather than water safety in general. The project's Operations Project Manager

concluded that he felt no impact or extended effort was required of him or his staff in order to implement the test policies and that staff effort would have increased due to other initiatives even had the project not participated in the Life Jacket Policy Study.

Enforcement Efforts:

The Mississippi Lakes park ranger staffs enforced the life jacket policies under Title 36, Code of Federal Regulations, Chapter 111, Part 327, Section 12(a), which states, "The District Commander may establish and post a schedule of visiting hours and/or restrictions on the public use of a project or portion of a project. The District Commander may close or restrict the use of a project or portion of a project when necessitated by reason of public health, public safety, maintenance, resource protection or other reasons in the public interest. Entering or using a project in a manner which is contrary to the schedule of visiting hours, closures or restrictions is prohibited." Rangers were instructed to enforce the regulation to the best of their ability utilizing existing resources while continuing to balance all other agency missions. The ranger staff was also instructed to follow the USACE Visitor Assistance philosophy of attempting to gain compliance at the lowest level.

Mississippi Lakes Project did not experience staffing challenges, with an average of 20 park rangers per lake available for visitor assistance duties to include temporary rangers. Prior to implementation of test policy on the lakes, typically 400 routine patrols occurred for public safety in any given week during recreation season, with patrolling rangers making one-on-one contact with all visitors including on-the-water boaters and swimmers. During the recreation seasons of the test period, managers made little or no change to boat patrol with the exception of message. Whereas, prior to policy implementation, educational contacts advised on the importance of life jackets for safety along with conducting equipment safety checks, once the policies were in place, rangers used these patrols for policy education and/or enforcement contacts. Man hours dedicated to boat patrols and other visitor assistance patrols did not increase significantly as a result of participation in the Life Jacket Policy Study.

Local and state boat patrolling officers were unable to assist in enforcement of the Corps policy but were instrumental in aiding park rangers through notifications to boaters not in compliance. This type of assistance came from one state agency that routinely patrolled all four lakes.

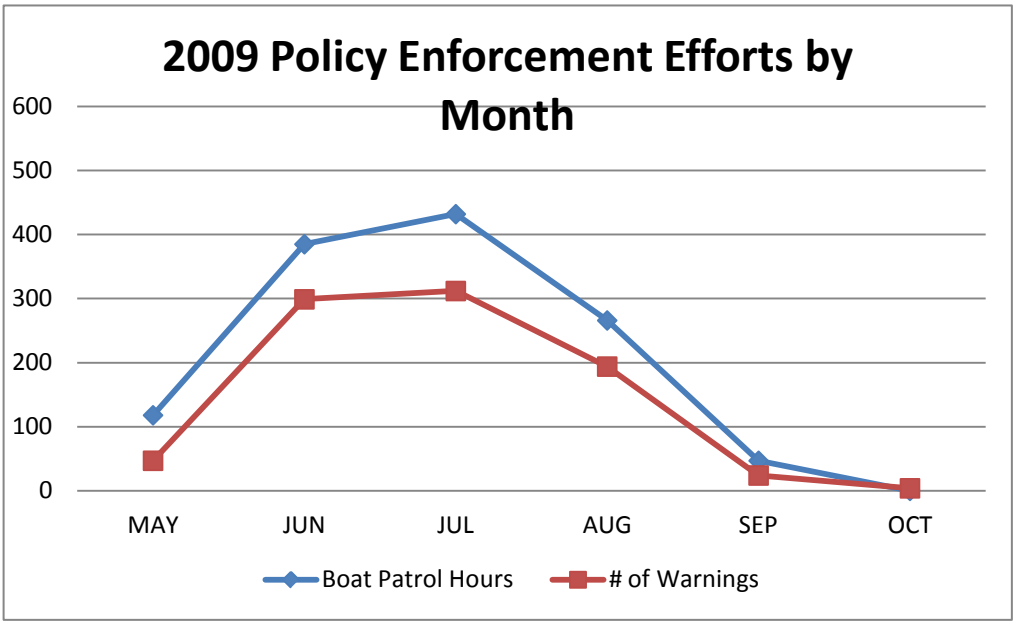
During the test period, Mississippi Lakes Project park rangers logged approximately 800 man hours of boat patrol annually, as demonstrated in the following chart:

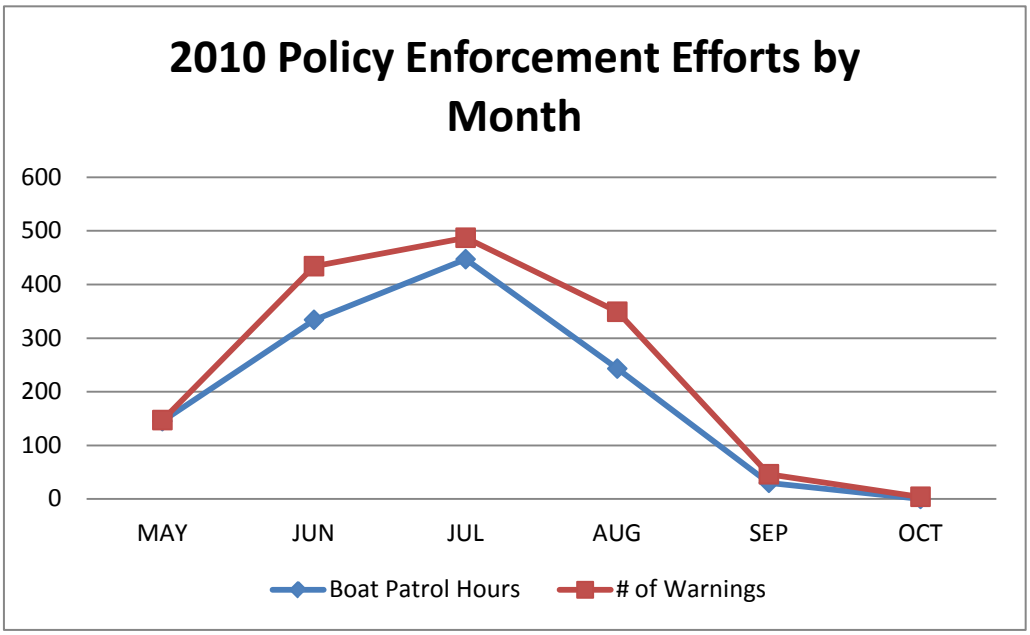
Lake	Baseline 2008*	Test Year 2009*	Test Year 2010	Test Year 2011
Arkabutla	288	300	311	295
Enid	288	250	247	290

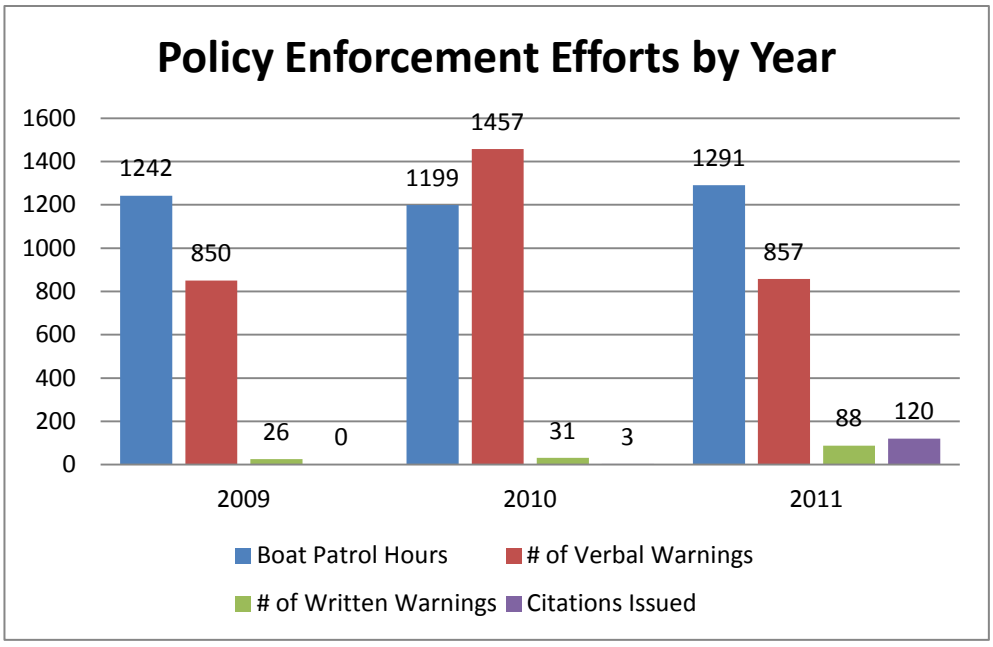
Sardis	288	250	145	214
Grenada	480	450	496	492

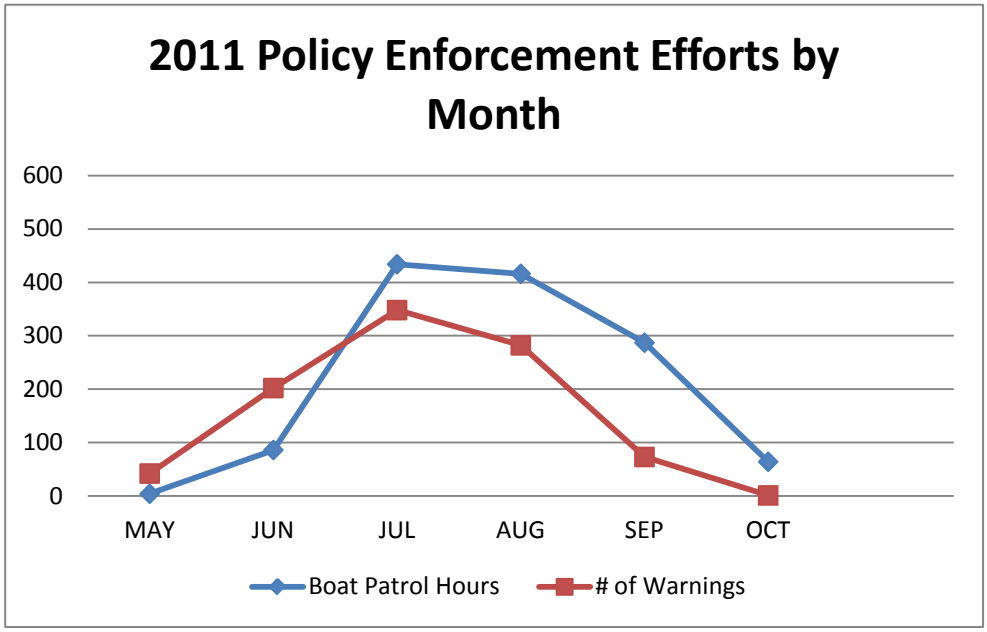
*MS lakes' staff did not start tracking boat patrol hours until May 2010; however, we did not increase our boat patrols, so the Baseline year and Test Year 2009 would show similar numbers had they been tracked. Also, the variances in patrol hours from year to year would simply result from weekends with poor weather conditions or absence of operators due to illness or other reasons which resulted in fewer hours of vessels being on the water.

Rangers used a gradual increase of enforcement throughout the three recreation seasons of the study, allowing for an education-first approach particularly during the first year of enforcement. This approach matches the Corps' visitor assistance philosophy of using the lowest level of enforcement required for gaining compliance. During the baseline year, 12,502 direct contacts were made by park rangers working the four Mississippi Lakes, informing visitors of the life jacket policies that would go into effect in May 2009. Beginning May 2009, park rangers utilized a data base to track vessels that were either issued a verbal warning, written warning or citation. Park rangers were instructed to follow Corps policy to gain compliance at the lowest level of enforcement. The data base was shared by the four lakes in order to track users in the event they moved from lake to lake. There was also a management decision to instruct park rangers to primarily issue verbal warnings during the first year of enforcement unless they had same-day repeat violators. Based on the data gathered during the first year of enforcement, management deduced each lake's clientele was fairly loyal and did not travel from lake to lake. The data base became non-functional after the first year when the District upgraded computer systems. Park rangers then relied on internal logs kept by each lake's boat operators. During the second year of enforcement, park rangers were instructed to move to the next level of enforcement and primarily issue written warnings. During the third and final year of the test, managers were instructed to have park rangers increase their level of enforcement by issuing citations to visitors who frequented their lakes and repeatedly disregarded the life jacket rules. Enforcement data was tracked by lake and that data clearly shows the level of buy-in from each lake's management to issue citations for non-compliance. Overall, during the three-year study period over 3,000 verbal warnings were given, 145 written warnings and 123 citations were issued for non-compliance. By analyzing the number of contacts, it is evident that attempts to gain compliance at the lowest level were successful.




2010 Policy Enforcement Efforts by Month
600
500
400
300
200
100
0
MAY
JUN
JUL
AUG
SEP
OCT
Boat Patrol Hours
# of Warnings


Policy Enforcement Efforts by Year
1600
1400
1200
1000
800
600
400
200
0
1242
850
26
0
1199
1457
31
3
1291
857
88
120
2009
2010
2011
Boat Patrol Hours
# of Verbal Warnings
# of Written Warnings
Citations Issued


2011 Policy Enforcement Efforts by Month
600
500
400
300
200
100
0
MAY
JUN
JUL
AUG
SEP
OCT
Boat Patrol Hours
# of Warnings

Other Water Safety Efforts:

TYPE OF SIGN	NUMBER INSTALLED/REPLACED	ESTIMATED COSTS
Regulatory	150*	$8,500.00
Interpretive (Billboards)	9	Approximately $300 per billboard
Other (Describe) Bulletin Boards (Posters) & Banners	100	Approximately $7,200.00 for all four lakes

*As with the beginning of any new program that requires signage, a bulk order of signs had to be purchased. The total of 150 signs was purchased for all four lakes which would break down to approximately $2,000 per lake. In addition to signage, lake managers purchased banners, posters and billboard wraps which increased the expense to approximately $5,000 per lake.

Visitation:

Key Recreation Activities at the Mississippi Lakes Project:

- Day Use – Picnicking, swimming, hiking, cycling, sightseeing, fishing (from bank and boat)
- Camping
- Boating – Recreational boating and fishing

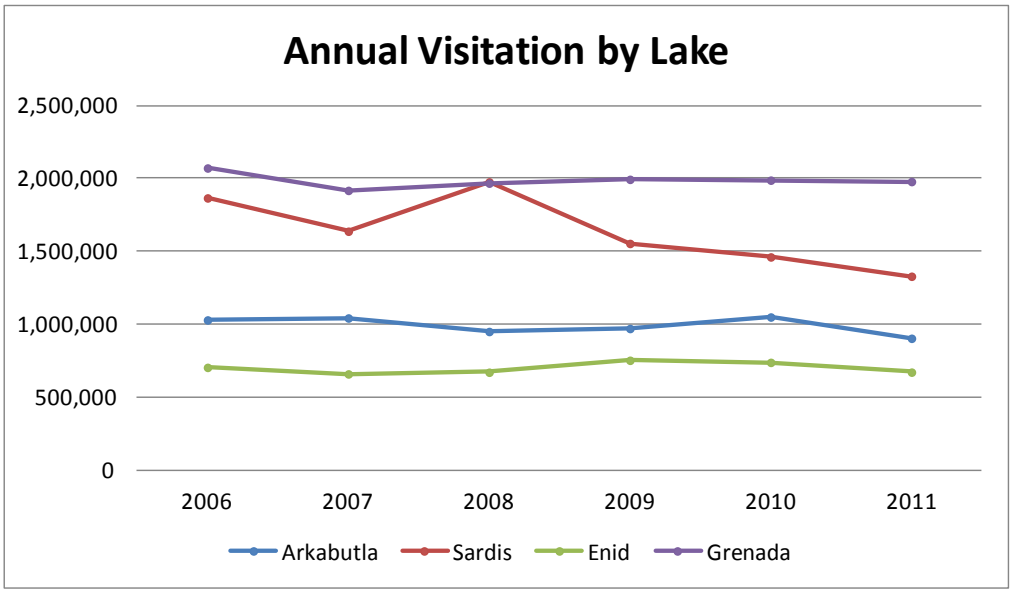
Description of Usage by Lake:

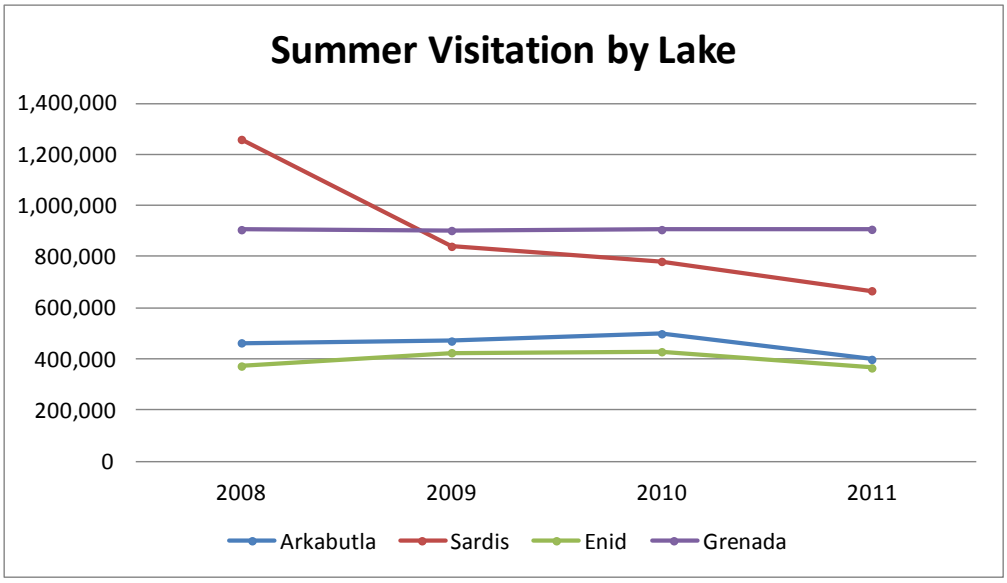
- Arkabutla – Large camping crowd, fishing, and sailing
- Enid – Very large camping crowd, fishing, and boating
- Sardis – Very large day use crowds, heavy boating (fishing and recreational use)
- Grenada – Mainly day use crowds, numerous fishing tournaments, many large special events, and fairly large group of recreational boaters

Visitation at most of the Mississippi lakes overall did not show significant loss due to implementation of life jacket policy; Sardis Lake may be the exception, although with other regional impacts it is difficult to say. Annual pass sales at Sardis Lake did decrease, but not significantly. Although the lakes' visitation numbers mostly held steady or showed slight increases, some fluctuations in numbers did occur, due largely to inclement weather, economic impacts, gas prices, lake levels and whether sport fishing conditions were favorable or not.

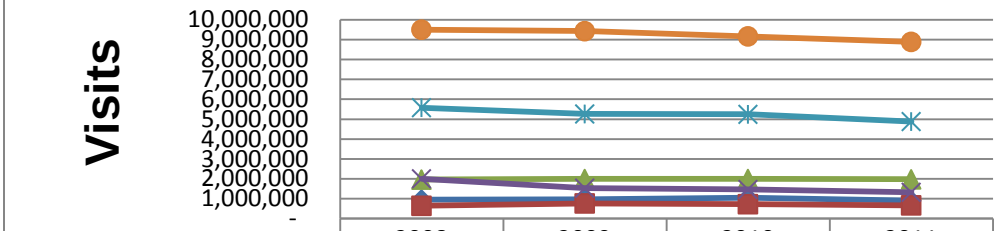
In 2011, Arkabutla experienced high water conditions during the recreation season. Also, July and August were extremely hot and humid months for all four lakes.

Sardis Lake mainly has large summer day use crowds which includes boating. The drop in visitation may be due to the life jacket policy; however, we don't have enough data to confirm. Annual pass sales at Sardis and Arkabutla lakes have decreased, but increased noticeably at Enid and Grenada lakes.



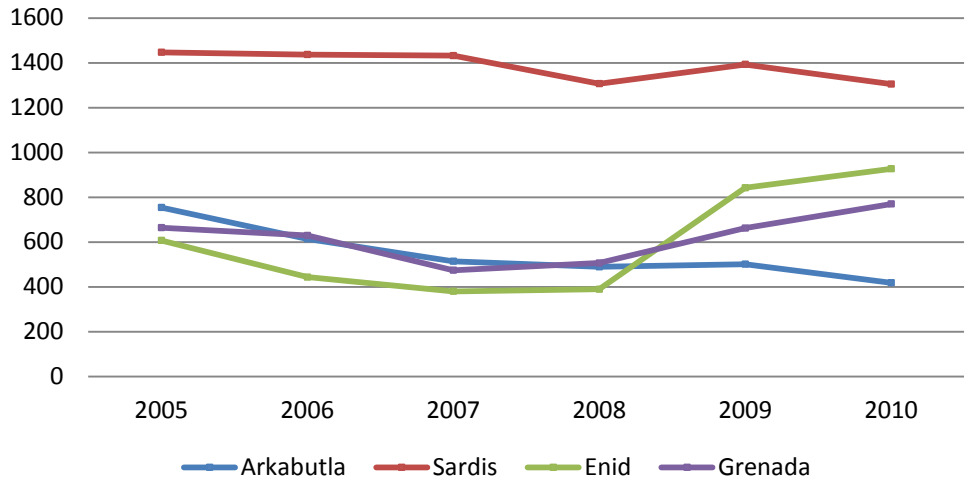


Vicksburg District (MVK) Visitation FY08-11



	2008	2009	2010	2011
Arkabutla	958,210	965,005	1,049,722	903,666
Enid	649,029	768,690	731,182	671,502
Grenada	1,966,496	1,994,428	1,995,276	1,978,944
Sardis	2,007,017	1,536,706	1,469,932	1,329,209
MVK- MS Test Lakes	5,580,752	5,264,829	5,246,112	4,883,321
MVK All Projects	9,501,219	9,426,648	9,164,955	8,888,117

Annual Pass Sales by Lake



Conclusions:

Prior to implementation of life jacket policies for the Life Jacket Policy Study testing, adult wear rates at the Mississippi Lakes were close to nationwide averages for voluntary wear rates of just over 8 percent. During the first recreation season of test policy, wear rates peaked at nearly 80 percent. During the second and third years of the test, wear rates on the four Vicksburg District lakes held steady in the 70 percentile range. Drowning fatalities at the Mississippi Lakes dropped from a total of seven deaths in the three years prior to policy implementation to one death during each of the 3 years of the test; of the three drownings that occurred during the actual test period (one boating, two swimming), only the one boating incident involved a victim who was not in compliance with the posted restrictions. The other incidents either occurred within a designated swimming area or resulted from a medical event.

As a result of the study implementation and the efforts of Mississippi Project Management Office personnel, mandatory life jacket testing at the Mississippi Lakes Project has been deemed a success by Vicksburg District leadership. Not only have adult wear rates significantly increased, fatality reduction has been realized and lives have been saved. Testimonials from lake visitors were received during this study period credited the imposed life jacket policies with saving their lives. By example, within the first weeks of enforcement, four fishermen were rescued following lengthy periods of time in the water before being reported as missing. All four testified they were wearing their life jackets only because of the policy at the lake. Publicity stemming from these “near misses” has been instrumental in raising life jacket awareness among adult user groups of the region. District and the Mississippi test lakes staffs affirm that they knew from the beginning that the decision to participate in the study would have challenges, but they also knew without doubt that the Mississippi lakes and the US Army Corps of Engineers had an opportunity to significantly impact national policy.

Based on the broad success of the Vicksburg District three-year policy testing, District Commander Colonel Jeffrey Eckstein recently approved continuation of all tested policies for an indefinite period.

Existing Mississippi Department of Wildlife, Fisheries, and Parks Regulations on Life Jackets.

□All vessels must carry one wearable U.S. Coast Guard – approved life jacket for each person on board.

□Besides being U.S. Coast Guard–approved, all life jackets must be:

- **In good and serviceable condition.**
- **Readily accessible**, which means you are able to put the life jacket on quickly in an emergency.
- **Of the proper size for the intended wearer.** Sizing for life jackets is based on body weight and chest size.

□In addition to the above requirements, vessels 16 feet in length or longer must have one Type IV U.S. Coast Guard–approved throwable personal flotation device on board and readily accessible.

□Children 12 years old and younger must **wear** a Type I, II, or III U.S. Coast Guard–approved life jacket whenever underway in a vessel less than 26 feet in length.

□Each person riding on or being towed behind a personal watercraft must **wear** a Type I, II, or III U.S. Coast Guard–approved life jacket.

Mississippi Project Management Office – Additional regulations applicable to all project waters at Arkabutla, Sardis, Enid, and Grenada Lakes.

□All persons must **wear** a Type I, II, or III U.S. Coast Guard–approved life jacket **at all times** while swimming outside of designated swimming areas. Waivers may be issued by Park Managers to exempt participants of special events, such as triathlons, from this requirement while participating in the event.

□All persons must **wear** a Type I, II, or III U.S. Coast Guard–approved life jacket **at all times** while skiing or being pulled by a vessel, regardless of vessel length.

□All persons must **wear** a Type I, II, or III U.S. Coast Guard–approved life jacket on powered vessels 16 feet in length to 26 feet in length **whenever under power by the main propulsion unit.** This does not include when the vessel is powered by a trolling motor or is stationary.

□All persons must **wear** a Type I, II, or III U.S. Coast Guard–approved life jacket **at all times** on powered vessels less than 16 feet in length or on non-powered vessels, regardless of length. Non-powered vessels include, but are not limited to canoes, kayaks, flat bottoms, sailboats, and paddleboats.

PRESS RELEASES, ARTICLES, COMMERCIALS

NATION NEWS | From The Founder

The difference between life and death


Ray Scott

A BOATING ACCIDENT CAN HAPPEN IN THE blink of an eye. A weather front moves in unexpectedly; winds blow and waves crash into the side of a boat. Someone is knocked off balance and they fall overboard … often with his life jacket stored safely under his seat.

Don't kid yourself. It can happen to you.

I still shudder when I think about a tournament incident back in 1974 on Beaver Lake. If Bass Pro Shops founder Johnny Morris and his partner Bob Craddock of Kentucky hadn't been wearing life vests on that cold and stormy April day when their boat capsized and sank, they wouldn't have survived. It was as simple as that.

So often wearing a life jacket spells the difference between life and death. And yet, life vests remain "stowed beneath the seat."

When I founded BASS and the BASS Tournament Trail back in 1968, I wanted to make bass fishing a recognized and respected sport. One of my first and obvious concerns was to ensure that my tournament competitors returned home safely after a day of fishing. I sweated bullets every competition. That is why the mandatory use of life jackets has always been a BASS tournament rule. The vest must be on and fastened whenever the big engine is running. Beyond that I always encouraged anglers to keep them on at all times, something made a whole lot easier with the introduction of the compact inflatable-style PFD.

Looking back at our safety record over the years, I am extremely proud of our decision and the example we have set. I have always said the next step should be mandatory use of life jackets for all boaters at all times. So, it shouldn't be a surprise to BASS members when I tell you I fully support the Corps of Engineers, Vicksburg District, on a three-year Mandatory Life Jacket Pilot Program.

Just as BASS is the world's largest bass fishing organization with more than half a million members, the Corps of Engineers, with its 456 water-resource projects and more than 385 million visitors per year, is the nation's largest provider of water-based recreation. BASS is a world-class organization that has made safety a foundational cornerstone. The same holds true for the Corps, another world-class organization. But, when you are dealing with millions of visitors, like the Corps, and water-based recreational activities such as boating, fishing and skiing, safety is a tremendous responsibility.

The Corps provided me some stunning statistics: Between 1998 and 2007, there were 1,641 accidental and unintentional water-related deaths at Corps projects alone, and 92 percent of the victims were not wearing a life jacket. Why is that? The Corps is well-known for its aggressive water safety education program. Most states require boaters to have U.S. Coast Guard-approved life jackets readily accessible for everyone on board. So, why are so many lives being lost? The problem is state laws fall short of requiring adults to actually wear the life jackets they are made to carry in their boats.

See the Corps' life vest rules at www.bassmaster.com/bt. Learn more about this program on page 19 of this issue.

For almost three decades, the Corps' water safety programs and campaigns have educated boaters and water enthusiasts about the importance of wearing life jackets and how life jackets save lives. Unfortunately, their programs and campaigns have not caused a significant increase in life jacket wear rates among adults. So, in 2008, the Corps initiated a three-year test program at four of its lakes in north Mississippi. This study, which is taking place at lakes Arkabutla, Sardis, Enid and Grenada, will measure the effectiveness of regulation and enforcement to increase life jacket usage by adult boaters. Corps officials believe, as do I, that these rules are going to save lives.

When I met with Corps representatives from the Vicksburg District, where the pilot program is taking place, I was proud to learn they patterned their rules after BASS tournament rules. They have taken a bold step in requiring boaters to wear life jackets. But whenever there is change, there is always opposition. Some of you may remember the uproar caused by automobile seat belt use. Today it is common sense and commonplace.

Now the Corps needs the support of a top-notch organization like BASS with members who realize the importance of personal safety and proudly don their life jackets anytime they are on the water. It is my hope that BASS members will lead the way like they have in so many other worthwhile endeavors.

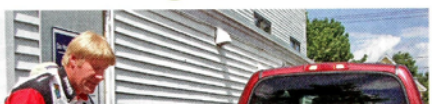
After all, the most important part of a day spent fishing the lakes and rivers of our great nation is the end of the day when it is time to go safely home to our families.

RAY SCOTT
BASS Founder

Member Matters

Feeding the hungry

CONCORD, N.H. – John Foster, tournament director of the New Hampshire BASS Federation Nation, said members of the state



commercialappeal.com Memphis, Online

Arkabutla swimming areas shut due to high water

Corps lakes beefing up rules for floatation devices

By William C. Bayne

Wednesday, May 20, 2009

High water at Arkabutla Lake has forced the closing of the lake's three beaches, eliminating swimming areas for Memorial Day weekend.

"The high water has also flooded some of our picnic areas, but we still have tables available on a first come, first served basis," said Jamie Richmond, a natural resources specialist/park ranger.

The beaches at the South Abutment to the dam, Hernando Point and Pleasant Hill have been closed indefinitely, at least until the high water recedes.

In addition, the Corps of Engineers, which provides more recreational water than any other agency nationally, has adopted rules requiring life jackets for anyone swimming anywhere on the lake except for the designated swimming areas.

The rules take effect Friday.

"We're hoping to increase the wear-rates for life jackets and to minimize the potential for public drownings," she said. "Ultimately, the goal is to save lives."

The Engineers have also adopted new rules for boating at Arkabutla and at three other lakes in North Mississippi: Sardis, Enid and Grenada.

All people, regardless of age, must wear a type 1, 2 or 3, Coast Guard-approved life jacket at all times in any boat or watercraft 16 feet long or smaller. On boats of 16 feet to 26 feet in length, all on board must wear a Coast Guard approved life jacket at all times when the boat is under its main power.

Those who are 12 and older may remove the life jackets when the larger boats are stationary or when the boats are under auxiliary power, such as a trolling motor.

Rangers at the four lakes may issue verbal warnings and written warnings, but citations are authorized.

"Our goal is compliance," Richmond said. "We're not trying to see who could be cited. But those using the lakes should follow the rules."

Arkabutla's standing prohibition of alcoholic beverages remains. Violation of that rule can result in citations.

Recent runoff from spring rains has pushed the lake level to 233.55 feet, about 131/2 feet above the normal summer recreational pool level of 220 feet.

Richmond said the beaches would re-open whenever the natural resource manager feels the lake level has dropped to a level at which swimming can safely be permitted.

-- William C. Bayne: (662) 996-1408

New life jacket rules

The Corps of Engineers has adopted new rules governing the use of life jackets on four North Mississippi lakes under its jurisdiction -- Arkabutla, Enid, Grenada and Sardis.

The rules take effect this Friday, just in time for the Memorial Day weekend.

Under the new guidelines:

All people, regardless of age, must wear a type 1, 2 or 3 Coast Guard-approved life jacket at all times in any boat or watercraft 16 feet long or smaller.

On boats of 16 feet to 26 feet in length, all on board must wear a Coast Guard-approved life jacket at all times when the boat is under its main power.

Those who are 12 and older may remove the life jackets when the larger boats are stationary or when the boats are under auxiliary power, such as a trolling motor.

New Life Jacket Wear Requirements Begin May 22, 2009

Enforcement of the new life jacket wear requirements at the four Vicksburg District-North Mississippi lakes is just around the corner. On May 22, 2009, the new rules will be put into effect at Arkabutla Lake, Sardis Lake, Enid Lake and Grenada Lake.

The Mandatory Life Jacket Program is a pilot program that was designed to help USACE Headquarters determine whether more stringent life jacket rules will improve overall wear rates. Although the Corps' water safety education program has increased the public's awareness about water safety, it has done very little to actually generate an increase in life jacket wear rates. National statistics provided by the U.S. Coast Guard indicate approximately 20 percent of all boaters actually wear life jackets. (This figure includes individuals who are required by law to wear a life jacket – riders on personal watercraft and children twelve years and under.) Concerns over the number of water-related fatalities at USACE water resource projects along with statistics provided by the U.S. Coast Guard prompted the mandatory life jacket pilot program. The overall goal is to increase life jacket wear rates; however, as wear rates increase, water-related fatalities should decrease. Lives will be saved!

When plans are being made to spend a day at the lake, nobody plans to have an accident. Yet, accidents occur and often they result in lives lost. That fun day at the lake becomes a lifelong reminder of a tragic loss – a loss that might have been prevented.

So, as you are making your plans this summer to spend a day at the lake, don't forget to include safety! Leave a trip plan with a family member or neighbor. Include your destination, contact information, and estimated time of return along with the names of everyone traveling with you, and the name of the boat ramp, day use area or campground where you can be located. If you don't know how to swim, learn. If you can't swim, wear a life jacket. Never swim, fish, boat or hike alone. Parents – supervise your children's activities. Finally, obey all posted rules and regulations. Don't forget about the new life jacket rules. For the public's convenience, signs with the new rules listed on them are being installed at all boat ramps and swimming beaches and posters are being placed on bulletin boards in day use areas and campgrounds.

The new rules are:

- All persons must wear a Type I, II, or III U.S. Coast Guard-approved life jacket at all times while swimming outside of designated swimming areas.
- All persons must wear a Type I, II, or III U.S. Coast Guard-approved life jacket at all times while skiing or being pulled by a vessel, regardless of length.
- All persons must wear a Type I, II, or III U.S. Coast Guard-approved life jacket on powered vessels 16 to 26 feet in length whenever under power by the main propulsion unit. (This does not include when the vessel is stationary or when it is powered by a trolling motor.)
- All persons must wear a Type I, II, or III U.S. Coast Guard-approved at all times on powered vessels less than 16 feet in length or on non-powered vessels, regardless of length. (Non-powered vessels include, but are not limited to canoes, kayaks, sailboats, paddleboats, and flat-bottoms/jon boats.)

A few activities not covered by the new rules are hand-grabbling, wade-fishing, and bank fishing. However, if you use a vessel to go to and from your fishing location, you will be required to follow the new rules. Wading is an activity often associated with swimming. However, wading is not covered by the new rules. Wading is defined as walking in shallow water (less than knee-deep). Therefore, if you are walking along the shore in shallow water, you will not be required to wear a life jacket. Similarly, a person sitting or reclining in a lawn chair in shallow water (along the shore) will not be required to wear a life jacket.

Our goal as the Nation's number one provider of water-based recreation is to minimize the potential for public drowning fatalities. The intent of the new mandatory life jacket rules is to increase wear rates and ultimately to save lives.

If you would like more information about the Mandatory Life Jacket Pilot Program, contact the Mississippi Project Management Office at (662) 578-3873 or (662) 712-1201 or one of the lake field offices – Arkabutla Lake (662) 562-6261, Sardis Lake (662) 563-4531, Enid Lake (662) 563-4571 or Grenada Lake (662) 226-5911.

NEWS RELEASE

U.S. Army Corps of Engineers
Vicksburg District
www.mvk.usace.army.mil
FOR IMMEDIATE RELEASE

New life jacket policy aims to save lives at Mississippi Lakes

Sardis, Miss… - Four U.S. Army Corps of Engineers-Vicksburg District lakes in North Mississippi will participate in a 3-year mandatory life jacket wear test program beginning May 22, 2009. The areas selected for this study are Arkabutla Lake, Sardis Lake, Enid Lake, and Grenada Lake.

The policy will require the use of life jackets to a greater degree than existing regulations in an effort to save lives.

The Corps' mandatory life jacket test program was designed to determine whether the additional life jacket requirements will improve wear rates among water-based recreation user groups and consequently decrease water-related fatalities.

After extensive review, the national data indicates public fatalities most often occur in accidents involving small classes of vessels (under 26 feet) and swimmers in non-designated swim areas. With all of this in mind, the following life jacket wear requirements were developed:

- All persons must wear a Type I, II, or III US Coast Guard-approved life jacket at all times while swimming outside of designated swimming areas. (Waivers may be issued by Park Managers to exempt participants of special events, such as triathlons, from this requirement while participating in the event.)
- All persons must wear a Type I, II, or III US Coast Guard-approved life jacket at all times while skiing or being pulled by a vessel, regardless of vessel length.
- All persons must wear a Type I, II, or III US Coast Guard-approved life jacket on powered vessels 16 feet in length to 26 feet in length whenever under power by the main propulsion unit. (This does not include when the vessel is powered by a trolling motor or is stationary.)
- All persons must wear a Type I, II, or III US Coast Guard-approved life jacket at all times on powered vessels less than 16 feet in length or on non-powered vessels, regardless of length. (Non-powered vessels include, but are not limited to canoes, kayaks, flat bottoms/johnboats, sailboats and paddleboats.)

The new requirements will be in full effect beginning May 22, 2009 on the waters of Arkabutla Lake, Sardis Lake, Enid Lake, and Grenada Lake. For more information, you may contact the Mississippi Project Management Office at (662) 578-3873 or the lake field offices: Arkabutla Lake (662) 562-6261, Sardis Lake (662) 563-4531, Enid Lake (662) 563-4571, or Grenada Lake (662) 226-5911.

. **The US Army Corps of Engineers Announces New Life Jacket Wear Requirements at North Mississippi Lakes**

Four US Army Corps of Engineers-Vicksburg District lakes in north Mississippi will participate in a 3-year mandatory life jacket test program. The lakes selected for this study are Arkabutla Lake, Sardis Lake, Enid Lake, and Grenada Lake.

The four north Mississippi lakes were constructed more than forty year years ago to alleviate flooding of the Yazoo River Basin. Soon after construction, however, water-based recreation became a popular pastime for both local and regional project visitors. Even though the Corps was authorized to provide public recreation, there was very limited regulation of the public's use. As a result, public drowning fatalities occurred frequently. Recognizing the need to deter unsafe behaviors, the Corps introduced the National Ranger Program in the early 1970s and then, in 1983, the National Water Safety Program was created with the purpose of educating project visitors about water safety, in particular the use of life jackets, in an effort to reduce water-based public fatalities. Following the introduction of the two national programs, the north Mississippi lakes implemented partial and full alcohol bans on their projects. Since 1973, public water-based fatalities have been reduced by approximately 50 percent.

For the Corps, this is a bittersweet statistic. Although many lives have been saved, public fatality records maintained since 1998 indicate 92 percent of victims who drowned while recreating on Corps waters were still not wearing life jackets. This is a staggering statistic especially in light of the extensive Corps-wide effort to educate the public about water safety and the role of life jackets in saving lives. Based on circumstances surrounding many of the accidents, lives could have been saved if the victims had been wearing life jackets. Recent US Coast Guard studies on voluntary use of life jackets indicate a 22 percent wear rate among boaters despite educational efforts, laws requiring mandatory life jacket use for children under the age of 13 and on personal watercraft, and initiatives designed to encourage the voluntary use of life jackets. That percentage drops drastically to about 8 percent when boaters mandated by law to wear life jackets are extracted. The Corps' mandatory life jacket test program was designed to determine whether the additional life jacket requirements will improve wear rates among water-based recreation user groups and consequently decrease water-related fatalities.

Parameters for the test program were developed by first reviewing existing state of Mississippi life jacket laws along with Corps of Engineers national statistics concerning water-based fatalities. Local fatality records for the Vicksburg District were also examined to help identify specific user groups that would benefit from more stringent life jacket wear requirements. After extensive review, the national data indicated public fatalities most often occur in accidents involving small classes of vessels (<26 feet) and swimmers in non-designated swim areas. Vicksburg District fatality records supported the national findings. With all of this in mind, the following life jacket wear requirements were developed:

- All persons must wear a Type I, II, or III US Coast Guard-approved life jacket at all times while swimming outside of designated swimming areas. (Waivers may be issued by Park Managers to exempt participants of special events, such as triathlons, from this requirement while participating in the event.)

- All persons must wear a Type I, II, or III US Coast Guard-approved life jacket at all times while skiing or being pulled by a vessel, regardless of vessel length.
- All persons must wear a Type I, II, or III US Coast Guard-approved life jacket on powered vessels 16 feet in length to 26 feet in length whenever under power by the main propulsion unit. (This does not include when the vessel is powered by a trolling motor or is stationary.)
- All persons must wear a Type I, II, or III US Coast Guard-approved life jacket at all times on powered vessels less than 16 feet in length or on non-powered vessels, regardless of length. (Non-powered vessels include, but are not limited to canoes, kayaks, flat bottoms/johnboats, sailboats and paddleboats.)

Our goal, as the Nation's number one provider of water-based recreation, is to minimize the potential for public drowning fatalities. The intent of this policy revision is to save lives and together, we can reach that goal and make the Vicksburg District Mississippi lakes safer! Beginning May 22, 2009, the new life jacket wear requirements will be in full effect on the waters of Arkabutla Lake, Sardis Lake, Enid Lake, and Grenada Lake. For more information, you may contact the Mississippi Project Management Office at (662) 578-3873 or you may contact a lake field office. Those numbers are: Arkabutla Lake (662) 562-6261, Sardis Lake (662) 563-4531, Enid Lake (662) 563-4571, or Grenada Lake (662) 226-5911.

US Army Corps of Engineers Hunting, Fishing and Boating Requirements Applicable at the North Mississippi Lakes

The US Army Corps of Engineers, Vicksburg District, operates four flood control lakes in North Mississippi—Arkabutla, Sardis, Enid, and Grenada lakes. These lakes provide approximately 275,000 acres of public lands and waters available for various outdoor recreational activities. All lake visitors are subject to Rules and Regulations Governing Public Use of Corps of Engineers Water Resources Development Projects, Title 36 CFR 327. All persons over 15 years of age participating in hunting and fishing activities on these lands and waters must have in their possession a valid Mississippi hunting and/or fishing license. Anyone born after July 31, 1980 must have in their possession a valid State boat operator's license when operating a vessel on these lakes.

In addition to observing all State and Federal regulations pertaining to hunting, fishing, and boating, visitors to the North Mississippi lakes must comply with the following additional requirements/restrictions:

- Hunting and/or trapping is prohibited within 1000 feet of any dam, building, construction site, or public recreation area.
- Only temporary blinds and portable tree stands are authorized and must be removed on a daily basis. Climbing spikes are prohibited. The placement of permanent and semi-permanent blinds/stands is prohibited.
- Firearms in boats underway or on ATVs in transit must be unloaded and cased.
- Running and/or training of dogs on Corps lands is prohibited from March 1st through May 31st.
- State Youth Hunting seasons are authorized.
- Motorized vehicle operation, including ATV operation, on Corps lands is subject to posted restrictions. Contact your local lake office for lake-specific restrictions related to ATV use. Leaseholders of Corps agricultural land retain the right to restrict vehicular access across their leased lands.
- Portions of these public lands and waters have been designated as wildlife management areas and/or special-use hunting areas. Contact your local lake office for a detailed list of restrictions applicable to these areas.

The following life jacket wear requirements are in effect on Vicksburg District North Mississippi lakes:

- All persons must wear a US Coast Guard-approved life jacket on powered vessels 16 to 26 feet in length whenever under power by the main propulsion unit. (This does not include when the vessel is stationary or when it is powered by a trolling motor.)

- All persons must wear a US Coast Guard-approved life jacket at all times on powered vessels less than 16 feet in length or on non-powered vessels, regardless of length. (Non-powered vessels include, but are not limited to canoes, kayaks, sailboats, paddle-boats, and flat bottoms/jon boats.)
- All persons must wear a US Coast Guard-approved life jacket at all times while swimming outside of designated swimming areas.
- All persons must wear a US Coast Guard-approved life jacket at all times while skiing or being pulled by a vessel, regardless of vessel length.

Mississippi Project Office (662) 578-3873 29361 Highway 315, Sardis, MS 38666 www.mvk.usace.army.mil/lakes/ms/msprojoff/
Arkabutla Lake Field Office (662) 562-6261 Enid Lake Field Office (662) 563-4571
Grenada Lake Field Office (662) 226-5911 Sardis Lake Field Office (662) 563-4531

US Army Corps of Engineers
Vicksburg District

LIFE JACKET REQUIREMENTS REMAIN IN EFFECT FOR NORTH MISSISSIPPI CORPS LAKES

SARDIS, MS – The U.S. Army Corps of Engineers, Mississippi Project Management Office wants to remind members of the public that a mandatory life jacket policy remains in effect at Arkabutla, Sardis, Enid, and Grenada lakes. The three-year pilot program was launched on May 22, 2009 for the main purpose of providing statistical data to the U.S. Coast Guard regarding the use of life jackets by adult user groups. The pilot program was specifically designed to study the effects increased adult wear rates have on water-related fatalities.

For more information, including a complete list of the new rules, you may contact the Mississippi Project Management Office at (662) 578-3873 or the lake field offices: Arkabutla Lake (662) 562-6261, Sardis Lake (662) 563-4531, Enid Lake (662) 563-4571 or Grenada Lake (662) 226-5911.

TESTIMONIALS

LIFE JACKET MANDATE

It's working for you!

Date: 15 August 2009
Time: 0600
Location: Arkabutla Lake
By: Paul Talley

It was a beautiful morning, perfect weather for a little relaxation on the water fishing and enjoying the great outdoors.

My brother-in-law (Ron) and I decided to take my ten foot Bass Buggy out in the back waters at Arkabutla Lake for a couple of hours early Saturday morning, hoping to catch a few fish but mostly just to get out for a while. We arrived just as the sun was coming up. We slid the boat into the water with our gear loaded, put on our lifejackets and set off in search of a little excitement. Little did we know; the FUN had just begun.

We trolled about three hundred yards back into the Cyprus trees and brush tops. By now it is about 7:30 and the sun was getting pretty warm. My brother-in-law, who is sixty-nine, had been complaining about the lifejacket being bulky and hot. But, I explained it was now a rule that we had to wear them because we were in a small boat on a Corps lake, and I really didn't want one of our Rangers seeing us without them. I would get chewed big time.

Not having much luck in that area we moved to the East side to fish the shadows along the bank. After a few casts and better luck finding the fish hiding around a brush pile, wouldn't you know it, Ron got hung on a downed tree just under the water. Not wanting to lose the only lure the bass seemed to want, we moved the boat closer to get the bait loose. He leaned a little too far over the edge and began what looked like a slow motion fall into the lake. Not thinking too clearly, I reached to try and catch him, but when he went out, the boat rocked sideways and then I joined him for an unplanned swimming party.

We struggled for some time trying to get back into the boat, without much success. After about twenty minutes of swimming and dragging the Bass Buggy along, needless to say, we were both exhausted. I asked Ron; do you still want to take your lifejacket off? He very emphatically answered, "No Thanks." Another fifteen minutes and we managed to find a tree with a low branch and were able to climb back into the boat. After it was all over, we laughed about the experience of the morning on the lake, or should I say in the lake. We both know now from firsthand experience the Rule is there to save lives. August 15, 2009 could have turned out very differently had we chosen to ignore the Lifejacket Mandate.

CLOSE CALL ON THE WATER

This weekend, I took my friend and his two girls (5 and 12 years old) fishing on Grenada Lake. He had another friend that he wanted to take along with his 3 boys, so he decided to borrow his dad's boat to take them also. They had never taken the kids fishing out in the lake before and was their first big fishing trip. I took my friend's 2 girls. While I was getting ready to launch my boat I noticed my friend's kids and the other guys kids walking around the parking lot with their life jackets on and I saw them talking to them and telling them to be safe and do what I tell them to do. On the boat ride across the lake, the two girls sat in the bottom of the boat and I could tell they were enjoying the ride. I was excited to help them catch some fish. We got to the fishing spot and they both kept their life jackets on as we began to fish, little did I know the life jacket that one of them wore would soon be tested. I tried to teach them how to set the hook in the catfish, but they were having problems catching the fish. I started hooking the fish for them and then I would hand them the rod and reel and let them reel them in. They were having a good time and each had reeled in around 5 nice catfish each, until suddenly the oldest girl got a cut on her hand that I presumed was from a catfish fin. The cut was minor and bled only momentarily. The girl's dad was fishing in a boat with the three boys beside me and yelled to me that she would pass out. I monitored her for a while and helped doctor the wound. The bleeding had stopped and she seemed like she was ready to start fishing again. I started putting some more bait on the hook when all of a sudden she passes out and starts falling over the side of the boat. I dropped everything I was holding and reached for her, catching only her leg as she fell from my boat into the 25 foot deep water. As I held her leg, I could only

think, this is my friend's daughter and I can't let her drown. The life jacket that she still had on, luckily kept her afloat well enough to slow down her descent into the water. Her upper body was fully submerged and I knew that I had to get her out as quickly as possible. I pulled her leg high enough out of the water that I was able to grab her arm and get her head out of the water. Then, I pulled her into the boat, and as she got into the boat, she woke up and coughed up a little water. I knew when she said, "There's my shoe in the water", that she was going to be okay. I reached and got her shoe out of the water and checked her out to make sure she didn't have any other injuries. She was fine, but her dad and I were not quite as fine. We were both relieved in a way, but we both knew what could have happened. Her first big fishing trip could have been her last. Thank God it's not. The life jacket she had on, along with me being able to get her back into the boat and God giving me the strength to do that all contributed to us seeing her walk safely out of my boat at Grenada Landing that morning. My friend embraced me and thanked me for getting his precious little girl out of the water safely. He said that would be the last time he would take them on the water and I pleaded with him not to take that stance. Accidents happen, but we have to be responsible enough to take every necessary safety precaution to try to prevent them. I hope in time, he will take the girls on another fishing trip and we see them walk safely out our boats across the parking lot with their life jackets on. Kids need to keep them on all the time on the water. They work!!!

Damon Blakely

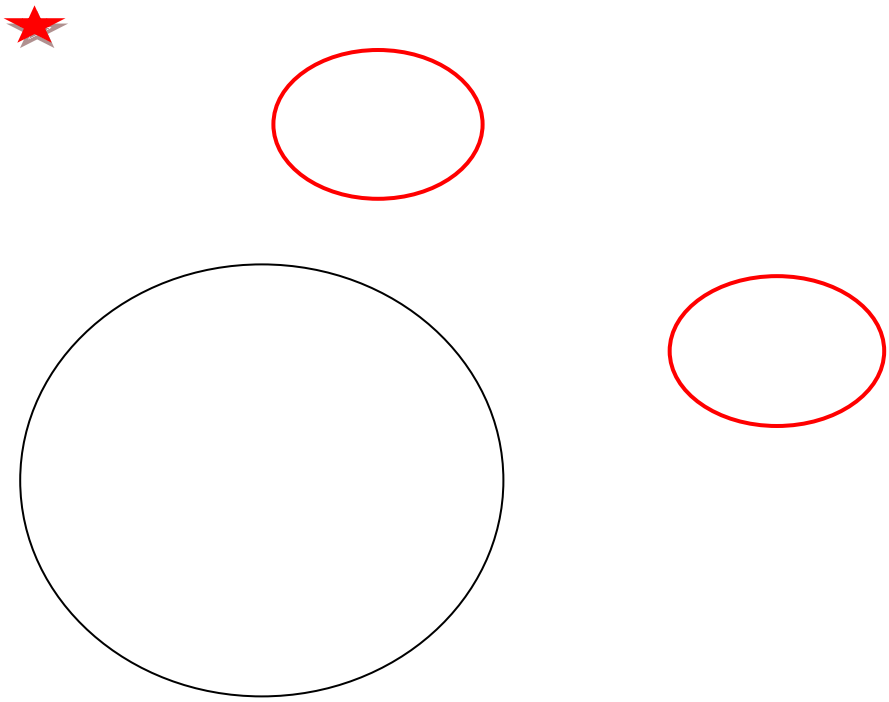
7-14-09

APPENDIX D

SACRAMENTO DISTRICT SUMMARY

Sacramento District
Pine Flat Lake Project
Baseline 2010
Test Year 2011

Test lake: **Pine Flat Lake** **Control lake:** **Millerton Lake**



Measurements:

Measurement	Baseline 2010	Test 2011
Man-hours for policy patrol	267	590
Wear Rates (overall average)	2.9%	41.1%
Congressional Inquiries	N/A	5
Petitions	N/A	3 petitions (302 signatures total)
Public letters / emails	N/A	136 e-mails / 7 letters
Public telephone calls	N/A	147
Water-related fatalities	1	0
Visitation	294,729	328,007
Warnings issued (verbal / written)	N/A	258 verbal / 0 written
Citations issued	N/A	0

Project Description:

Pine Flat Lake is located in the foothills of the Sierra Nevada Mountains, 35 miles east of the large metropolitan city of Fresno, in Central California. Pine Flat Lake is among the largest and busiest lakes owned and operated by the Sacramento District, U.S. Army Corps of Engineers. The lake is approximately 20 miles long, has over 67 miles of shoreline and averages over 400,000 visitors annually. The majority of Pine Flat Lake visitors come to engage in a variety of on-the-water recreational activities, such as water skiing, fishing, wakeboarding, tubing, and house boating. Due to flood control and irrigation demands, the lake level fluctuates an average of 143 vertical feet per year (based on the past ten years). The lake's water level typically reaches its peak each year between June and early July, and the lake level draw down typically stops in mid October to early November.

Pine Flat Lake was brought into the Life Jacket Policy Study in late 2010, ahead of the third and final year of testing. Throughout the 2011 test season, life jacket wear rates and visitation were monitored at both Pine Flat Lake and Millerton Lake, the designated control lake, to establish comparative data on wear rates and recreation use. Millerton Lake, a state-managed lake, was selected as the control lake for the Pine Flat test because of similar topography, visitation and proximity to the Fresno metropolitan area.

Study Methodology

During the test period from 1 April through 31 October 2011, U.S. Coast Guard-approved life jackets were required to be worn by swimmers and boaters recreating at Pine Flat Lake. Life jacket policies applied throughout the test period were presented to the public through on and off-site informational contacts, media releases and interviews, interpretive messaging and most

importantly, posted restrictions on signage placed at key access points and kiosks. Specifically, the posted restrictions required life jackets for:

Everyone swimming more than 100 feet away from the shoreline.

Everyone aboard all non-powered vessels, regardless of length, at all times.

Everyone aboard powered vessels up to 16-feet in length, at all times.

Everyone aboard powered vessels 16-feet in length or larger when the vessel was underway (under main propulsion). Passengers inside fully-enclosed cabins (houseboats, for example), were not required to wear a life jacket at any time. Life jackets were required for pilots and/or passengers in any exposed area of the vessel when the vessel was underway (under main propulsion). Life jackets were not required when the vessel was stationary, or while powered by an electric trolling motor.

Study Outreach

Project and district staffs developed a strong communication strategy for informing key stakeholders, partners and members of the region's public of their intention to participate in the national test. First, notifications were provided to local congressional interests; each office was provided a written fact sheet clarifying the intent of the study and the restrictions that would be tested at Pine Flat Lake. Key partner and stakeholder notifications followed, through staff visits with agencies such as the Fresno County Sheriff's Department, California Department of Boating and Waterways, California Department of Fish and Game, marina concessionaires and local businesses. The final phase of the notification process included advising the region's media, park visitors and local interest groups. Public information was continually provided throughout the test season through regulatory and interpretive signage, promotional flyers, televised interviews, and one-on-one park ranger contacts.

The Sacramento District Public Affairs Office issued press releases explaining the study parameters, which resulted in increased media coverage. Park Manager Tom Ehrke was featured live during two local morning television news broadcasts where he explained the study parameters and showcased inflatable lifejackets. In addition, local news stations visited the lake on four occasions to report on the implementation progress of the study. A radio interview was broadcasted on a local AM radio station, and the Bakersfield Sun and Fresno Bee newspapers published editorials on the study.

Enforcement Efforts

The Pine Flat Lake park ranger staff enforced the life jacket policies under Title 36, Code of Federal Regulations, Chapter 111, Part 327, Section 12(a), which states, "The District Commander may establish and post a schedule of visiting hours and/or restrictions on the public use of a project or portion of a project. The District Commander may close or restrict the use of a

project or portion of a project when necessitated by reason of public health, public safety, maintenance, resource protection or other reasons in the public interest. Entering or using a project in a manner which is contrary to the schedule of visiting hours, closures or restrictions is prohibited." Rangers were instructed to enforce the regulation to the best of their ability utilizing existing resources while continuing to balance all other agency missions. The ranger staff was also instructed to follow the USACE Visitor Assistance philosophy of attempting to gain compliance at the lowest level.

Management at Pine Flat Lake faced immediate staffing challenges during the test period. Pine Flat Lake's staff included only four permanent park rangers and three student park rangers to provide adequate coverage of all Project lands and waters, while providing additional patrols to successfully enforce the test policies, which proved to be difficult. Additionally, scheduling adequate boat patrol efforts for the study provided another challenge due to the fact that EM 385-1-1, Section 5 requires two employees during boat patrols, and at least one of which must hold a USACE Boat Operator's Permit. Pine Flat Lake has one patrol vessel that is used to enforce regulations and respond to emergencies on the lake. While the ranger staff enforced this regulation to the best of their ability, it is believed that higher life jacket wear rates could have been achieved if additional manpower and resources had been available.

In addition, deputies working on two Fresno County Sheriff's Department patrol boats actively worked to advise or remind visitors of the USACE life jacket requirement. The Fresno County Sheriff's Department proposed to adopt the Title 36 regulations into their county ordinances to support enforcement efforts, but the proposal was denied by the County Board of Supervisors. Although Fresno County did not have the authority to issue citations for violations of the mandatory life jacket requirement, they provided a strong assistance on the water through verbal contacts and issuance of USACE fact sheets regarding the study. The Fresno County Sheriff's Department also tracked compliance for the study, reporting that of the 1,149 boaters they contacted during the test period, 569 boaters (49.5%) were compliant with the posted USACE regulations.

During the test period, Pine Flat Lake park rangers logged approximately 590 man-hours of boat patrol. A total of 258 verbal warnings were issued for violations of the posted life jacket policies. Park rangers utilized a spreadsheet to track vessels that they had previously issued verbal warnings, with intentions of moving to the next level of enforcement (written warnings, then citations) if additional violations were observed. By analyzing the number of contacts, it is evident that attempts to gain compliance at the lowest level were successful. Park rangers were not forced to escalate enforcement efforts to written warnings or citations because there were no known incidents of repeat violations of the life jacket policies throughout the study period. It is unknown whether the captains of these vessels remained compliant throughout the study period, or whether they simply avoided future contact with park rangers by donning their life vests when the patrol vessel was visible.

Policy Enforcement Efforts by Month

Partnerships

In order to help alleviate these challenges, partnerships were fully utilized whenever possible. The California Department of Boating and Waterways (Cal-Boating) donated 100 life jackets to supplement supplies for the lake's existing Life Jacket Loaner Program. Enhancements to the lake's existing loaner program included purchasing $3,000 of Type III Loaner Life Jackets, and installing new loaner stations at all launch ramp facilities.

Other Water Safety Efforts

Pine Flat Lake traditionally supports an active water safety program. Throughout the test period, the staff attempted to maximize any existing water safety efforts in order to support the policy. Custom signage was posted at each recreation area explaining the new policy requirements and life jacket loaner stations were strategically placed at each of the launch ramps. An additional interpretive water safety sign was utilized along Trimmer Springs Road (the primary ingress / egress route to the lake), and interpretive tail gate wraps were applied to patrol vehicles. Park rangers presented water safety-themed campfire programs throughout the summer and teamed up with the Fresno County Sheriff's Department on several occasions to promote voluntary life jacket wear.

While the park ranger staffing did not increase, the staff benefitted from a pilot water safety intern training program being conducted by HQUSACE National Operations Center for Water Safety (NOC). The NOC funded one Student Conservation Association (SCA) water safety intern to assist park rangers with public safety educational outreach. At Pine Flat Lake, the intern was used to educate both on the specifics of the policy test, as well as water safety in general. The water safety intern logged well over 800 hours of work and proved to be a valuable

resource for the summer. The SCA water safety intern program was so successful that the Pine Flat Park Manager plans to use the program for future water safety efforts.

TYPE OF SIGN	NUMBER INSTALLED/REPLACED	ESTIMATED COSTS, including materials/installation
Regulatory	4	$600
Interpretive	10	$3,025
Other (describe)	Tailgate Wraps (x2)	$456

Park rangers also attempted to blend positive water safety messaging into life jacket policy enforcement contacts whenever possible. For instance, if park rangers stopped a vessel to speak with the passengers about not wearing their life jackets, attempts were made to reward the occupants of the vessel who were wearing their life jackets by utilizing water safety giveaways, such as Frisbees, water bottles, and boat key chains.

Samples of interpretive water safety signs used at Pine Flat Lake sites

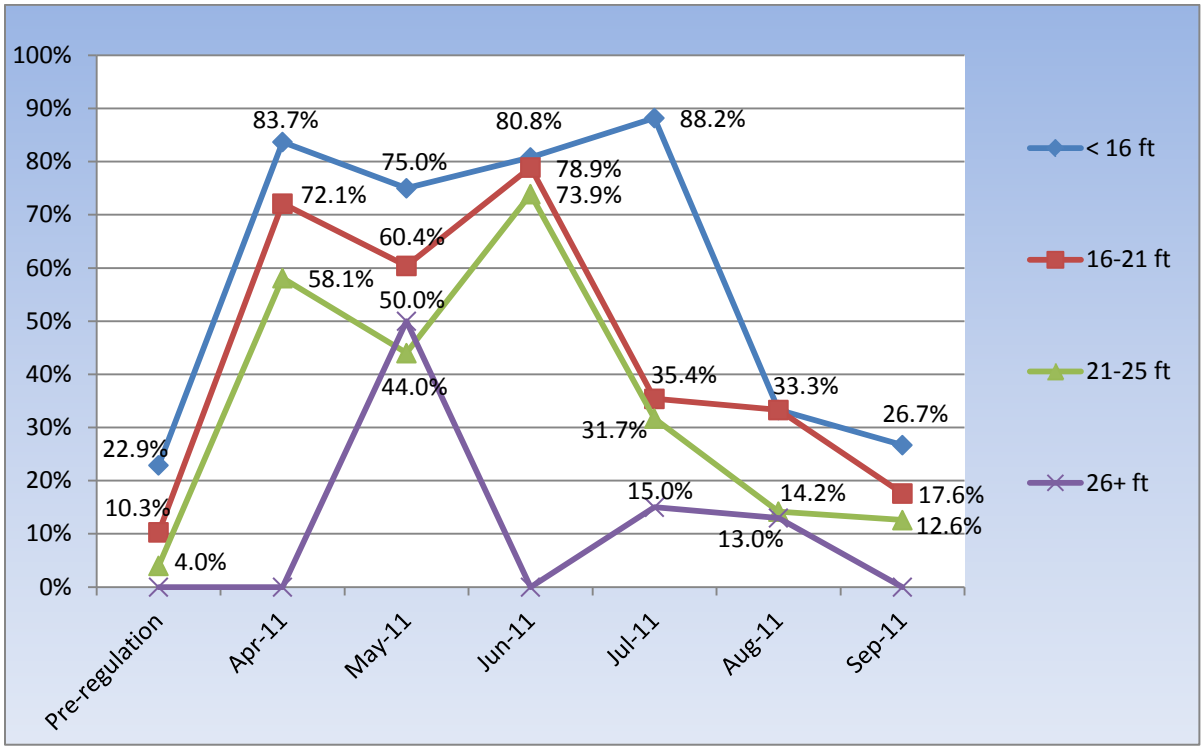
Wear Rate Observations Results

Despite public reaction and resistance to the policies requiring life jackets to be worn at Pine Flat Lake, life jacket wear rates increased dramatically during the FY11 test season. Pre-test observations conducted during the summer of FY10 established baseline factors, which indicated less than 3% of adult boaters voluntarily chose to wear life jackets at both Pine Flat and Millerton Lakes. Once policies were introduced, life jacket wear rates at Pine Flat Lake increased to an average of 41.1% for all boats, according to the JSI observations. (See Addendum I) At Millerton Lake, voluntary wear rates averaged about 16%, bolstered by early season wear rates of 37% but by season's end, the averages tapered to approximately 6%. Although it cannot be confirmed, speculation was that early media outreach in the region mentioned both Pine Flat Lake and Millerton Lake being involved in the study. This may have misled some boaters on Millerton Lake to mistakenly believe that life jacket policies were being

implemented on those waters as well as Pine Flat Lake. Once it became clear there was no life jacket policy on Millerton Lake, wear rates there rapidly declined.

Although the Pine Flat Lake results showed increases in wear rates in all vessel sizes, it is apparent that some user types were more willing to don life jackets than others. Boaters in small craft, less than 16 feet in length, were by far the most compliant group; at one time, wear rates in this group reached 88.2% compliancy level, while boaters in larger crafts tended to be less compliant and more vocal in opposing the policy and the study in general.

PINE FLAT LAKE STUDY WEAR RATES BY VESSEL CATEGORY

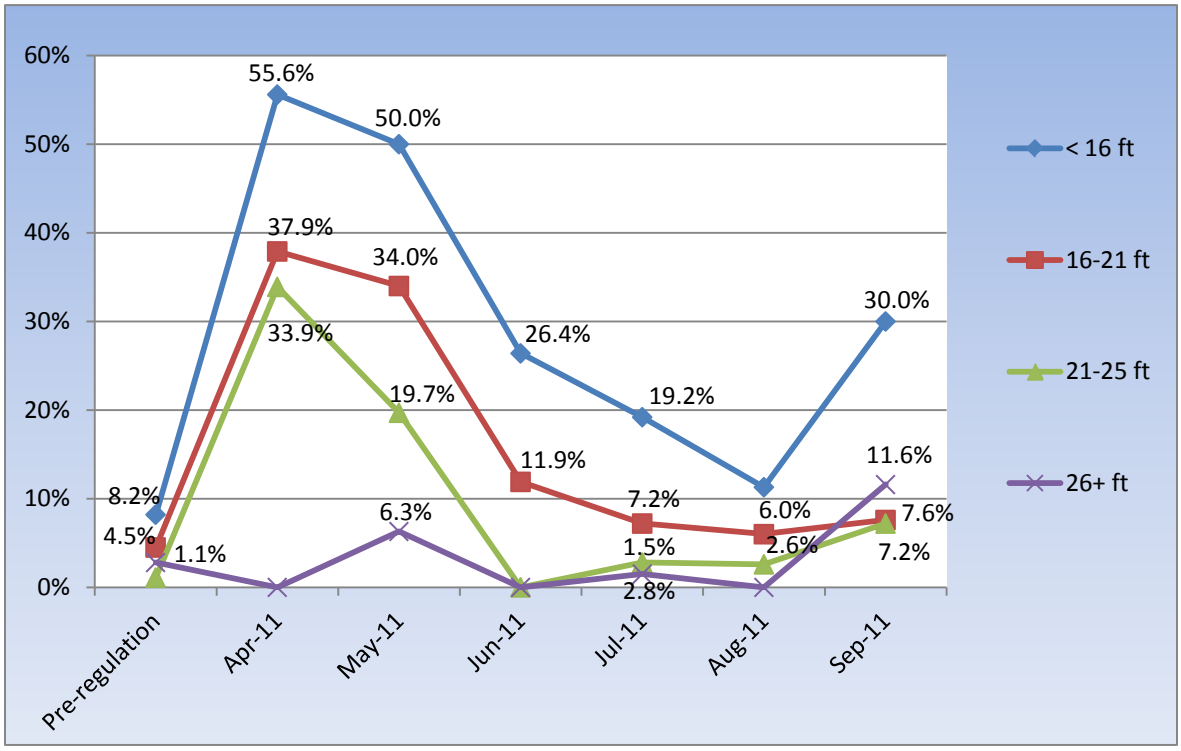


Wear rates across all vessel lengths showed significant improvement throughout the study period; however, it is apparent that those wear rates remained higher during the initial months of the study period and gradually began to drop by the last month of the test season. Interestingly, even though observers noticed a drop in wear rates, park rangers working enforcement of the policies reported that wear rates appeared to remain constant throughout the season. For this reason, it is believed that many visitors chose to comply with the policies only when they observed park rangers patrolling the lake.

There are other factors that may explain the variation in wear rates seen in the Pine Flat Lake results. It is believed that the initial wear rate spike experienced at the start of the test season is the result of actively engaging the local media and incorporating strong public safety messaging, while introducing the study and life jacket policies to the region. Project staff appeared on local television numerous times to explain the study as well as the importance of wearing a life jacket.

Even Millerton Lake, where life jacket policies were not tested, experienced notable increases in wear rates during that same early period.

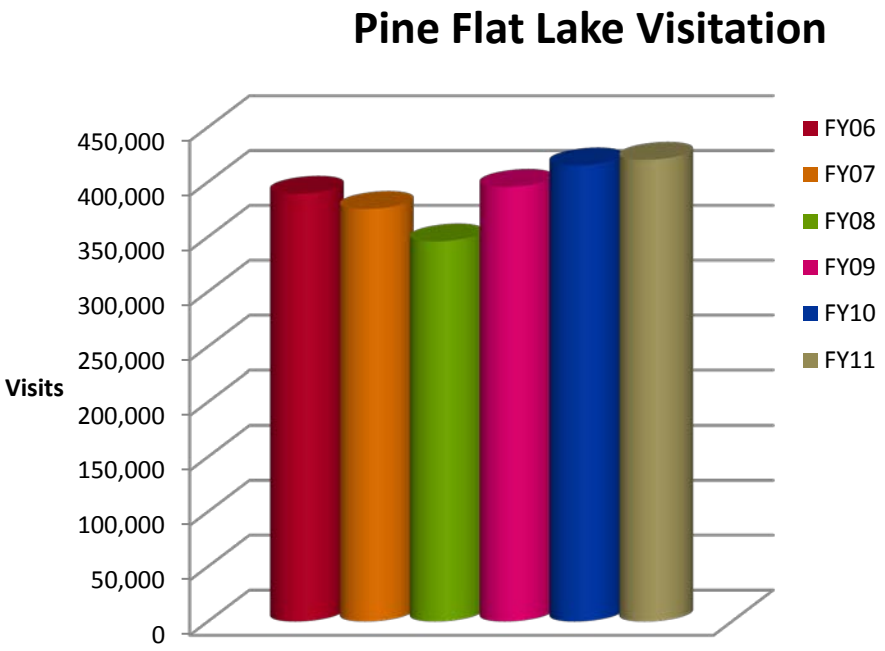
MILLERTON LAKE STUDY WEAR RATES BY VESSEL SIZE

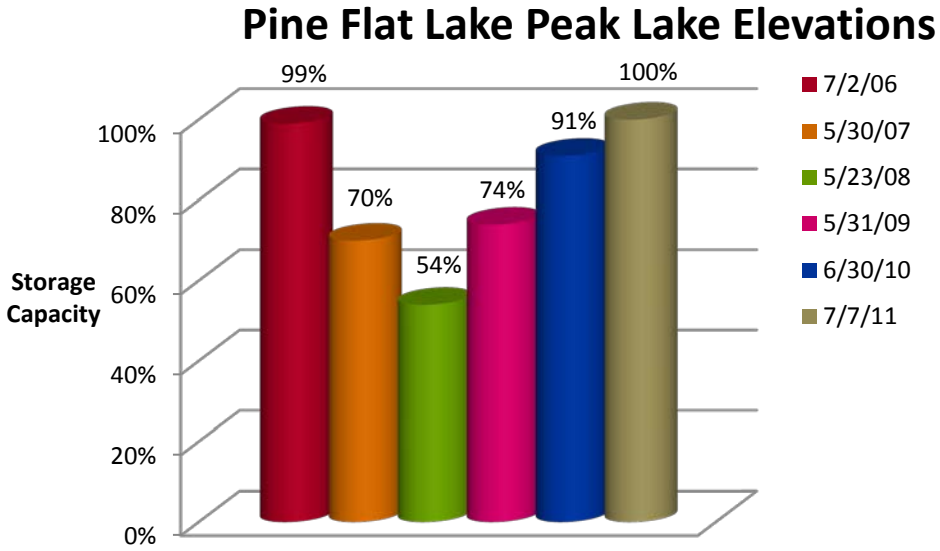


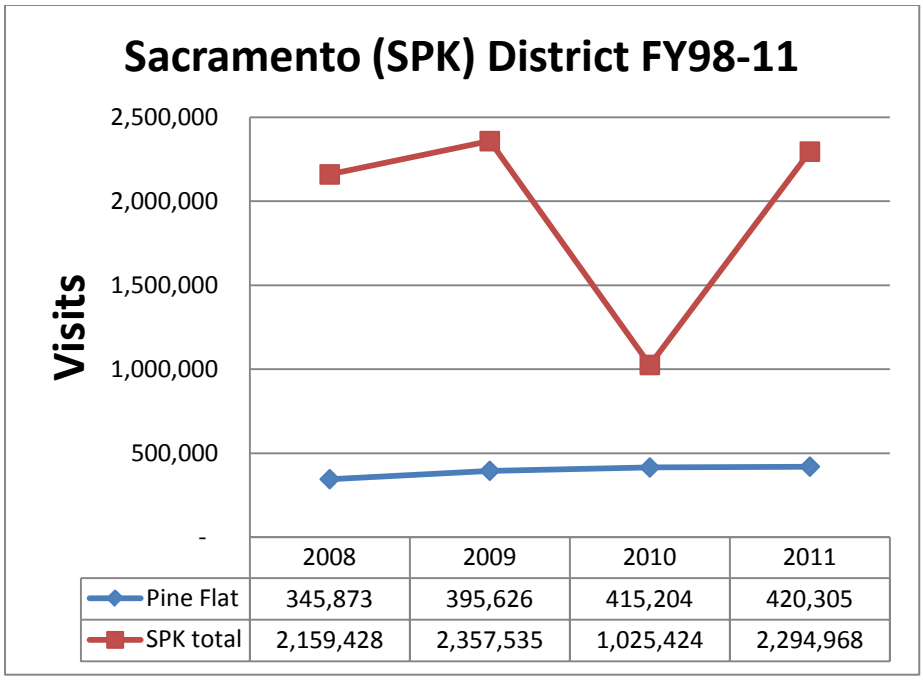
Conversely, the variation in wear rates at Pine Flat Lake could be the result of a combination of other factors. Some visitors reported being confused when contacted regarding violation of the study in August, September and October. The visitors reported that a local gas station and store owner in opposition to the study was telling customers on the way to the lake that "USACE had ended the study" (signs with study dates were clearly posted at all boat ramps). Other visitors responded that the weather in late summer made it unbearable to wear life jackets. In the Central Valley of California, temperatures regularly exceed 100 degrees during all of the summer months, but especially during July and August.

Visitation

Visitation at Pine Flat Lake did not appear to be affected by the Life Jacket Study. Visitation closely follows the lake's level, and both the lake level and number of visits were the highest they had been in the past six years.







Public Comment

Although public comments were not required for Title 36, CFR 327.12(a), Posted Restriction policy change, especially one that is to be in place temporarily, the Sacramento District felt that it was important to engage the public and allow them an

opportunity to comment on the study. As a result, Park Manager Tom Ehrke openly encouraged Pine Flat visitors to call or email him with their comments or concerns; by test's end, Mr. Ehrke had logged 136 emails, 147 phone calls, 7 letters, and 3 petitions that were received before 31 October 2011, the majority of which opposed the new policies. While many of these contacts came from Californians who routinely recreated at Pine Flat Lake, a portion of the comments were received from individuals living in other states who were seeking to protest the life jacket policy in general. As a result, the National Operations Center for Water Safety established a general email address at lifejacketstudy@usace.army.mil for general comments; in total, approximately 50 emails were received at that address. Five congressional inquiries were also fielded as a result of the study. The general themes of the consenting opinions regarding the life jacket study dealt with the following:

1) Concerns regarding encroachments on individual "freedoms"

2) Concerns over timing of this study in conjunction with economic hardships, and concerns regarding the effects of the study on local small businesses

3) Concerns regarding USACE overall focus and approach to the study. (Many comments addressed concerns that USACE should remain focused on dams and levees.)

Impact of Life Jacket Policy Test at Pine Flat Lake

ACTIVITY	FREQUENCY	ESTIMATED IMPACT
Patrol Activities (Water Based)	Weekly	590 Man-hours
Public Telephone Calls	147	49 Man-hours
Congressional Inquiries/Responses	5	20 Man-hours
Warnings Issued (Verbal/Written)	258	86 Man-hours
Public Emails / Responses	136	12 Man-hours
Internal Emails	1154	96 Man-hours
Petitions / Responses	3 (302 Signatures)	10 Man-hours
Social Media / Monitoring and Responses	Weekly	40 Man-hours
Public Letters / Responses	7	28 Man-hours
Coordination with PAO	Weekly	112 Man-hours
Coordination with SOA / SPK	Weekly	140 Man-hours
Coordination with HQ H20 Safety	Bi-Weekly	70 Man-hours
Coordination with Partners	Bi-Weekly	140 Man-hours
Coordination with Local Press / Responses	9 Interviews (6 TV, 1 Radio, 2 Newspaper)	27 Man-hours
SCA Intern Labor	Daily	800 Man-hours
Staff Meetings / Discussions	Weekly	233 Man-hours
Study Signage (Interpretive and Regulatory)	16	$4,081
Increased Life Jackets for Loaner Program	$3K Purchased, $3K Donated	$6,000
Increased Inspections to Life Jackets for Loaner Program	Daily	130 Man-hours
Participation of Park Manager and staff in Study Program	Daily	Decreased participation in regional PDT's (O&M Contracts, Boat Operator Instructor, SPD Visitor Assistance Course, FEM, Asset

		Management, SPK Brochure Committee, etc).

Conclusions: Pine Flat Lake

1) The study suggests that wear rates can be influenced by a mandatory wear policy while utilizing the existing resources of a moderately staffed USACE lake.
2) In the seven month period of testing, park rangers did not encounter a known repeat offender for the life jacket policy. Park rangers were able to gain compliance at the lowest level of enforcement possible.
3) Many lines of communication were opened as a result of Pine Flat Lake's participation in this study. The increased attention brought mandatory life jackets and water safety to the forefront of a regional, as well as national, discussion with far reaching implications.
4) The Pine Flat Lake test seemed to invite a greater amount of public protest than both the Pittsburgh and Vicksburg tests. This could possibly be because of the following reasons:
    - the Pine Flat Lake policies applied to ALL vessels in some manner, regardless of length or style
    - tendencies of U.S. citizens to be more outspoken against government actions as a result of the current overall general state of the U.S. economy
    - boating organizations, such as BoatUS, rallied membership to use the Pine Flat Lake test as focus of protest (see sample BoatUS web article in Addendum 2)
5) The policy would have produced better results had multiple agencies been able to enforce it. According to the Fresno County Sheriff's Department, many visitors chose not to comply with the study regulations once they learned that the Sheriff's department would not being enforcing the regulations on Pine Flat Lake.
6) The limited success experienced by Pine Flat Lake in one season of testing would be difficult to sustain without additional staffing or other resources.

Boat Owners Association of The United States
BoatU.S. Magazine

Coming To A Lake Near You?

Life jackets are essential equipment; every boater knows that, and carries them aboard out of common sense as much as to comply with federal boating regulations. But now the nation's largest manager of recreational waters wants all boaters — adults included — to not just carry life jackets on their boats but to wear them at all times, on at least a few of its lakes.

In a pilot study that has every indication of spreading to other water bodies under its jurisdiction, the U.S. Army Corps of Engineers now mandates that everyone aboard a motorized vessel of any size must wear a life jacket at all times when underway on California's Pine Flat Lake. For boats under 16 feet, the rule applies to everyone aboard, at all times, and applies to non-motorized boats, like canoes and kayaks, as well. Everyone aboard a boat 16-feet and longer must wear a life jacket when under way, except when inside an enclosed cabin or under power from a trolling motor.

The Corps actually adopted the rules at Pine Flat Lake as an addition to a three-year study already underway that implemented similar regulations in the agency's Pittsburgh District, covering the Youghiogheny River and Shenango River Lakes in western Pennsylvania, as well as on five lakes within the Vicksburg District in Mississippi. While the word "study" implies a temporary ruling, the Corps says it's considering more permanent life jacket rules for much larger geographical areas in the future.

Unlike state agencies, or even the U.S. Coast Guard, the Corps of Engineers can make this kind of change without any public comment. The Pine Flat Lake regulation is in effect from April 1, 2011, until October 31, 2011, and specifies that boaters must wear only U.S. Coast Guard-approved life jackets. The rule carries a $175 fine for non-compliance and applies to all swimmers outside designated swimming areas.

The Pennsylvania rule, in place since 1990, and the Mississippi regulations, in force since 2009 when the study began, also apply to boats under 16-feet. The Coast Guard agreed to measure life jacket wear rates in the study areas but thus far, according to a Corps project summary, the results appear inconsistent. (The Coast Guard no longer monitors compliance in the Pittsburgh District.) The summary notes that the Corps study team plans to deliver its recommendations to the commander by "December 2011 or later."

The Army Corps of Engineers manages some 450 lakes in 43 states with over 3,500 launching ramps, making it the country's largest provider of water-based recreation

opportunities. In fact, the Corps has more boats than the U.S. Navy and the Coast Guard, combined.

"Many experienced boaters have strong reservations about government mandates for adults to wear lifejackets," reports BoatUS Vice President of Government Affairs, Margaret Podlich. She noted that with nearly 372 million visits a year at the Corps lakes, beaches, and other areas, boating-related fatalities nationwide average 32 deaths a year, "not including those who drowned after voluntarily leaving a boat to swim."

NEWS from BoatUS
Boat Owners Association of The United States
880 S. Pickett St., Alexandria, VA 22304
BoatUS Press Room at www.BoatUS.com

FOR IMMEDIATE RELEASE
Press Contact: D. Scott Croft, 703-461-2864, SCroft@BoatUS.com

Boaters and Swimmers at Pine Flat Lake Have New Life Jacket Rule

Increasing Federal Regulation for Many Boaters, Says BoatUS

Photo Caption: Without any public comment, the US Army Corp of Engineers has instituted a new mandatory life jacket regulation at Pine Flat Lake, CA (shown).Photo Credit: USACEDownload hi-res photo.

PINE FLAT LAKE, Calif. April 7, 2011 -- Jumping off your boat for a swim in Pine Flat Lake, California without a life jacket? As of April 1, anyone found swimming more than 100 feet from shore without a life jacket – including boaters who routinely jump in to try to beat 100-degree-plus temperatures – could result in a $175 fine as part of the new life jacket regulations put in the place by the US Army Corps of Engineers (USACE), which manages the lake.

In addition to life jackets now being mandatory for all swimmers outside of designated swim areas, new USACE regulations say that US Coast Guard approved life jackets must be worn by:

- Everyone aboard all non-motorized vessels, regardless of length, at all times,
- Everyone aboard motorized vessels up to 16-feet in length, at all times.
- Everyone aboard motorized vessels 16-feet in length or larger when underway (except when powered by trolling motor or if you are inside a fully-enclosed cabin or the boat is stationary.)

The US Army Corps of Engineers is the nation's largest provider of outdoor recreation, operating more than 2,500 recreation areas at 456 projects (mostly lakes) in 43 states and leasing an additional 1,800 sites to state or local park and recreation authorities or private interests.

With nearly 372 million visits a year at the Corps lakes, beaches and other areas, the overall number of Corps water-related fatalities nationwide averages around 150 annually. Boating-related fatalities at Corps facilities nationwide average 32 deaths a year (not including those who voluntarily left their boat to swim).

“Unlike state agencies, or even the US Coast Guard, the Corps of Engineers can make this kind of change without any public comment,” said Boat Owners Association of The United States (BoatUS) Vice President of Government Affairs Margaret Podlich. “As part of a multi-year study, they have instituted similar requirements in the Pittsburgh, PA area and some lakes in Mississippi. While the word ‘study’ implies a temporary ruling, the Corps says they are considering more permanent life jacket rules in the future that would cover much larger geographical areas.”

Boaters are encouraged to share their thoughts about these requirements by logging in at www.BoatUS.com/gov/action to send email comments to the Pine Flat Lake Park Manager and their members of Congress.

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Events, news & notes 9/9

By Marek Warszawski / The Fresno Bee

Wednesday, Sep. 08, 2010 | 11:19 PM

Life jackets will be required for most boaters and some swimmers at Pine Flat Lake from April 1 to Oct. 31, 2011, part of a multiyear study by the Army Corps of Engineers.

The agency is studying whether to require life jackets nationwide as part of its recreation policy. Statistics kept since 1989 show that more than 92% of drowning victims on Corps waters were not wearing life jackets.

As part of the study, the U.S. Coast Guard observed how many people were wearing life jackets at Pine Flat and Millerton Lake during July and August. Wear rates will be observed at Pine Flat and Millerton during next year's enforcement period, although the policy will apply only at Pine Flat.

During the enforcement period, life jackets will be required for everyone swimming more than 100 feet from the shoreline; everyone aboard all nonmotorized vessels; everyone aboard motorized vessels, less than 16 feet in length, at all times; and everyone aboard motorized vessels, 16 feet or larger, when the vessel is being powered by the main motor. Life jackets are not required for passengers in vessels with an enclosed cabin, such as a houseboat.

News & notes

Game wardens contacted 831 hunters during last Wednesday's dove opener and issued 41 citations, said Capt. Nathaniel Arnold of the DFG's Central Enforcement District. The most common infraction was hunters being in possession of more than the daily limit of 10 birds. "It was moderate for a Wednesday opener," Arnold said.

Hunting season for mountain quail is Saturday through Oct. 31. The general deer hunting season begins Sept. 18 in zones D6 (mainly Madera County) and D7 (Fresno County) and Sept. 25 in zone D8 (Tulare County). Archery season for deer ends in those zones Sunday.

"The Last Descent," an award-winning film about kayaker Charlie Center's expedition exploring wild rivers in India, Africa and Nepal, will be shown at this month's Sierra Club, Tehipite Chapter meeting, 7 p.m. Wednesday at the UC Center (550 E. Shaw Ave., Fresno). Meetings are free and open to the public.

The Summer Trail Run Series comes to a close Saturday with the Fish Camp 10. The 10-mile event starts and finishes at the Fish Camp Fire Rescue Company. Details: www.bigbaztrailraces.com.

The Tour de Fresno charity bike ride returns Sept. 18. Options include a 101-mile century, a 62-mile metric century, or flat rides of 16 and 41 miles. All are fully supported and start at Chukchansi Park. Details: tourdefresno.com/.

TOPIC: LIFE JACKETS AND LIFESTYLE:Some Boaters Watching

LIFE JACKETS AND LIFESTYLE:Some Boaters Watching

6 Months, 3 Weeks ago

Waterbaby

Admin

Posts: 2038

www2.az-independent.com/2011/04/29/life-...d-movements-closely/

LIFE JACKETS AND LIFESTYLE:Some Boaters Watching Fed Movements Closely

By Brian Wedemeyer
Independent Managing Editor –

It might be difficult for some to imagine all boaters along the Colorado River wearing life jackets, but recent government actions have stirred the waters.

At Pine Flat Lake, located 30 miles east of Fresno, Calif., mandatory life jackets are indeed a reality this boating season as the U.S. Army Corps of Engineers embarks on a nationwide safety study. The six-month study, which started April 1, supersedes California's normal boating laws.

During that period, life jackets will be required for people in vessels less than 16 feet long and for people in boats between 16 and 26 feet that are powered by the main propulsion unit. If boats in this size range are only trolling, life jackets are not required.

The new program has not exactly been well received by boaters at the popular recreation area.

"This is just one more thing that's being forced down our throat by the government," Mike Salveson, a retired firefighter and houseboat owner, told The Fresno Bee. "The decision on whether to wear life jackets should be up to each individual boater."

The Life Jacket Policy Test, which includes the motto, "More wear? More lives saved," has been ongoing since 1998 at two other recreation areas in Pennsylvania and Mississippi. Those results, combined with findings at Pine Flat, will be used by the National Operations Center for Water Safety for a final recommendation at the end of the 2011 season.

The Army Corps operates 422 lake and river projects in 43 states, including Alamo Lake on the Bill Williams River east of Lake Havasu City.

Since 1989, more than 92 percent—or about 150 victims per year—of all drowning victims on Corps waters were not wearing life jackets.

"Our thought process is, 'If 92% of the folks that drown aren't wearing life jackets, then by proxy, the more you wear your life jacket the safer you are,' "Ehrke told The Bee. "It doesn't mean we won't have drownings. What we're trying to avoid is those preventable drownings."

While the Army Corps has limited jurisdiction on the Colorado River for such things as dock approvals and dredging permits, some in local boating community have started to take notice.

Jim Salscheider, executive director of the Lake Havasu Marine Association, said additional restrictions such as mandatory life jackets and alcohol bans similar to the one in place on Los Angeles County lakes would have a detrimental impact on the boating industry as well as area tourism.

"I just think fewer people would boat—they would just give up," Salscheider said. "Once again, it crosses the line where individual freedom gets compromised. I own a 25-foot pontoon boat. It should be my decision on whether or not I want to wear a life jacket out there."

Salscheider also suggested that additional requirements for life jackets will create enforcement nightmares on Lake Havasu and the Colorado River. "There are going to be a lot of unhappy people out there—that's just my guess," he said. "It would change the entire boating experience."

APPENDIX E

PORTLAND DISTRICT POSITION PAPER

LIFE JACKET WEAR POLICY STUDY on COLUMBIA RIVER PROJECTS
NWP POSITION PAPER
An examination for determining feasibility

BACKGROUND:

The Corps established the National Operations Center for Water Safety (NOC) in 1995 to develop strategies, programs and products to help reduce the number of water-related fatalities at Corps projects. The NOC implemented an aggressive public water safety campaign with education products and effective partnerships which has contributed to an overall reduction in fatalities from over 450 per year in the early 1970s to a current average of about 150 per year.

In an effort to further reduce the number of fatalities, the DCG-CEO directed the Corps to conduct a Life Jacket Wear Policy study to determine the feasibility of establishing a federal regulation (modify Title 36) to require the public to wear life jackets while on the water.

Vicksburg and Pittsburgh districts volunteered to conduct the three-year test beginning in 2009. The test sites in these districts occur on isolated lakes where boundaries are easily defined and many visitors come from the local area to recreate. The lakes in Vicksburg District also receive supplemental funding which would not be available to other Corps Districts and allows these lakes to have a full complement of enforcement staff. As a result, the tests conducted at Vicksburg district have been successful.

The lakes that participate in the study are provided a Life Jacket Wear Observation Study. Data is collected by JSI Research & Training Institute, Inc (JSI) under a US Coast Guard grant, at no charge to the districts. The JSI's wear rate observations are conducted during key recreation periods of the year, including spring, summer and fall recreation seasons, for each participating project site. The JSI observation study determined that the life jacket wear rates on the Vicksburg District Lakes were less than 10%. In the first year, wear rates increased to over 70% post policy implementation, with no citations written. The historic wear rate average for most lakes is less than 10% and over 90% of water related fatalities that occur on Corps waters involve visitors not wearing a life jacket.

Corps testing of this policy has been a catalyst for other federal and state groups in the consideration of whether national or local life jacket wear policy is the right move towards reducing recreation related fatalities. Since the Corps study began, the National Park Service (NPS) has committed to conducting similar studies on three NPS-managed lakes, five state Boating Law Administrators are currently working on some form of life jacket wear policy, and the National Boating Safety Advisory Council has formed a sub-committee to prepare policy recommendations that will be presented at their meeting in November 2010.

In the spring of 2010, the NOC sent a second request to all Corps districts for additional sites to participate in the study. To date, no river systems have participated. For this reason Portland District Recreation staff considered participation in this study.

AUTHORITY:

Title 36 CFR 327 ,12(a) gives District Commanders the right to establish and post new restrictions.

PROS and CONS:

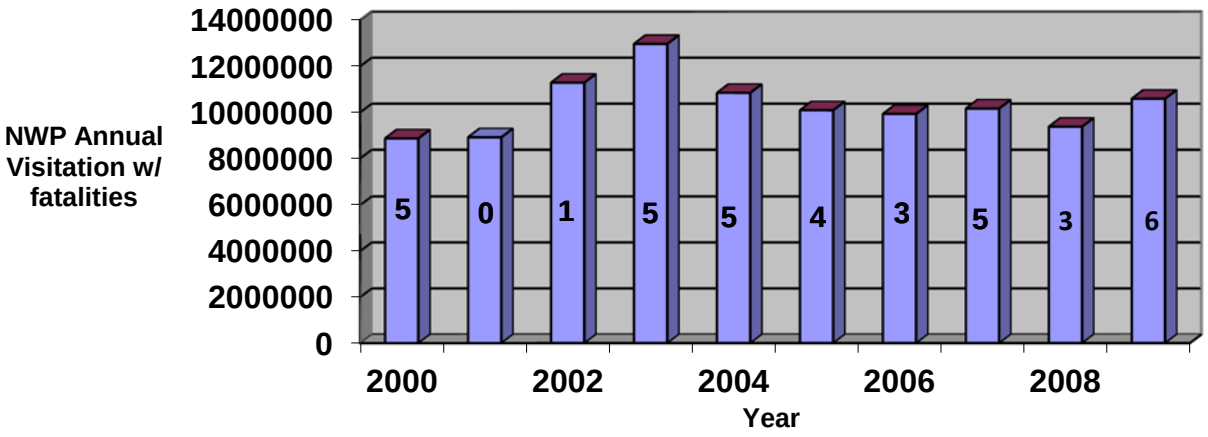
The Portland District Natural Resource Management (NRM) staff, in coordination with the NRM staff from the three Columbia River projects, our NWD representative, the Chair of the NOC, and with comments from Portland District Chief of Operations worked together to identify the pros and cons of participation in the Life Jacket Wear Policy Study.

PROS:

- Valuable Information Gained on a Diverse and Multi-Jurisdictional River System: There are no navigable river systems included in this study to date. The value of conducting a study on a river system is showing the mixed use for hydro-electric power production, navigation, tribal treaty fishing and recreation, as well as the variety of multiple jurisdictions, states, and tribal governments and other stakeholders involved in its management. The Columbia River is more hazardous than a typical Corps lake, due to strong currents, winds and temperatures, commercial traffic and other non-recreational impacts that increase boater risk.

- Potential for Increased Life Jacket Wear: Vicksburg District (MVK) has participated in the three-year Life Jacket Policy Study since its beginning in 2009 and has realized a dramatic increase in wear rate.

- Potential to Save Lives Enhanced: Over the past 10 years the water related fatalities for Portland District have remained relatively stable. However, NWP has many close calls which merits considering other options to enhance Columbia River visitor's safety. The low fatality rate is in part due to the extensive water safety education, programs and publicity the Natural Resource Management staffs provide to the region. In order to further reduce these statistics, more varied measures must be investigated.



- Tribal Partnership Possibilities: In the past three years there have been 8 tribal deaths on the Columbia River (3 at The Dalles, 2 at John Day and 3 at Bonneville) – most of whom may have survived had they been wearing a life jacket. The Columbia River Intertribal Fish Commission and Columbia River Intertribal Fisheries Enforcement have opened communication with our Portland District Tribal Coordinator and the Natural Resource Management staffs requesting assistance with water safety education and information.

- Ability to Develop Specific Area Policy: Those Districts that participate in the Life Jacket Wear Policy Study are allowed to set their own test policies to target specific water-based recreation issues for their region. This will not be the case if a national policy is supplied by headquarters. This would give NWP the chance to test the study on a river system and share that information upward.

- Improved Equipment Capabilities: There are currently new Ranger Patrol boats at all three of the Columbia River Projects, purchased through ARRA funds.

CONS:

- Portland District is unique in its multiple critical missions. The district provides 60% of the regions hydropower in cooperation with the Dept of Energy Bonneville Power Administration. We manage 15 active flood control projects; maintain 22 channels and harbors and 11 coast entrances projects, and have some of the most stringent ESA and mitigation requirements of any Corps of Engineers district. These primary missions dominate the funding allocations of this district. The Portland Recreation Program does not receive the political and regional support experienced by recreation programs elsewhere in the country.

- Substantial Land Base to Cover: The Columbia River projects encompass approximately 147 river miles, which includes 480 shoreline miles and over 60,000 water surface acres. The Columbia River System in Portland District is unlike the Vicksburg District participating lakes. Corps management of the river is not done in isolation. There is no controlled access to Corps waters and Corps rangers operate in partnership with other enforcement agencies to patrol and monitor the water way.

- Enforcement via Posted Restrictions: If using Title 36 CFR (Section 12a) – Compliance with posted restrictions for enforcement, it would be a challenge to post the restriction at many of the river access points and to inform those that are simply passing through the waters in NWP jurisdiction.

- Budget shortfalls: Similar to other business lines, the Recreation budget is dealing with flat and declining budgets. It is already known that the recreation budget is slated for significant cuts in FY12. We cannot afford to over burden an already financially challenged program.

- Staffing Shortages: For the above mentioned river area there are a total of 10 citation authority rangers at Bonneville, three at The Dalles and four at John Day Dams. Staffing levels are currently such that Columbia River projects are sharing staffs. CE-CW has specifically stated that no additional funding or staffing allocations would be provided to support this effort. Our own efforts would take considerable staff time at district and project levels to implement this study.

- Trained Boat Operators: There are 30 USACE trained and licensed boat operators on the Columbia River; however, over half of those operators are not park rangers and would not be available to support this effort. Few of those rangers who are trained have enough experience and actual boat operator logged time to feel comfortable in public contact boating situations. Additionally, some of those who are experienced boaters are experienced on lakes, not on the river.

- Mixed Land Ownership: There are 15 out-grants along the Columbia River for which we do not have direct management responsibility. For example, most of the Bonneville shoreline is not owned or out-granted by the Corps. There are 12 boat launch sites and at least 14 windsurf/kite board, paddleboard/paddle craft access points not managed by the Corps on the Bonneville pool alone. (See the attached map for an overview of river lands and access points.)

- Enforcement Limitation and Obstacles: Using the "Posted Restrictions" avenue for citations and warnings authority in Title 36 would be a challenge due to privately owned lands around the pool. Very few of the launch points on the Columbia are from Corps facilities.

- Transient Recreational Users: Many boaters present on Portland District waters float in from beyond the district boundaries. Because they originate from areas such as Portland, Astoria, Lewiston, or elsewhere, standard forms of media would prove inadequate for informing all visitors about changes to our regulations.

- Inconsistent Inter-District Policies: Portland District participation would result in inconsistent policies between NWP and our Columbia River neighbor, Walla Walla District, potentially leading to public confusion.

- Multiple Jurisdictions: Multiple jurisdictions exist along the Columbia River. (See Attached Map). There are seven (7) Oregon counties and three (3) Washington counties, Oregon State Marine Board, and Tribal Treaty Fishing Sites. Our jurisdiction

only applies to land and waters owned and operated by the Corps. This could prove problematic, as it creates enforcement gaps for working a river-wide rule with other agencies or entities present on the water. The role of non-Corps officers would be limited to advisory only and could lead to more public confusion.

- Limited Support Patrols by Counties: Due to the requirement of utilizing law enforcement services via contracts as opposed to cooperative agreement partnerships, several of the smaller law enforcement agencies had to forgo relationships with the Corps to provide increased patrol and presence. Some patrols still occur via funding from the Oregon State Marine Board (OSMB), support that is not directly influenced by the Corps.

- Tribal Involvement: Tribal relations along the river at the three Columbia River projects are tenuous at times and enforcement of this policy has the potential to negatively impact our relationships with the tribes.

- Public Dissatisfaction: It has been typical in other test areas that some members of the public find additional federal rules and regulations invasive, particularly when it impacts their recreational activities.

POSITION:

Portland District has considered engagement for district participation in the Life Jacket Wear Policy Study. The Natural Resource Management staffs of the Columbia River projects and the district office and others have worked together to assess the benefits and challenges of implementing a Life Jacket Wear Policy test on the Columbia River waters in Portland District.

All members of the team agree that while the Columbia River would provide an excellent example due to its diversity of users, stakeholders, and jurisdictions, the challenges outweigh our ability to successfully initiate and complete the study.

The primary limiting factors are:

- Area of enforcement versus available resources.
- Number & locations of river access sites versus ability to inform users and post the restriction.
- Needed supplemental resources for study participation versus significant cuts to the recreation budget slated for FY12 and CE-CW specifically stating that no additional funding or staffing allocations would be provided to support this effort.
- Limited number of adequately trained rangers versus the need for competent river patrol.
- Corps rangers as the sole enforcers of this Title 36 regulation versus the number of enforcement jurisdictions on the Columbia River.

Although each of the Natural Resource Managers enthusiastically embraced the call to participate, the above facts led us to determine that we are not equipped to participate in the Life Jacket Wear Policy Study. We do, however, hope that this document will serve as a foundation for considering the complexities of enacting such a policy on a river system.

Portland District COLUMBIA RIVER MAP :

1. Portland District boundaries and Projects
2. Oregon counties http://geology.com/county-map/oregon.shtml
3. Washington Counties http://www.censusfinder.com/mapwash.htm
4. Boat launches

Six Launch Sites from Hamilton Island to Hood River:

1. Hamilton Island, Wa
2. Port of Cascade Locks, Or
3. Stevenson Boat Ramp, Wa
4. Wind River, Wa
5. Drano Lake, Wa
6. Hood River Marina, Or

Six launch sites between Hood River and the Dalles Dam:

7. Bingen Marina, Wa
8. Rowland Lake, Wa
9. Mayer State Park, Or
10. Lyle Ramp, Wa
11. Dallesport, Wa
12. Port of The Dalles, Or

Launches between The Dalles and McNary Dam:

13. The Dalles Northshore Ramp, WA
14. Columbia Hills State Park, WA
15. Celilo Park, OR
16. Avery Park, WA
17. Heritage Landing (Deschutes State Park), OR
18. Maryhill State Park, WA
19. Giles French Park, OR
20. Railroad island, WA
21. LePage Park, OR
22. Blalock Canyon Ramp, OR
23. Port of Arlington, OR
24. Sundale Park, WA
25. Roosevelt Park, WA
26. Quesnel Park, OR
27. Crow Butte, WA
28. Boardman Park, OR
29. Patterson Ferry, OR

30. Patterson Ferry, WA
31. Irrigon Marina Park, OR
32. Umatilla Marina, OR
33. Plymouth Park, WA

5. Tribal in-lieu fishing access sites.

6. Columbia River Outgrants (as taken from OMBIL)
   John Day Outgrants:
   - Arlington Port
   - Boardman Park
   - City of Arlington
   - Crow Butte Park (county park)
   - Irrigon Park (Marina and Day Use Park)
   - Umatilla Park (Marina and Campground)
   - Umatilla National Refuge
   - Irrigon Hatchery

   The Dalles Outgrants:
   - Columbia Hills State Park
   - Maryhill State Park

   Bonneville Outgrants:
   - Bonneville Hatchery
   - Crates Point
   - Home Valley Park
   - Pacific Crest Trail
   - Spring Creek Fish Hatchery

APPENDIX F

RESERVED

APPENDIX G

LIFE JACKET LOANER PROGRAM GUIDELINES

US Army Corps of Engineers®

Life Jacket Loaner Program Guidelines

1 August 2011

Table of Contents

I. Purpose. This document provides guidance to establish minimally acceptable standards for design, construction, maintenance, public information and program implementation for US Army Corps of Engineers (USACE) managed life jacket loaner stations. This document does not mandate loaner station use, but provides guidelines to be met if loaner stations are installed or maintained by the USACE.

II. Applicability. These guidelines apply to all USACE projects implementing or managing any type of life jacket loaner program.

III. Background.
The life jacket loaner program provides the public with free use of life jackets on a first-come, first-served basis, while recreating at USACE lakes and waterways. Research shows that 90 percent of drownings at USACE projects could have been prevented if a life jacket had been worn by the victim. The goals for this program are to increase life jacket wear during water-based activities on USACE lakes and waterways as well as educate the visiting public on the importance of proper use and fit.

Life jacket loaner stations have been successfully used since the mid-1980s by various USACE lake operations project managers as a tool in reducing public recreation-related fatalities on their waters. Most of these stations offer various sizes of life jackets from infant to adult in limited quantities. Demand for use of the life jackets has generally exceeded the available supply. Many of the loaner stations in existence at USACE facilities have cooperatively been installed and maintained by local partners, such as Safe Kids Coalition, Boy or Girl Scout organizations, or local water safety councils. The standards for each station have been at the discretion and control of the local lake manager. This resulted in a variety of structure design, maintenance, and oversight in monitoring the structures or the life jackets being made available to the public.

In April 2007, MG Don Riley, then the Director of Civil Works for USACE, directed the National Operations Center for Water Safety (NOC) to conduct a study on the benefits and impacts of establishing a policy requiring visitors to wear life jackets while recreating on Corps-managed waters. After careful review of findings, the study team recommended development of a national life jacket loaner program among other options. General Riley endorsed that recommendation. See Life Jacket Mandate Study Interim Report, dated 2 May 2008 at this link. http://corpslakes.usace.army.mil/employees/watersafety/pdfs/LJMSInterimReport.pdf

In July 2010, Michael Ensch, Chief, Operations, Directorate of Civil Works, established a Life Jacket Loaner Policy. This policy was issued to clarify the use of appropriated funds for purchasing supplies and materials to establish and maintain life jacket loaner programs on USACE projects. See Appendix G Life Jacket Loaner Policy Memorandum, dated 23 July 2010. This is also available online under policy memos at this link. http://corpslakes.usace.army.mil/employees/policy.cfm?Id=watersafety&Code=All

Life Jacket Loaner Programs have been heavily encouraged by such national partners as Safe Kids Worldwide, BoatUS, US Coast Guard, Children's Hospital Network, National Safe Boating Council, National Drowning Prevention Coalition, National Association of State Boating Law Administrators and National Water Safety Congress. See Appendix A for potential partners.

IV. Summary of Guidance.

A. All USACE recreation projects are strongly encouraged to implement a life jacket loaner program.
B. Life jacket loaner programs may be managed at staffed locations (such as gatehouses or visitor centers) or by use of unstaffed loaner boards or kiosk-type stations.
C. Possible locations for loaner stations include gatehouses, visitor centers, designated swim beaches, marina offices, fuel docks, boat ramps, or similar high visibility facilities.
D. Loaner station design and program execution, to include routine maintenance and inspections, will be at the discretion of the Operations Project Manager or Natural Resource Managers using this guidance.
E. Signage, printed material, or trained personnel, must be available to provide the public information on how to properly size and fit a life jacket.
F. All loaner program printed materials should be printed in language(s) appropriate to project visitation. Display or availability of information offering visual guidance should be used whenever possible.

V. Specific Guidance.

A. Structure Design & Inspections

1. Single Purpose – A loaner board or kiosk should be used only for promotion of life jacket wear and associated printed materials. Do not use the kiosk as a general information bulletin board as well.

2. Readily accessible – The loaner board or kiosk should be highly visible and readily accessible. If possible, wheelchair accessibility may be considered.

3. Safe structure – The kiosk or loaner board should be designed and made from materials appropriate to local weather conditions. See Appendix F for design ideas. Weather resistant materials are preferable to reduce maintenance and damage to the board. Any type of hook or post used to display life jackets should be blunt and placed at an appropriate height above child's eye level. Do not use sharp or extended attachments, such as nails, to hang the jackets. The structure's design should also meet district and/or project standards for bulletin boards or other kiosk structures.

4. Structure Inspections - The life jacket loaner board or kiosk must be inspected on a regular basis. Project staff will determine the frequency of inspections. The inspection should identify damage or wear from use and follow-up maintenance requests accordingly. Any damage or wear that could cause injury, or poses a threat to a visitor must be fixed immediately or removed from public availability.

B. Life Jackets Inspections

1. Schedule – It is important that life jackets be inspected on a routine basis. Project and/or district staff will determine frequency of inspections; however a weekly inspection is recommended for unmanned loaner stations. Staffed loaner station locations should

include standards for inspection of jackets as they are returned from visitors, or on a rotational basis.

2. Reports – Inspection/Restocking log reports should be appropriately filed and maintained at the site's project management office for three years for liability purposes. See Appendix B for a sample form.

3. Personnel – Life jacket inspections should be conducted by park rangers, other staff members, contractors, volunteers, or others assigned by the USACE. Project staff will determine and put into writing required inspection steps, but include specific standards for assessing unacceptable wear or damage. It is recommended that all inspectors be properly trained on inspection criteria and other elements of loaner program management.

4. Life jacket inspection criteria checklist - Any jackets not meeting inspection criteria set by project staff must be removed from loaner station/program and destroyed.

(a) Check for holes, tears, rips or severe pulling around all seams (especially around straps)

(b) Check that buckles and zippers work correctly

(c) Check for signs of mildew, mold or deteriorating discoloration, such as excessive fading from sunlight

5. Life jacket inventory- Every effort should be made to have an inventory of extra life jackets on hand to replace damaged or lost jackets. A sample letter to borrowers who do not return loaner jackets is in Appendix D.

6. Off-season - It is suggested that during winter (or months of traditionally low visitation) that jackets be stored inside to reduce amount of damage from severe weather. Most projects pull all life jackets in from swim beaches during the winter months or if a recreation area has been closed.

C. Printed Materials/Signage

1. Signs or printed materials will be posted on or adjacent to life jacket loaner stations to address fit, size, and condition as follows. Signs must follow USACE Sign Standards Manual, EP 310-1-6 a & b requirements for interpretive signs. All text will be printed in languages appropriate for visitor communication.

a. Fit – With text or graphics, show a properly fitting and buckled life jacket.

b. Size – Show visitors how to locate sizing information on the life jacket label or restate the weights associated with each size.

c. Condition – Provide visual or written guidance on the importance of checking for damage on life jackets before using them.

2. Printed information on fit and sizing will be provided even if gate attendants (or other personnel) are fitting jackets for visitors. Visitors must be made aware of their personal responsibility in choosing a properly fitting life jacket in good condition.

3. Signs and other materials should be simple and easily understood – consider using graphics if at all possible.

4. Printed materials and signs should provide directions to visitors as to how the loaner program works. For example: Where do they return life jackets? Are there conditions for the program (do visitors have to sign a form, work through a gate attendant, or just borrow and return the life jackets?)

5. Refer to the National Operations Center for Water Safety pages on the NRM Gateway, for appropriate artwork, sign format and content.

VI. <u>Procurement of Loaner Program Materials</u>. The CECW-CO Life Jacket Loaner Policy, dated 23 July 2010, (Appendix G) clarifies our authority to use appropriated funds to purchase life jacket loaner station supplies and materials. However, whenever practical, partnerships should be used to minimize operating costs. Projects with existing loaner programs have successfully partnered with non-profits, local merchants, civic organizations, and water safety councils to obtain life jackets under the voluntary contributions authority, 33 U.S.C. 2325. Corps policy on accepting contributions is in Chapter 11 of Engineering Regulation 1130-2-500 (1996). Examples of organizations that donate life jackets are in Appendix A. Sample loaner station design plans and associated costs are in Appendix F.

VII. <u>Communications Plan and Public Education Initiatives</u>.
Projects are encouraged to develop a media campaign and communications strategy to increase awareness about the life jacket loaner program. The communications plan should include a draft news release with photos and interpretive posters explaining the program. Each project is encouraged to tailor draft news releases and posters for their site. The plan should include talking points for rangers and other personnel. All materials will be developed in languages appropriate for project visitation. See Appendix E for a sample communications plan and sample press releases and talking points. Project promotions may include:

A. Recreation Area Promotion

1. Posters explaining the life jacket loaner program displayed on bulletin boards and/or gate houses.

2. Information posted at boat ramps that will educate boaters about the loaner program.

3. Where applicable, gate attendants/hosts will have information/training about this program so they can sign out life jackets to borrowers.

B. Visitor Center Promotion

1. Include information about the life jacket loaner program as part of a water safety education display.

2. Where applicable, inform and train visitor center volunteers and staff about this program so they can familiarize visitors with the program.

C. Out-granted Areas, Partnering Organizations, and Agencies Promotion

1. Projects are encouraged to partner with operators of out-granted areas to develop life jacket loaner sites at their areas.

VIII. Examples of Two Types of Loaner Programs.

A. Staffed Loaner Stations (e.g. gatehouses, visitor centers, project offices etc.):

1. Location should display prominent signage promoting the loaner program. Life jackets should be readily available and visible.
2. Loaner stations should be stocked with US Coast Guard approved life jackets in various sizes, in limited quantities.
3. Attendants may ask park visitors if they would like to borrow a free loaner life jacket for the day.
4. Borrower will be reminded to return life jacket upon departure from park. The use of a sign-out form is not mandatory, but may be used at the discretion of the Operations Project Manager. In the event that a life jacket is not returned, this gives USACE the opportunity to contact the borrower requesting the life jacket be returned. See sample letter in Appendix D. Actual level of program enforcement will be determined by the Operations Project Manager.
5. Life jackets must be inspected on a routine basis for wear and unsafe life jackets removed. Inspection reports should be kept on file for 3 years for liability purposes.
6. Interpretive posters, signs, or other types of notices may be posted at launch ramps, visitor centers, restrooms, swim beaches, etc., to increase visitors awareness about the program and encourage boating and water safety. Bilingual signage may be provided at manager's discretion.

B. Unstaffed Loaner Stations:

1. Loaner station at swim beaches, boat ramps, marinas, or similar facilities should have signs, posters, or other types of notices explaining the loaner program.
2. US Coast Guard approved life jackets should be available in various sizes.
3. Loaner station signs should instruct visitors who borrow life jackets on an honor system to return the jacket to the station before leaving the park.
4. Life jackets must be inspected on a routine basis for wear and unsafe life jackets removed. Inspection reports should be kept on file for 3 years for liability purposes.
5. Posters, signs, or other types of notices may be posted at launch ramps, visitor centers, restrooms, swim beaches, etc., to increase visitors' awareness about the program and encourage boating and water safety. Bilingual signage may be provided at manager's discretion.

Appendix A
Potential Partnership Opportunities

PFD Donations/Discounts/Grants:

Local water safety councils
Cooperating Associations
Walmart
Target
West Marine/ Port Supply
Stearns
Mustang
Revere
Walsh Marine
Dicks Sporting Goods
Sports Authority
Local sporting goods/outdoor stores
Boat U.S. Foundation
National Safe Boating Council
Safe Kids Coalition
National Marine Manufacturers Assoc.
Yamaha
Kawasaki
Mercury Motors
Ranger Boats
Zodiac
Rotary
Lions Club
Ruritan
Civitan
Kiwanis
Shriners
YMCA
American Red Cross
American Legion
Religious organizations

Loaner Tree Material Donations/Discounts:

Home Depot
Lowe's Home Improvement Warehouse
Ace Hardware
True Value Hardware
Local hardware stores
Walmart
Target

Other Partners:

US Coast Guard
US Coast Guard Auxiliary
US Power Squadrons
National Water Safety Congress
Kids Don't Float campaign – Alaska

Appendix B
Life Jacket Loaner Station Sample Inspection/Restocking Logs

Instructions

- Check stations on mornings prior to whenever the loaner station location gets the most use (i.e. weekends, holidays).

- A mixture of sizes of life jackets is highly recommended, but the quantity may vary depending on the stations usage needs. For a location with high visitation, it is suggested to provide approximately 12 Child, 18 Youth, and 6 Adult life jackets.

- Buckle up all clips to ensure they hold and check for the following damage.
  - Rips or tears in the fabric
  - Buckles won't clasp (check for rocks/sand that could be removed)
  - Very faded fabric (fabric will feel very thin and look almost white at seams)

- If any damage is found, remove and replace the jacket, even if you're not sure.

- Complete form and put in Loaner Station Manager's inbox.

Life Jacket Loaner Station Inspection/Restocking Log

Inspector Name:_____Date:_____

Location	Number Adult Replaced	Number Youth Replaced	Number Child Replaced	Jackets Missing	Jackets Damaged

---

Completed Form Example – If there were 2 adult, 2 youth missing and 1 adult and 1 child damaged at a certain location, that line of the form would look like this:

Location	Number Adult Replaced	Number Youth Replaced	Number Child Replaced	Jackets Missing	Jackets Damaged
Holly Point North	3	2	1	2A, 2Y	1A, 1C

Appendix B
Sample Life Jacket Inspection Form
(Inspection must be done at least weekly to determine life jackets' serviceable condition)

Life Jacket #	1. Is the life jacket free of tears or holes?	2. Are buckles attached and working?	3. Does zipper work properly?	4. Is the USCG approved label attached?	5. Are the buckle straps attached properly?
105	YES	YES	NO	YES	YES
57	YES	YES	YES	YES	YES

Comments and Codes:

CODES: S = Serviceable U = Unserviceable R= Removed from inventory

Life jacket #	Comment and code	Corrective action	Date Removed from Service
105	U&R zipper tab missing	Need to order new tab.	1 Aug 2011
57	S		

Directions:

1. Write the life jacket number in the first column, then answer each question in the corresponding row using the following responses: YES, NO, or N/A

2. In the comment and codes section, describe the problem or hazard that is present, the corrective action, and then remove the life jacket from the recreation area.

Reviewed by: _____ Date: _____

Appendix C - RESERVED

Appendix D
Sample Letter to Borrowers for Unreturned Life Jackets

The following is a sample letter to send to remind borrowers to return life jackets. It is at the discretion of the Operations Project Manager to determine the level of enforcement to be used for this program.

- -

Dear (borrower):

Our records show that you borrowed (insert number) life jacket(s) on (date) and forgot to return (it/them). Please return the jacket to (project site) as soon as possible. The life jacket loaner program depends on life jackets being returned for others to use.

Thank you for your cooperation with this matter. Please contact (name and phone number) if you have any questions regarding this matter.

Sincerely,
(name of person in charge of program)
(Title)
(Project name)
(XXX District)
U.S. Army Corps of Engineers

Appendix E
Life Jacket Loaner Program Sample Communication Plan

1. **Purpose.** This document provides a communication strategy template for project offices, in cooperation with local PAO, to use in launching a new life jacket loaner program campaign or to increase awareness enhance an existing program.

2. **Responsibilities.**
   a. All personnel should reference this plan when fielding questions/concerns from members of the public, partners, and/or stakeholders of lake projects.
   b. Field staff should work with district Public Affairs Office (PAO) to distribute news releases/and or media advisories to increase awareness.
   c. Field staff should conduct direct outreach with visitors and partners/stakeholders to explain the program.

3. **Background.** The life jacket loaner program provides the public with free use of life jackets while visiting USACE recreation areas. Research shows that 90 percent of water-related fatalities at USACE projects could have been prevented if a life jacket had been worn by the victim. The goals for this program are to increase life jacket wear during water-based activities on USACE recreation lakes and waterways as well as educate the visiting public on the importance of proper use and fit.

   Life jacket loaner stations have been successfully used since the mid-1980s by various USACE lake operations project managers as a tool in reducing public recreation-related fatalities on their waters. Most of these stations offer various sizes of life jackets from infant to adult on a first-come, first-served basis. Demand for use of the life jackets has generally exceeded the available supply. Many of the loaner stations in existence at USACE facilities have cooperatively been installed and maintained by local partners, such as Safe Kids Coalition, Boy or Girl Scout organizations, or local water safety councils. The standards for each station have been at the discretion and control of the local lake manager. This resulted in a variety of structure design, maintenance, and oversight in monitoring the structures or the life jackets being made available to the public.

   In April 2007, MG Don Riley, then the Director of Civil Works for USACE, directed the National Operations Center for Water Safety (NOC) to conduct a study on the benefits and impacts of establishing a policy requiring visitors to wear life jackets while recreating on Corps-managed waters. After careful review of findings, the study team recommended development of a national life jacket loaner program among other options. General Riley endorsed that recommendation. See Life Jacket Mandate Study Interim Report, dated 2 May 2008 at this link.
   http://corpslakes.usace.army.mil/employees/watersafety/pdfs/LJMSInterimReport.pdf

   In July 2010, Michael Ensch, Chief, Operations Directorate of Civil Works, established a Life Jacket Loaner Policy. This policy was issued to clarity the use of appropriated funds for purchasing supplies and materials to establish and maintain life jacket loaner programs on

USACE projects. See Life Jacket Loaner Policy Memorandum, dated 23 July 2010, under policy memos at this link.
http://corpslakes.usace.army.mil/employees/policy.cfm?Id=watersafety&Code=All

Life Jacket Loaner Programs have been heavily encouraged by such national partners as Safe Kids Worldwide, US Coast Guard, Children's Hospital Network, National Safe Boating Council, National Drowning Prevention Coalition, National Association of State Boating Law Administrators and National Water Safety Congress.

4. Potential Audiences.

a. Internal

(1) Park staff
(2) Sister/neighboring projects
(3) Operations leadership
(4) Command group

b. External

(1) Nearby vendors/concessionaires
(2) Local residents who regularly visit the recreation areas
(3) Local law enforcement agencies that patrol/respond to the recreation areas
(4) Marina tenants
(5) Local media
(6) Local civic groups/clubs (Rotary, Lions, American Legion, Fishing Clubs, etc.) that have a vested interest in the facility
(7) Community leaders (city/town council reps, county reps, congressional district reps, teachers)

5. Goal, Strategy, Tactics.

Goal: Ensure awareness of life jacket loaner program and increase awareness of Corps' commitment to visitor/water safety.

Strategies: Communicate program intent and policy proactively through internal briefings, media releases, social media outreach and direct visitor interaction.

Suggested Tactics

a. News release announcing program
b. Water safety event at park to introduce program
c. Facebook, Twitter announcements about program
d. Distribute fact sheet to local businesses, partner agencies
e. Pitch ranger/manager appearances on local radio/TV stations to discuss program
f. Direct outreach to partners/stakeholders

6. Key Messages and Talking Points.

a. Life jackets save lives.

- Since 1998, 90 percent of drowning victims on Corps waters were not wearing life jackets.
- When accidents happen, life jackets buy time for successful rescues

b. Accidents happen. They don't have to be fatal.

- Many people who drown never expected to end up in the water. Even experienced swimmers can quickly get into trouble.
- Safe boating isn't just the responsibility of the person behind the wheel; it applies to everyone on board.
- Most boaters do not plan on falling overboard, and when they do, it is too late. Putting on a life jacket when you need it is like trying to put on a seat belt just before a crash.
- Adults can drown in less than a minute; children in as few as twenty seconds.
- More than 150 people die at Corps parks each year on average. Many of these deaths might have been prevented by life jackets.

c. The safety of our visitors is our top concern.

- Life jackets are essential to safe water recreation, and we want everyone who visits our park to be able to do so safely.
- Providing loaner life jackets to our visitors ensures all visitors to our park have the chance to enjoy it safely.
- Our park rangers are always happy to assist visitors with proper life jacket wear and to share advice for safe boating and swimming.

d. Following some simple rules can help you stay alive.

- Always wear a life jacket.
  (Siempre use un chaleco salvavidas.)
  - Children should wear life jackets when playing in or near the water.
    (Niños deben usar chalecos salvavidas al jugar adentro o cerca del agua.)
  - Everyone should wear life jackets from the time they arrive at the boat ramps until they tow boat out of the water.
    (Cada uno debe usar chalecos salvavidas a partir del tiempo momento que llegan a las rampas de botes hasta que remolquen el bote fuera del agua.)
  - If you don't have a life jacket, talk to a ranger or park attendant about our loaner program.
    (Si usted no tiene un chaleco salvavidas, hable con un guarda parques o un asistente del parque sobre nuestro programa al prestamista.)
- Always swim with a buddy.
  (*Nada siempre con un amigo.)*
- Learn how to swim well.
  (Aprende a nadir bien.)
- Never dive into unknown waters.
  (Nunca se zambulla en las aguas desconocidas.)
- Parents, always watch your children!
  (¡Padres, vigilen siempre a sus niños!)
- Always swim in designated areas.
  (Siempre nade en áreas designadas.)
- Take a Boating Safety Course.
  (Tome un curso sobre la seguridad del paseo en bote.)
- Always be weather wise, watch for summer storms.
  (Conozca el estado del tiempo, vigile por las tormentas del verano.)

NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

For Immediate Release:
(insert date)

Contact: (insert POC's name)
(insert phone number)
(insert email address)

Life Jacket Loaner Program at (insert project name)

(Insert Project Name, State Abbreviation) – (insert project name), managed by the U.S. Army Corps of Engineers, (insert district name), will offer a limited number of life jackets for loan to park visitors beginning (insert Month Date, Year).

("Quote from park manager describing why the park has chosen to implement the program and how it's expected to improve safety at the park," said park manager – insert name)

Many U.S. Army Corps of Engineers lake and river projects have managed life jacket loaner programs since the 1980s. In March 2011, U.S. Army Corps of Engineers headquarters established national guidelines for loaner programs to bring consistency within the agency and to reinforce their commitment to water safety.

"Statistically, we know that 90 percent of our drowning victims were not wearing life jackets. In many of these incidents, we know that life jackets, if properly worn, would have increased their chances of survival," said Lynda Nutt, manager of the U.S. Army Corps of Engineers' National Operations Center for Water Safety.

(District describe particulars of local program)

The life jacket loaner program is a supplement program for those visitors who forgot their life jacket. Visitors should not rely on this program as a sole source for their life jackets. If a life jacket is borrowed from the loaner program it should be returned the same day it is borrowed.

Visitors with questions about the program are encouraged to contact the (insert project name) project office at (insert phone number).

The U.S. Army Corps of Engineers is America's largest provider of outdoor recreation opportunities on federal public lands, serving more than 350 million visitors per year at over 400 lake and river projects in 43 states.

-###-

LIFE JACKET LOANER PROGRAM

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

Background
In March 2011, U.S. Army Corps of Engineers headquarters issued guidelines for implementing life jacket loaner programs throughout the agency nationwide. Many U.S. Army Corps of Engineers lake and river projects have managed loaner programs independently since the 1980s. The new guidelines will ensure consistent loaner programs across the nation as an agency and reinforce the agency's commitment to ensuring the safety of more than 350 million visitors per year to over 400 lake and river projects in 43 states.

Life Jackets Save Lives
More than 150 people die at U.S. Army Corps of Engineers' lake and river projects each year on average, most of them by drowning. Since 1998, 90 percent of drowning victims on U.S. Army Corps of Engineers waters were not wearing life jackets. U.S. Coast Guard boating regulations require vessels to carry a life jacket for each passenger, but they only work if you wear them. Many drowning victims never intended to end up in the water. When accidents happen, life jackets buy time for successful rescues. The life jacket loaner program helps ensure all visitors to U.S. Army Corps of Engineers' lake and river projects have a safe visit.

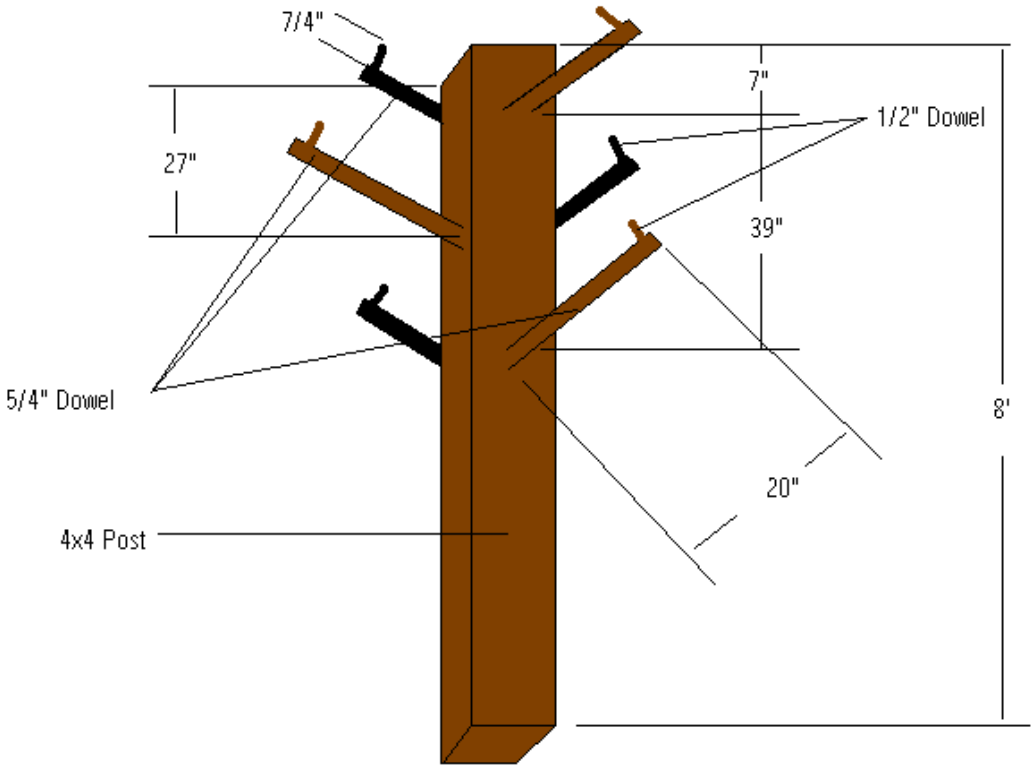
The Life Jacket Loaner Program at (insert your project name)
The loaner program is a supplement program for those visitors who forgot their life jacket. Visitors should not rely on this program as a sole source for their life jackets. If a life jacket is borrowed from the loaner program it should be returned the same day it is borrowed.

Describe the particulars of your life jacket loaner program.

For More Information
More details on park policy and contact info.

Appendix F
Sample Life Jacket Loaner Station
Design Plans and Photos

Tree of Life – Design #1 – Treated Wood Construction



Post-	$ 5.97
5/4"x6' Dowel-	$ 6.40
1/2 x4' Dowel-	$ 1.38
Water proof Glue-	$12.48

Contact: Jordan Lake, SAW
Cost Estimate: $20 materials

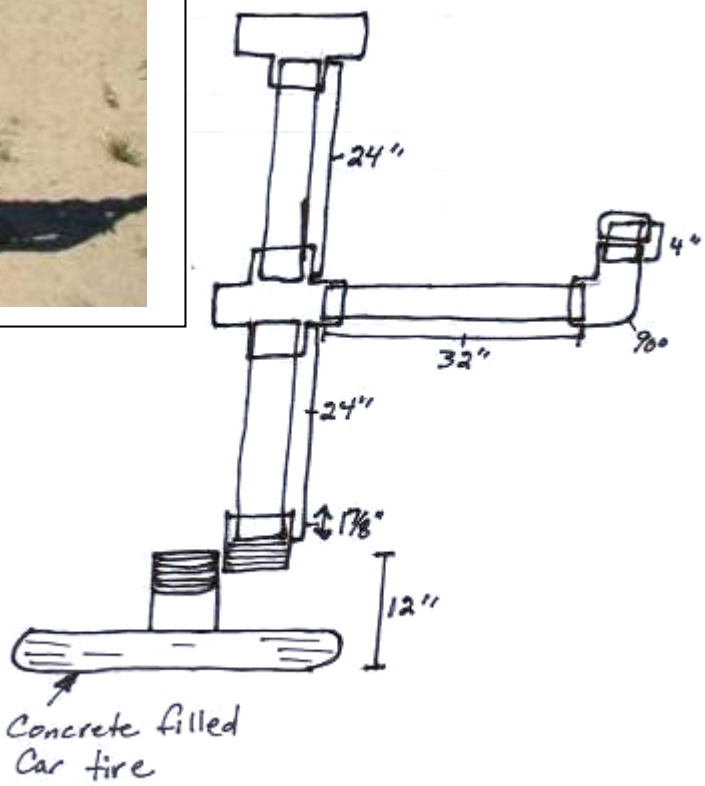
Pros

- Inexpensive
- Simple to construct
- Easy to maintain – no metal to rust
- Minimal size, small profile

Cons

- Peg height may present safety hazard, if near eye levels
- Lack of space for signage to address fit, size, condition of jackets
- Fixed structure may be impacted by high water conditions
- Jackets may blow off in high winds
- No roof – jackets exposed to weather & sun conditions

Tree of Life – Design #2 – PVC Construction



Contact: Lake Shelbyville, MVS
Cost Estimate: $260 materials

Pros
- Inexpensive
- Simple to construct
- Semi-mobile
- Easy to maintain – no metal to rust
- High visibility
- Sturdy Design

Cons
- Minimal space for signage to address fit, size, condition of jackets
- No roof jackets exposed to weather and sun conditions

Materials needed to construct one Tree of Life

22 feet of schedule 80 three inch pipe
One 4 way cross 3" schedule 80
One 3 way T 3" schedule 80
Four 90 degree elbow 3" schedule 80
Four end caps 3" schedule 80
One 3" x 12" black pipe nipple
One 3" adapter
1 pint of clear pipe glue
One old car tire
One or Two bags of secrete depending on size of tire

Kiosk Design - #1 – Steel Construction

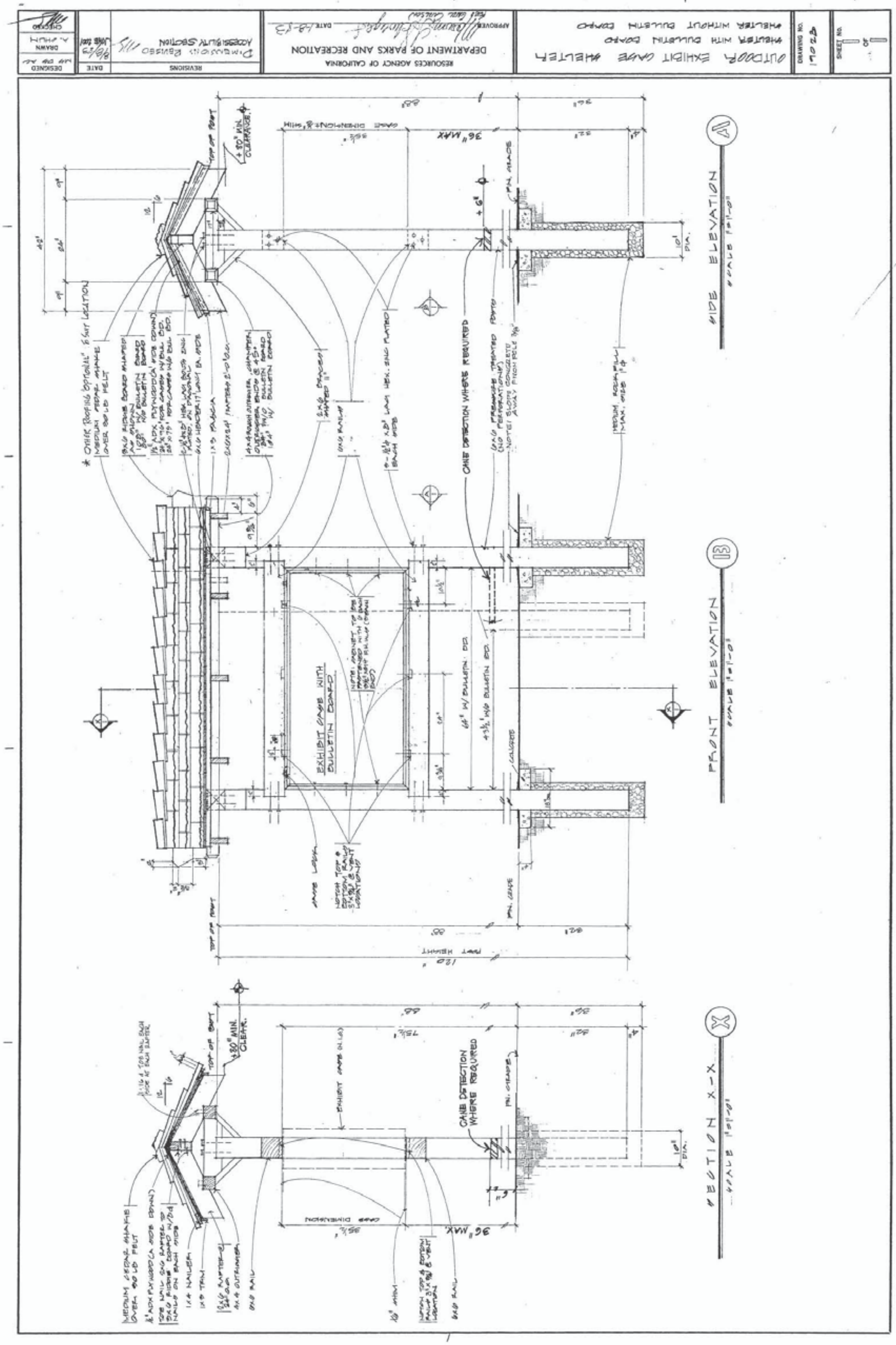
Contact: Waurika Lake, SWT
Cost Estimate: Total $750-$1200 (Sign only $275)

Pros

- Substantial Structure for displaying appropriate messages and jackets
- Has small roof to protect jackets and signs somewhat
- Single use structure
- High visibility
- Easily maintained steel structure

Cons

- More expensive than tree stations
- More complex construction
- Graphics on sign need improvements (e.g. all caps text not good)


RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF PARKS AND RECREATION
OUTDOOR EXHIBIT CASE SHELTER
SIDE ELEVATION
FRONT ELEVATION
SECTION X-X
EXHIBIT CASE WITH BULLETIN BOARD
CANE DETECTION WHERE REQUIRED

F-4

Kiosk Design - #2 – Treated Wood Construction

Contact: Falls Lake, SAW
Cost Estimate: Total $500 (materials $300, signage $200)

Pros

- Substantial structure for messages
- High visibility
- Easily maintained
- Single use structure
- Includes signage addressing proper use and bilingual

Cons

- More expensive than 'tree' stations
- More complex construction
- Message says return but not before leaving.
- Message doesn't thoroughly address proper sizing of jackets.

- **6’x3’ plastic (PVC) building – donated from local hardware store**
- **Includes room on doors and inside building to hang proper signage**

Contact: DeGray Lake, MVK
Cost: Donated building + Cost of signage

Pros

- Substantial structure
- Easily maintained
- Includes proper signage
- Good protection from sun and weather damage

Cons

- Possibly expensive option (unless shed is donated)
- Space available but inadequate signage to address proper size and fit.
- Needs a high visibility area or signage to direct visitors to structure

Enclosed Design #2

Contact: Grapevine Lake, SWF
Cost Estimate: Total $850 (materials $750, signage $100)

Pros
- Substantial structure
- High visibility
- Signage easily updated or exchanged
- Dual use: Water Safety + Interp
- Includes proper signage
- Rotates to account for wind change through the year
- Can be easily converted to full interp during non-rec season

Cons
- More expensive than 'panel' stations
- More complex construction
- Takes more space than 'panel' stations
- Life jackets not secured during night hours (no doors on structure)

LIFE JACKET LOANER STATION

RULES & REGULATIONS:

1) Life jackets are available on a first-come-first-serve basis.
2) If you need a life jacket, and there are none available, notify the park attendant and one will be supplied to you.
3) Parents/Guardians are responsible for making sure their children are in the right sized life jacket. If the size is incorrect, the life jacket will not work effectively.
4) Borrower assumes all responsibility and liability of life jacket use/non-use.
5) Borrower will not hold liable any party involved in the distribution of lifejackets.
6) Borrower must inspect life jacket prior to use to make sure life jacket is in good working condition.
7) Return life jackets to this station before leaving the park!

THANK YOU FOR YOUR COOPERATION!

¡Para la información en español, lea por favor el otro lado!!!

KNOW BEFORE YOU GO

Provided by
US Army Corps of Engineers
Fort Worth District
Trinity Regional Project

This material has been funded in part by a grant from the National Water Safety Congress in cooperation with the U.S. Coast Guard Office of Boating Safety administering the Sport Fish Restoration & Boating (Wallop-Breaux) Trust Fund.

LOS CHALECOS SALVAVIDAS SE PUEDE USAR GRATIS

NORMAS Y REGLAMENTOS:

1) Los chalecos salvavidas están disponibles por orden de llegada.
2) Si necesita un chaleco salvavidas y no hay ninguno disponible, notifíqueselo al encargado del parque, quien le dará uno.
3) Los padres/ tutores son responsables de asegurarse de que sus hijos utilizan un chaleco salvavidas de su talla. El chaleco salvavidas no funcionará eficazmente si la talla no es la correcta.
4) El usuario del chaleco salvavidas asume toda responsabilidad respecto al uso o no del chaleco salvavidas.
5) El usuario no responsabilizará a ninguna de las partes relacionadas con la distribución de los chalecos salvavidas.
6) El usuario debe inspeccionar el chaleco salvavidas antes de usarlo para asegurarse de que funciona correctamente.
7) Favor de devolver el chaleco salvavidas a este mismo lugar antes de abandonar el parque.

¡MUCHAS GRACIAS POR SU COOPERACIÓN!

For information in English, please see other side!

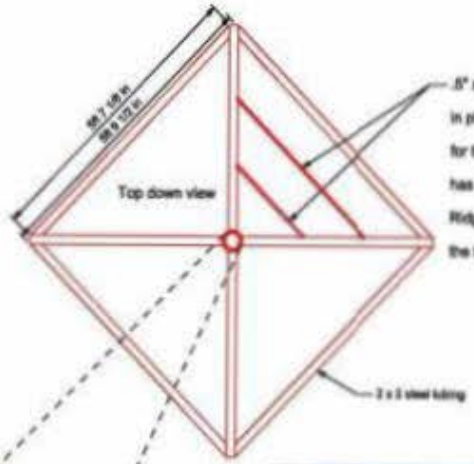
KNOW BEFORE YOU GO

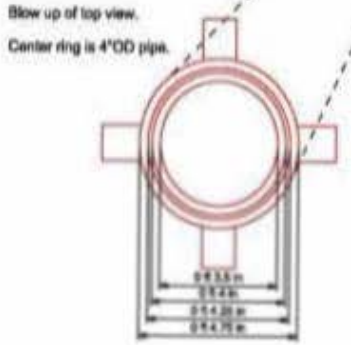
Proporcionado por
US Army Corps of Engineers
Fort Worth District
Trinity Regional Project

This material has been funded in part by a grant from the National Water Safety Congress in cooperation with the U.S. Coast Guard Office of Boating Safety administering the Sport Fish Restoration & Boating (Wallop-Breaux) Trust Fund.

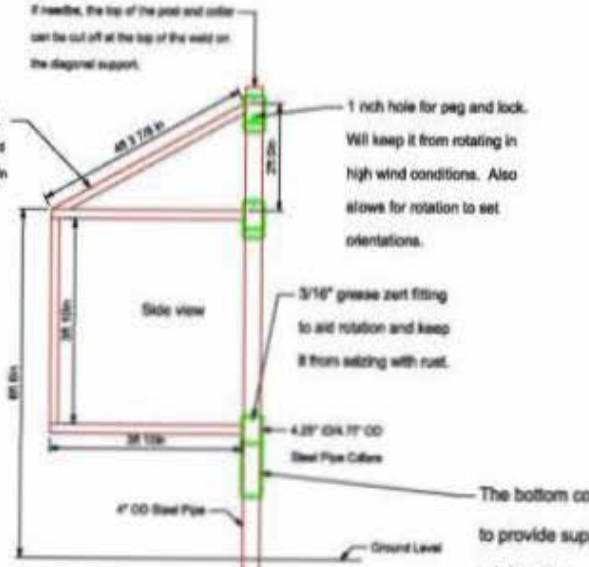
PFD Loaner Station + Interpretive Kiosk Design

Designed by Steve Perrin
With input from Craig Edmondson, Joe Hegwood, Sharon Patry, Megan Conn, and Jim Cox
For further information, call (817) 865-2607

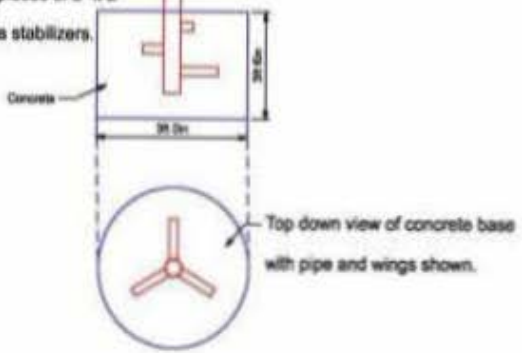




Completed Summer 2010
at Murrell Park on
Grapevine Lake



9 inch long pieces of 2" x 2" pipe used as stabilizers.



F-8

Enclosed Design #3

Bonneville Dam,
Hamilton Island
Boat Ramp
September 4, 2010

Total Cost: $14,000 Materials, Labor and Signage

Pros: Substantial Structure
High Visibility
Easily Maintained
Signage
Professional

Cons: Expensive
Message doesn't request returning the same day
English only
Jackets not secured overnight

Dock Box Design

Contact: Wallisville Lake, SWK
Cost: Donated materials and labor. No cost estimate available.

Pros

- High visibility
- Easily maintained
- Includes proper signage
- Good protection from sun and weather damage

Cons

- More expensive option with both the covered sign and dock box
- The dock box came unvented (could have been a suffocation hazard) so a vent with a screen (to keep out wasps!) was installed in the back.
- Ventilation needs to be adequate to prevent mold and mildew conditions that deteriorate jackets.

Graphics/Resources

Source: USACE National Water Safety Program
http://corpslakes.usace.army.mil/employees/watersafety/art.html

Sample Graphic for Loaner Station
(high resolution versions available from National Water Safety Team)

Appendix G

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
WASHINGTON, D.C. 20314-1000

JUL 23 2010

REPLY TO
ATTENTION OF

CECW-CO

MEMORANDUM FOR COMMANDERS, MAJOR SUBORDINATE COMMANDS AND DISTRICT COMMANDS, CHIEFS, OPERATIONS DIVISIONS AND CHIEFS, NATURAL RESOURCES MANAGEMENT, MAJOR SUBORDINATE COMMANDS

SUBJECT: Life Jacket Loaner Program Policy

1. References:

a. Life Jacket Mandate Study Interim Report, 2 May 2008

b. Title 31 USC, Principles of Federal Appropriations Law (GAO Redbook)

c. CERM-F Memorandum, Subject: Public Safety Promotional Materials, 27 November 2002

d. ER & EP 1130-2-550, Chapter 2 – Recreation Management, 15 November 1996

2. This memorandum provides policy to clarify the use of appropriated funds for purchasing supplies and materials to establish and maintain life jacket loaner programs on U.S. Army Corps of Engineers projects. The Corps Life Jacket Loaner Program was authorized to help reduce the number of public fatalities at Corps projects. Currently, over 90% of all drownings at Corps projects could have been prevented if a life jacket had been worn by the victim. Broader implementation of the Corps Life Jacket Loaner Program was one of the recommendations presented in the 2007 Life Jacket Mandate Study (LJMS) interim report prepared for MG Don Riley, then USACE Director of Civil Works. MG Riley endorsed that recommendation along with life jacket policy testing and the remaining report recommendations. The LJMS interim report can be viewed online at http://corpslakes.usace.army.mil/employees/watersafety/ljms.cfm.

3. The guidance for this policy is derived from Title 31 United States Code and the General Accounting Office, Principles of Federal Appropriations Law (GAO Red Book) as explained further in references 1.b. and 1.c. This guidance is further derived from the implication of the purpose statute, which directs that appropriated funds may only be used for the purpose for which they were appropriated. *See* 31 U.S.C. Sec. 1301(a). Not every expenditure must be expressly authorized to be permissible. However, if not expressly authorized, a proposed expenditure must be analyzed under the "necessary expense" test. This test provides that an agency expenditure, even if not specifically authorized by law, is still permissible if deemed reasonably necessary to carry out an authorized function or contributes significantly to the effective accomplishment of that function, and it is not otherwise prohibited by law.

4. Promoting public safety is an authorized agency purpose for managing the USACE Recreation Program as directed in reference 1.d., which contains a stated objective "To provide a quality outdoor recreation experience which includes an accessible, safe and healthful environment to a diverse population." Furthermore, this regulation directs public education stating that "Project personnel will promote, develop, and maintain public interest in recreation safety through the establishment of water safety councils or by participation in other local water safety educational opportunities."

5. Life jacket loaner programs have been established by USACE and other public safety agencies for backup provision of life jackets for visitors who inadvertently come to recreational lakes without one. Loaner stations have been successfully used as a tool to educate people about wearing the proper size and type of life jacket while recreating on our waters, further supporting our goal to reduce public recreation fatalities. Many of the existing loaner programs are made possible through donations and continued support of partnering organizations such as Safe Kids Coalition, local water safety councils, and BoatUS. Corps projects are encouraged to continue to seek partners to supplement the expenditures necessary to maintain these facilities.

6. Loss of life jackets from loaner stations has not typically been a problem; however, it is recommended that loaner life jackets are dispensed in a reasonably controlled manner and that losses be recorded and tracked. Excessive loss should immediately lead to actions to minimize theft or vandalism, including relocation or removal of loaner stations or initiation of manned check-out locations, such as at fee booths, visitor centers or similar staffed areas. Corps projects are encouraged to implement sign out programs to monitor the use and return of these life jackets, as well as schedule routine life jacket inspections to ensure that devices are maintained in safe and functional condition. This recommendation does not eliminate use of unmanned stations so long as proper public information regarding use and fitting of life jackets is posted, as well as clear indication that the devices are to be returned that same visitor day.

7. Additional information regarding life jacket loaner programs, signage and station designs can be found on the NRM Gateway, or by contacting the National Operations Center for Water Safety, ATTN: Lynda Nutt, lynda.g.nutt@usace.army.mil or Rachel Garren, rachel.j.garren@usace.army.mil.

FOR THE COMMANDER:

MICHAEL G. ENSCH
Chief, Operations
Directorate of Civil Works

APPENDIX H

U.S. COAST GUARD

NATIONAL BOATING SAFETY ADVISORY COUNCIL

LIFE JACKET RESOLUTION

NATIONAL BOATING SAFETY ADVISORY COUNCIL

April 1-2, 2011
Arlington, Virginia

Resolution Number 2011-87-01

APPROPRIATE REGULATIONS FOR LIFE JACKET WEAR BY RECREATIONAL BOATERS

WHEREAS, recreational boating is a premier outdoor pastime for over 70 million Americans and untold numbers of visitors to our nation's waters each year; AND

WHEREAS, in spite of the fact that boating is highly regarded as a safe and enjoyable recreational activity, this Council recognizes the need to be mindful that the reduction in annual fatalities associated with recreational boating is of great importance; AND

WHEREAS, thorough analysis of available boating accident data has been performed and used as a basis for this recommendation; AND

WHEREAS, given the fact that, on average, approximately 500 people die in recreational boating accidents each year in the United States as a result of non-swimming-related drowning and very few of them were wearing a life jacket, consequently the National Boating Safety Advisory Council agrees that mandatory life jacket wear is appropriate for certain segments of the boating community;

NOW, THEREFORE, BE IT RESOLVED that the National Boating Safety Advisory Council, meeting in regular session in Arlington, Virginia, on April 2, 2011, recommends that the U. S. Coast Guard:

1. Initiate efforts which target a future regulatory project to pursue requirements for life jacket wear for recreational boaters while underway and riding in or upon (with consideration given to appropriate exemptions):
    a. personal watercraft regardless of length
    b. human-powered vessels (such as canoes, kayaks, rowboats, etc.) regardless of length
    c. any vessel less than 18-feet in length
    d. for any person towed while engaged in watersports

2. Work with its partners to design a strategy to engage the boating public through in-person and electronic dialogue on this topic through pre-rulemaking consultation aimed at informing the public about the potential benefits of such a regulation, gauging public opinion about life jacket wear based on boating type and activity, and making decisions on this topic based on a thorough understanding of both public sentiment and potential benefits.

3. Make initiatives aimed at streamlining the life jacket testing and approval processes a high priority in order to reduce the overall cost of highly comfortable life jackets, support innovation and creativity in life jacket design and technology, and allow improved life jacket models to reach the consumer quicker and easier.

4. Give proper consideration to the acceptance (US Coast Guard approval for wear requirements and carriage requirements) of alternative life jackets and other buoyant devices (i.e., Level 50 devices) by completing and accepting a harmonized North American standard, and report back to this Council on the potential benefits and drawbacks of allowing these devices to be worn as a means of compliance with a proposed life jacket wear regulation.

_____
James P. Muldoon, Chairman
National Boating Safety Advisory Council

APPENDIX I

U.S. COAST GUARD/

JSI RESEARCH AND TRAINING, INC.

WEAR RATE DATA

2011 Evaluation of Army Corps of Engineers Mandatory Life Jacket Wear Regulations in Mississippi and California

Thomas W. Mangione
Wendy Chow
Heather E. Lisinski
Mihaly Imre
Natalie King

JSI Research & Training Institute, Inc.
Boston, Massachusetts

January, 2012

Produced under a grant from the Sport Fish Restoration and Boating Trust Fund, administered by the U.S. Coast Guard.

Table of Contents

I. INTRODUCTION

This report presents findings from data collected for the Mississippi Army Corps of Engineers Vicksburg District in 2008, 2009, 2010 and 2011 and in California's Southern Sacramento District for 2010 and 2011 in which there were demonstration projects to gauge the impact of mandatory life jacket wear regulations. In Mississippi, the regulation mandated that all boaters in all boats under 16 feet had to wear life jackets at all times and all boaters in boats between 16 feet and 26 feet had to wear life jackets when underway. Boaters who were in boats larger than 26 feet or boats between 16 and 26 feet long that were drifting or anchored were not covered by the mandatory regulations. In California the regulation mandated that all boaters on powered boats under 16 feet had to wear life jackets at all times and for powered boats over 16 feet when the craft was moving under main propulsion. For non-powered boats, life jackets were required at all times no matter the size.

Procedures used to monitor life jacket wear in the Mississippi and California demonstration projects mirrored those for the National Wear Rate Observational Study, where a team of observers from land-based locations observed and recorded life jacket wear behavior. In Mississippi, observations were conducted at four intervention lakes and two control lakes for one half-day during a weekend. (see map in Appendix for locations). For the pre-regulation year in Mississippi the observations were conducted during two weekends in each of July and August and also one weekend each in September and October (fall observations) and one weekend each in March and April (spring observations). In the post-regulation years, since the official kick-off of the new regulation was Memorial Day, May 2009, observations were added in the months of May and June. In addition, observations were conducted on every weekend in July and August and Labor Day weekend in September as well as an additional weekend in September, October, March and April.

For California, observations were conducted at one intervention lake and one control lake for one full weekend day. For the pre-regulation period observations were conducted twice in July, August and September, and once in October, February and March. For the post-regulation period since the kick-off was on April 1, 2011, observations were conducted twice in April, May, June and September; weekly in July and August; and once in October.

Unless otherwise indicated, all results presented exclude PWCs and towed watersports participants, as both types of these boaters are subject to separate regulations. Also, unless otherwise indicated, boats that were not covered by the mandatory regulations are not included in the wear rates presented.

Please note that all rates throughout this Mississippi section follow the same sequence, comparing the pre-regulation year (2008) and each of the three post-regulation years (2009, 2010, and 2011). While in the California section the data compare the pre-regulation year (2010) and the post-regulation year (2011).

II. SUMMARY OF KEY FINDINGS

Life jacket wear rates in the **Mississippi** intervention lakes have shown substantial increases comparing pre-regulation data to post-regulation data available to date, whereas the control lakes essentially have stayed level. Unless otherwise indicated, all numbers exclude non-regulated boats, PWCs, and towed watersports participants.

a. **Adults** increased from 13.8% to 75.6% to 69.8% and then to 69.9% (page 6).
b. Both **adult males** and **adult females** showed similar substantial increases (page 10).
c. **Teenagers** increased from 47.8% to 88.2% to 87.0% and then to 91.3% (page 10).
d. **Children** under the age of 13 showed small increases from already high levels (94.3% to 96.4% to 97.8 and then to 95.2%) (page 10).
e. All four intervention lakes showed substantial increases--
Arkabutla, yearly averages from 21.1% to 83.8% to 83.6% and then to 81.4%; **Enid**, yearly averages from 13.1% to 80.2% to 61.7% and then to 69.1%; **Grenada**, yearly averages from 7.1% to 78.7% to 69.6% and then to 72.6%.; and **Sardis**, yearly averages from 12.8% to 64.2% to 70.2% and then to 63.1% (page 6).
f. Substantial increases were seen in all three major types of boats that are used on the lakes-- **skiffs**, yearly averages from 27.0% to 83.7% to 79.2% and then to 81.9%; **speedboat/ runabouts**, yearly averages from 4.3% to 71.7% to 66.3% and then to 68.4%; **pontoons,** 5.1% to 68.4% to 60.6% and then to 59.2% (page 14).
g. Substantial yearly increases were seen for power boats of different sizes-- **under 16 feet**, 21.7% to 72.2% to 62.7% and then to 63.3%; **16 to 21 feet**, 14.6% to 79.0% to 75.9% and then to 75.6%; and **21 to 26 feet** 6.5% to 72.8% to 62.7% and then to 64.1%. (page 16).
h. Boaters who were **fishing or intending to fish** showed substantial yearly increases from 27.6% to 84.4% to 78.6% and then to 80.2% (page 18).
i. Boaters participating in **other activities** (predominately pleasure boating) showed substantial yearly increases from 8.3% to 70.7% to 65.5% and then to 66.4% (page 18).

Based on data supplied by the Mississippi lake managers on summer **patrol hours**, a direct correlation was found between enforcement intensity and wear rates across the four intervention lakes for 2010 and 2011 after calculating measures adjusting for lake size. The relationship became clearer when focusing on pleasure boaters since fishing tournaments also have additional regulations requiring wearing of life jackets (page 19).

j. The number of patrol hours per 1000 acres of lake was highly correlated with lake average summer wear rates.

Life jacket wear rates at the **Pine Flat** intervention lake in California showed large increases comparing pre-regulation data to post-regulation data whereas the control lake, **Millerton,** showed some increases in some situations but not nearly at the levels observed in Pine Flat. Given how close the two lakes are to each other, boaters may have initially been confused and thought the new regulations applied to Millerton Lake, as well as Pine Flat. Unless otherwise indicated, all numbers exclude non-regulated boats (boats over 16 feet that were not using primary propulsion), PWCs, and towed watersports participants.

k. **Adults** increased from 8.4% to 40.2% (page 24).
l. Both **adult males** and **adult females** showed similar increases (page 26).
m. **Teenagers** increased from 15.1% to 69.6% (page 26).
n. **Children** under the age of 13 showed small increases from already high levels (84.6% to 92.6% (page 26).
o. Increases were seen in all three major types of boats that are used on the lakes-- **skiffs,** yearly averages from 31.9% to 67.1%; **speedboat/runabouts,** yearly averages from 2.7% to 36.3%; **pontoons,** 0.0% to 33.1% (page 30).
p. Substantial yearly increases were seen for power boats of different sizes-- **under 16 feet,** 22.9% to 68.1%; **16 to 21 feet,** 10.3% to 42.3%%; and **21 and over,** 3.5% to 30.9% (page 32).
q. Boaters who were **fishing or intending to fish** showed increases from 34.0% to 70.8% (page 34).
r. Boaters who were engaged in **other activities** (mostly pleasure boating) showed increases from 2.2% to 36.4% (page 34).

III. THE NATIONAL CONTEXT

The information reported below will focus on four test lakes in northern Mississippi that are a part of the U.S. Army Corps of Engineers' (USACE) Vicksburg District and one test lake in California in the southern Sacramento District near Fresno. However, this study takes place in the context of a 13 year history of monitoring voluntary life jacket wear rates nationally in 30 other states across the country. In 2011 the national adult wear rate for all boats (excluding PWCs) was 8.5%; for teens it was 41.4%; and for youth under 13 it was 92.3%. For adults the speedboat rate was 3.0%; the skiff rate was 8.2%; the open motorboat rate was 4.8%; and the pontoon rate was 1.4%.

IV. RESULTS FOR MISSISSIPPI

OVERALL COMPARISONS FOR MISSISSIPPI

Table 1 and Figure 1 show overall life jacket wear rate changes for the intervention lakes compared to the control lakes. The data compare pre-regulation behaviors with three years of post-regulation behaviors. Pre-regulation behaviors were measured in the summer and fall of 2008 and the spring of 2009 before the new regulations went into effect. Year 1 Post-Regulation includes summer 2009, fall 2009 and spring 2010. Year 2 Post-Regulation includes summer 2010, fall 2010 and spring 2011. Year 3 Post-Regulation includes summer 2011 and fall 2011. As of this date, however, Year 3 Post-Regulation does not include spring 2012 data since it has not been collected yet. The changes from pre-regulation to post-regulation were very large and across the three post regulation years remained relatively steady.

The average life jacket wear rates for adults (excluding PWCs, towed watersports participants, and non-regulated boaters) for the four intervention lakes combined changed from 13.8% to 75.6% to 69.8% and to 69.9% for the time periods of 2008 through 2011 . During these same time periods the control lakes life jacket wear rates showed no such increases across—13.3% to 9.5% to 8.3% and to 6.7%.

Results were similar although not identical within each of the four intervention lakes for the same time periods of 2008 through 2011.

Arkabutla, yearly averages from 21.1% to 83.8% to 83.6% and then to 81.4%;
Enid, yearly averages from 13.1% to 80.2% to 61.7% and then to 69.1%;
Grenada, yearly averages from 7.1% to 78.7% to 69.6% and then to 72.6%; and
Sardis, yearly averages from 12.8% to 64.2% to 70.2% and then to 63.1%.

Figure 1. Average life jacket wear rates for adults by intervention and control lakes across years (Mississippi)

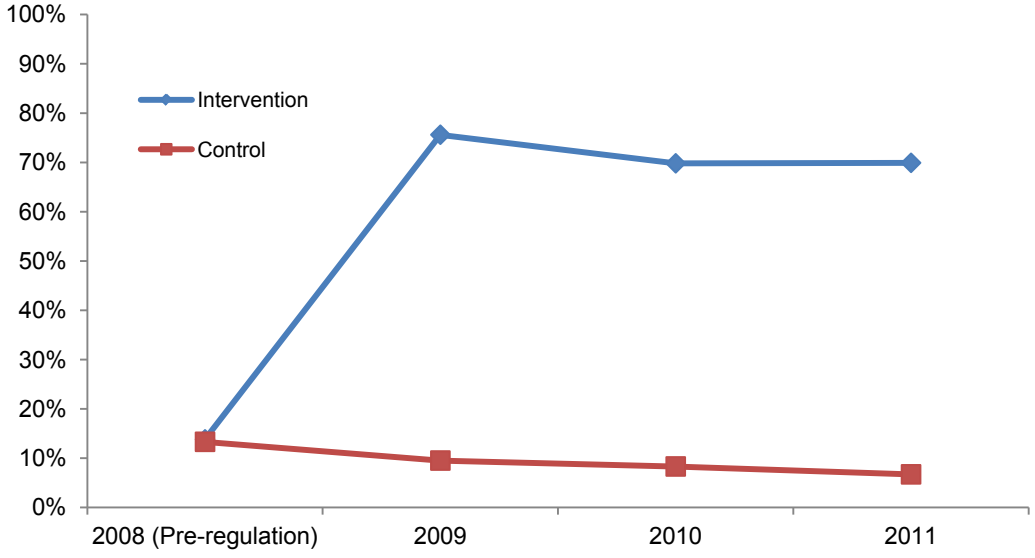


Table 1: Trends in Adult Wear Rates by Lakes in Mississippi

Table 1. Trends in Adult Wear Rates, By Lakes	*Pre-Regulation (2008)*	*Year 1 Post Regulation (2009)*	*Year 2 Post Regulation (2010)*	*Year 3 Post Regulation (2011)*
All Intervention Lakes, Adults, No PWC/WS (% Wearing)	13.8%	75.6%	69.8%	69.9%
. . . N Wearing	314	4549	4536	3297
. . . N Total Observed	2271	6020	6496	4715
Arkabutla Lake (% Wearing)	21.1%	83.8%	83.6%	81.4%
. . . N Wearing	117	883	607	637
. . . N Total Observed	554	1054	726	783
Enid Lake (% Wearing)	13.1%	80.2%	61.7%	69.1%
. . . N Wearing	97	1085	791	650
. . . N Total Observed	741	1353	1281	940
Grenada Lake (% Wearing)	7.1%	78.7%	69.6%	72.6%
. . . N Wearing	31	1416	1431	932
. . . N Total Observed	438	1799	2056	1283
Sardis Lake (% Wearing)	12.8%	64.2%	70.2%	63.1%
. . . N Wearing	69	1165	1707	1078
. . . N Total Observed	538	1814	2433	1709
All Control Lakes, Adults, No PWC/WS (% Wearing)	13.3%	9.5%	8.3%	6.7%
. . . N Wearing	120	453	469	293
. . . N Total Observed	901	4769	5628	4403
Bay Springs Lock and Dam (% Wearing)	14.3%	9.3%	10.2%	6.0%
. . . N Wearing	53	162	226	117
. . . N Total Observed	370	1735	2215	1957
Ross R Barnett Reservoir (% Wearing)	12.6%	9.6%	7.1%	7.2%
. . . N Wearing	67	291	243	176
. . . N Total Observed	531	3034	3413	2446

Note: Rates exclude PWCs, Boats > 26 ft., and Drifting/Anchored Boats 16-26 ft.

Note #2: The drop-off in number of boaters observed in 2011 in both the intervention and control lakes during the summer months was in all likelihood due to many days with unusually extreme heat and humidity.

SEASONAL VARIATIONS

The types of boating activities change on the lakes in the spring and fall seasons. There are more hunters and anglers on the water in the spring and fall periods and fewer family recreational boaters. This leads to a change in the distribution of boat types on the lakes tending toward more skiffs and smaller boats. Also, these are periods of times that both control and intervention lakes see more fishing tournaments. Therefore, as indicated in the pre-regulation year data, wear rates go up somewhat on both the intervention lakes as well as the control lakes in the spring and fall periods. (See Table 2)

Pre-Regulation Intervention lake totals:
Summer (8.8%), Fall (27.9%), Spring (29.7%)
Pre-Regulation Control lake totals:
Summer (5.1%), Fall (19.3%), Spring (21.7%)

For the control lakes post-regulation years, the wear rates for each season were similar to those observed in the pre-regulation period, with some variations across the years (and by individual lake) depending on whether there were fishing tournaments active on the observation days.

However, for the intervention lakes post-regulation, the wear rates jump substantially in all three post-regulation years compared to the pre-regulation year. For example, in Year 2 Post-Regulation the wear rates were as follows:

2nd Year Post-Regulation Intervention lake totals:
Summer (71.0%), Fall (65.9%), Spring (59.3%)
2nd Year Post-Regulation Control lake totals:
Summer (5.9%), Fall (24.8%), Spring (28.5%)

Table 2: Trends in Adult Wear Rates by Season in Mississippi

Table 2. Trends in Adult Wear Rates, By Season for Intervention Lakes		*Pre-Regulation (2008)*		*Year 1 Post Regulation (2009)*		*Year 2 Post Regulation (2010)*		*Year 3 Post Regulation (2011)*	
		N	%	N	%	N	%	N	%
Summer	Arkabutla Lake	424	13.9	869	83.9	621	85.7	743	83.2
	Enid Lake	556	6.3	1174	80.1	1095	62.3	888	70
	Grenada Lake	319	5	1269	75.3	1731	70.9	1095	74.5
	Sardis Lake	401	9.7	1705	63.9	2149	71.4	1564	62.7
	TOTAL	1700	8.8	5017	74	5596	71	4290	70.8
Fall	Arkabutla Lake	78	48.7	81	82.7	66	75.8	40	47.5
	Enid Lake	81	17.3	27	81.5	102	60.8	52	53.8
	Grenada Lake	19	10.5	281	91.5	100	62	188	61.7
	Sardis Lake	30	13.3	37	81.1	148	67.6	145	66.9
	TOTAL	208	27.9	426	88.3	416	65.9	425	61.2
Spring	Arkabutla Lake	52	38.5	104	83.7	39	64.1	.	.
	Enid Lake	104	46.2	152	80.9	84	56	.	.
	Grenada Lake	98	13.3	249	81.5	225	63.1	.	.
	Sardis Lake	106	24.5	72	62.5	136	53.7	.	.
	TOTAL	360	29.7	577	79.4	484	59.3	.	.
All Seasons, All Intervention Lakes Total		2268	13.8	6020	75.6	6496	69.8	4715	69.9

Table 2. Trends in Adult Wear Rates, By Season for Control Lakes		*Pre-Regulation (2008)*		*Year 1 Post Regulation (2009)*		*Year 2 Post Regulation (2010)*		*Year 3 Post Regulation (2011)*	
		N	%	N	%	N	%	N	%
Summer	Bay Springs Lock and Dam	224	6.3	1472	5.7	1926	7.2	1712	6
	Ross R Barnett Reservoir	204	3.9	2496	5.3	3043	5.1	2232	6.5
	TOTAL	428	5.1	3968	5.5	4969	5.9	3944	6.3
Fall	Bay Springs Lock and Dam	37	21.6	39	30.8	147	24.5	245	5.7
	Ross R Barnett Reservoir	150	18.7	79	41.8	171	25.1	214	14
	TOTAL	187	19.3	118	38.1	318	24.8	459	9.6
Spring	Bay Springs Lock and Dam	109	28.4	223	29.6	141	36.2	.	.
	Ross R Barnett Reservoir	177	17.5	459	27.2	199	23.1	.	.
	TOTAL	286	21.7	682	28	340	28.5	.	.
All Seasons, All Control Lakes Total		901	13.3	4768	9.5	5627	8.3	4403	6.7

Note: Rates exclude PWCs, Boats > 26 ft., and Drifting/Anchored Boats 16-26 ft.

Note #2: The drop-off in number of boaters observed in 2011 in both the intervention and control lakes during the summer months was in all likelihood due to many days with unusually extreme heat and humidity.

AGE AND GENDER OF BOATERS

Age of Boaters

Table 3 shows changes in life jacket wear behavior for children, teenagers and adults at both the intervention lakes and the control lakes.

Children under 13 wore life jackets at relatively high rates on both the intervention and control lakes before the regulations changed, since state law mandated wearing for all boaters under the age of 13 in Mississippi even before the new regulations went into effect. Total year wear rates of children under 13 in the intervention lakes moved from 94.3%, to 96.4% to 97.8% and then to 95.2% while the control lakes moved from 96.6% to 84.1% to 87.7% and then to 86.1%. It should be noted that these wear rates reflect, for the most part, summer activity since there were relatively few children observed on the lakes in the spring and fall seasons.

For teenagers who were not previously mandated by state law, large improvements were observed on the intervention lakes. At the intervention lakes the wear rates went from 47.8% to 88.2% to 87.0% and then to 91.3% while control lakes went from 25.4% to 37.7% to 28.3% and then to 28.5%. As for younger children, these totals are predominately due to summer activity since relatively few teenagers are on the lakes in the spring and fall seasons.

Gender of Adults

Results were similar for adult men and women with substantial changes post-regulation on the four intervention lakes while the control lakes showed essentially no changes in the summer periods for men or women. (See Table 3)

On the intervention lakes male yearly average wear rates moved from 15.9% to 76.9% to 71.1% and then to 70.5% and females moved from 9.1% to 72.3% to 67.2% and then to 68.7%. On the control lakes no increases over time were noted for either males or females. Control lake males yearly average rates moved from 15.4% to 12.2% to 10.8% and then to 8.7%; control lake females yearly average rates moved from 6.5% to 4.7% to 4.5% and then to 3.6%.

Table 3: Trends in Wear Rates by Boater Characteristics in Mississippi

Table 3. Trends in Wear Rates, By Boater Characteristics	*Pre-Regulation (2008)*	*Year 1 Post Regulation (2009)*	*Year 2 Post Regulation (2010)*	*Year 3 Post Regulation (2011)*
Adults, No PWC/WS				
-- Intervention (% Wearing)	13.8%	75.6%	69.8%	69.9%
. . . N Wearing	314	4549	4536	3297
. . . N Total Observed	2271	6020	6496	4715
-- Control (% Wearing)	13.3%	9.5%	8.3%	6.7%
. . . N Wearing	120	453	469	293
. . . N Total Observed	901	4769	5628	4403
Age 0-12, No PWC/WS				
-- Intervention (% Wearing)	94.3%	96.4%	97.8%	95.2%
. . . N Wearing	282	895	741	747
. . . N Total Observed	299	929	758	785
-- Control (% Wearing)	96.6%	84.1%	87.7%	86.1%
. . . N Wearing	86	530	625	596
. . . N Total Observed	89	630	713	692
Age 13-17, No PWC/WS				
-- Intervention (% Wearing)	47.8%	88.2%	87.0%	91.3%
. . . N Wearing	76	611	450	365
. . . N Total Observed	160	693	517	400
-- Control (% Wearing)	25.4%	37.7%	28.3%	28.5%
. . . N Wearing	16	126	91	91
. . . N Total Observed	63	334	321	319
Adult-Males, No PWC/WS				
-- Intervention (% Wearing)	15.9%	76.9%	71.1%	70.5%
. . . N Wearing	251	3264	3208	2196
. . . N Total Observed	1577	4243	4515	3113
-- Control (% Wearing)	15.4%	12.2%	10.8%	8.7%
. . . N Wearing	106	371	371	230
. . . N Total Observed	687	3038	3445	2650

Table 3. Trends in Wear Rates, By Boater Characteristics	*Pre-Regulation (2008)*	*Year 1 Post Regulation (2009)*	*Year 2 Post Regulation (2010)*	*Year 3 Post Regulation (2011)*
Adult-Females, No PWC/WS				
-- Intervention (% Wearing)	9.1%	72.3%	67.2%	68.7%
. . . N Wearing	63	1281	1324	1101
. . . N Total Observed	693	1771	1971	1602
-- Control (% Wearing)	6.5%	4.7%	4.5%	3.6%
. . . N Wearing	14	82	98	63
. . . N Total Observed	214	1730	2174	1753

Note: Rates exclude PWCs, Boats > 26 ft., and Drifting/Anchored Boats 16-26 ft.

TYPES OF BOATS

Tables 4 and 5 show results for adults by types of boats. In Mississippi the most common boats used during the summer are power boats—mainly skiffs, runabout/speedboats and pontoon boats. In the fall and spring, skiffs are the predominant boat used.

All Power Boats primarily includes speedboats, skiffs and pontoon boats since most of the few cabin cruisers seen on the lakes fall outside the size limitation for the regulations. On the intervention lakes the average yearly wear rates for this type of boat moved from 13.5% to 75.6% to 69.8% and then to 69.9% On the control lakes no such increases were noted as the rates moved from 13.0% to 8.9% to 7.5% and then to 6.1%.

Open motorboats (combination of skiffs and speedboats/runabouts). For the Mississippi lakes studied, there is a good mix of speedboats and skiffs during the summer months. In the fall and spring, the boats observed are almost exclusively skiffs. The averages for the year are weighted in the three post-regulation years to match the ratio of skiffs to speedboats observed in the pre-regulation year. The intervention lakes wear rates moved from 16.1% to 77.9% to 72.9% and then to 74.4%, while on the control lakes rates stayed fairly flat—moving from 15.5% to 11.7% to 9.8% and then to 8.4%.

Table 4: Trends in Adult Wear Rates for All Power Boats & Open Motor Boats in Mississippi

(Excluding non-regulated boats, PWC's and towed watersports participants)

Table 4. Trends in Adults Wear Rates, By Power Boat & Open Motor Boats	***Pre-Regulation (2008)***	***Year 1 Post Regulation (2009)***	***Year 2 Post Regulation (2010)***	***Year 3 Post Regulation (2011)***
All Power Boats, No PWC/WS				
-- Intervention (% Wearing)	13.5%	75.6%	69.8%	69.9%
. . . N Wearing	297	4428	4464	3257
. . . N Total Observed	2200	5854	6399	4657
-- Control (% Wearing)	13.0%	8.9%	7.5%	6.1%
. . . N Wearing	115	415	409	262
. . . N Total Observed	888	4655	5480	4295
Open Motor Boats				
-- Intervention (% Wearing)	16.1%	77.9%	72.9%	74.4%
. . . N Wearing	271	3518	3496	2453
. . . N Total Observed	1687	4514	4798	3297
-- Control (% Wearing)	15.5%	11.7%	9.8%	8.4%
. . . N Wearing	111	387	370	241
. . . N Total Observed	716	3311	3795	2855

Note: The Open Motorboat category is created by grouping "Skiffs" and "Speedboat/Runabouts" together. The proportion of Skiffs to Speedboat/Runabouts in the post-regulation years have been set to reflect the proportion observed in the pre-regulation year (separately for intervention and control lakes).

TYPES OF BOATS (CONTINUED)

Wear rates for specific types of power boats are shown in Table 5.

Skiffs tend to be smaller types of power boats and are often used by anglers many of whom participate in fishing tournaments that also require wearing of life jackets. Therefore, it is not surprising that the pre-regulation wear rates for skiffs were somewhat higher than for speedboats. But even with higher pre-regulation wear rates, there were still substantial increases at the intervention lakes with yearly average rates moving from 27.0% to 83.7% to 79.2% and then to 81.9%. The control lakes showed no such large increases moving only from 20.9% to 26.9% to 24.8% and then to 24.7%.

Speedboats/runabouts at the intervention lakes showed even greater changes than skiffs with yearly averages moving from 4.3% to 71.7% to 66.3% and then to 68.4%, but no such increases were seen on the control lakes moving from 5.3% to 2.7% to 2.8% and then to 1.3%.

Pontoon boats on the intervention lakes showed a change from 5.1% to 68.4% to 60.6% and then to 59.2%. The control lakes showed no such increases moving from 2.7% to 2.0% to 2.4% and then to 1.5%.

Table 5: Trends in Adult Wear Rates by Type of Power Boat in Mississippi
(Excluding non-regulated boats, PWCs and towed watersports participants)

Table 5. Trends in Adults Wear Rates, By Type of Power Boat	*Pre-Regulation (2008)*	*Year 1 Post Regulation (2009)*	*Year 2 Post Regulation (2010)*	*Year 3 Post Regulation (2011)*
Skiffs				
-- Intervention (% Wearing)	27.0%	83.7%	79.2%	81.9%
. . . N Wearing	236	1963	1949	1200
. . . N Total Observed	876	2346	2461	1465
-- Control (% Wearing)	20.9%	26.9%	24.8%	24.7%
. . . N Wearing	98	332	296	216
. . . N Total Observed	469	1235	1195	875
Speedboats				
-- Intervention (% Wearing)	4.3%	71.7%	66.3%	68.4%
. . . N Wearing	35	1555	1547	1253
. . . N Total Observed	811	2168	2334	1832
-- Control (% Wearing)	5.3%	2.7%	2.8%	1.3%
. . . N Wearing	13	55	74	25
. . . N Total Observed	247	2076	2600	1980
Pontoon				
-- Intervention (% Wearing)	5.1%	68.4%	60.6%	59.2%
. . . N Wearing	26	903	964	786
. . . N Total Observed	507	1321	1591	1328
-- Control (% Wearing)	2.7%	2.0%	2.4%	1.5%
. . . N Wearing	4	25	38	20
. . . N Total Observed	149	1262	1611	1331

SIZE OF POWER BOATS

In Figure 2 and Table 6 life jacket wear rates for different sized power boats are presented. The size categories are less than 16 feet, 16 to 20.9 feet, and 21 to 26 feet (since boats over 26 feet are not covered by the mandatory regulations). On the Mississippi lakes the vast majority of boats observed in the 21 to 26 feet category are pontoon boats with some large skiffs (bass boats used by anglers) and larger speedboats; there are almost no cabin cruisers on these lakes.

For **power boats less than 16 feet** in length, yearly averages at the intervention lakes moved from 21.7% to 72.2% to 62.7% and then to 63.3% while at the control lakes the yearly average rates stayed relatively flat moving from 18.7% to 17.9% to 15.1% and then to 10.7%.

For **power boats between 16 and 20.9 feet** in length, yearly averages at the intervention lakes went from 14.6% to 79.0% to 75.9% and then to 75.6% while at the control lakes wear rates did not increase moving from 14.1% to 13.0% to 9.0% and then to 7.6%.

For **power boats between 21 and 26 feet** in length (three-quarters of which are pontoon boats), yearly averages at the intervention lakes moved from 6.5% to 72.8% to 62.7% and then to 64.1% while at the control lakes rates remained flat moving from 5.9% to 3.2% to 5.2% and then to 4.0%.

Non-regulated power boats, boats over 26 feet in length or between 16 and 26 feet that are either at anchor or drifting, wear rates would not be expected to change. However, yearly averages for these craft on the intervention lakes went from 12.0% to 35.6% to 28.2% and then to 26.5%. Either there was a "spillover" effect of the regulations to larger sized craft, or observers may have misclassified boats close to 26 feet in length and coded them either as over 26 feet or boaters on boats 16 to 26 feet that were drifting or anchored kept their life jackets on even though not required when not underway. For these types of non-regulated power boats on the control lakes the rates stayed low moving from 5.8% to 3.4% to 3.8% and then to 3.1%.

Figure 2. Average Wear Rate for Adults by Size of Power Boat by Intervention and Control Lakes for All Years (Mississippi)

Table 6: Trends in Adult Wear Rates by Size of Power Boat in Mississippi
(Excluding PWCs and towed watersports participants)

Table 6. Trends in Adult Wear Rates, By Size of Power Boat	*Pre-Regulation (2008)*	*Year 1 Post Regulation (2009)*	*Year 2 Post Regulation (2010)*	*Year 3 Post Regulation (2011)*
All Power Boats, No PWC/WS				
-- Intervention (% Wearing)	13.5%	75.6%	69.8%	69.9%
-- Control (% Wearing)	13.0%	8.9%	7.5%	6.1%
Power Boat Size <16 ft				
-- Intervention (% Wearing)	21.7%	72.2%	62.7%	63.3%
. . . N Wearing	44	552	381	195
. . . N Total Observed	204	765	608	308
-- Control (% Wearing)	18.7%	17.9%	15.1%	10.7%
. . . N Wearing	20	57	33	19
. . . N Total Observed	107	319	219	177
Power Boat Size 16-20.9ft				
-- Intervention (% Wearing)	14.6%	79.0%	75.9%	75.6%
. . . N Wearing	222	2161	2599	1811
. . . N Total Observed	1522	2734	3424	2397
-- Control (% Wearing)	14.1%	13.0%	9.0%	7.6%
. . . N Wearing	84	290	243	164
. . . N Total Observed	594	2233	2691	2151
Power Boat Size 21ft to 26ft				
-- Intervention (% Wearing)	6.5%	72.8%	62.7%	64.1%
. . . N Wearing	31	1715	1484	1251
. . . N Total Observed	474	2355	2367	1952
-- Control (% Wearing)	5.9%	3.2%	5.2%	4.0%
. . . N Wearing	11	68	133	79
. . . N Total Observed	187	2103	2570	1967
Powered Boats>26ft & Drifting/Anchored 16-26ft Boats				
-- Intervention (% Wearing)	12.0%	35.6%	28.2%	26.5%
. . . N Wearing	30	192	196	127
. . . N Total Observed	251	539	696	480
-- Control (% Wearing)	5.8%	3.4%	3.8%	3.1%
. . . N Wearing	14	24	32	14
. . . N Total Observed	241	709	846	450

ACTIVITIES

Figure 3 and Table 7 show evidence of the effects of the boaters' activity on life jacket wear rates and also the impact on adult wear rates due to the presence of kids on board.

Kids on board or not on board. On the intervention lakes, adult boaters that had kids (0 to 12 years of age) on board showed somewhat greater increases (6.9% to 75.9% to 68.5% and then to 71.6%) than for boats with no kids on board (7.8% to 67.7% to 63.8% and then to 63.3%). The influence of kids on board increased the wear rates by 5% to 8% for adults on the intervention lakes. For the control lakes there was also a small difference for adults with kids on board compared to no kids (0.5% to 4%), but the rates for the adults with kids on board stayed very low moving from 6.5% to 3.6% to 4.6% and then to 3.1%.

This table also shows the impact of fishing or intending to fish activities on life jacket wear rates. The higher wear rates during pre-regulation periods for those involved in fishing or intending to fish compared to other activities are, in part, due to the type of boat and boat size used in these activities. It is also due to the fact that some boaters who are fishing or intending to fish are participating in tournaments which require wearing of life jackets when underway.

On the intervention lakes for those involved in **fishing or intending to fish** yearly averages moved from 27.6% to 84.4% to 78.6% and then to 80.2%. On the control lakes yearly averages stayed relatively flat moving from 24.9% to 30.6% to 33.3% and then to 29.2%.

For boaters participating in **all other activities** (mostly pleasure boating) on the intervention lakes the yearly averages moved from 8.3% to 70.7% to 65.5% and then to 66.4%. On the control lakes the yearly averages hardly changed moving from 3.5% to 4.2% to 4.7% and then to 3.2%.

Figure 3. Average Wear Rates for Adults Fishing/Intending to Fish vs All Other Activities by Intervention and Control Lakes for All Years (Mississippi)

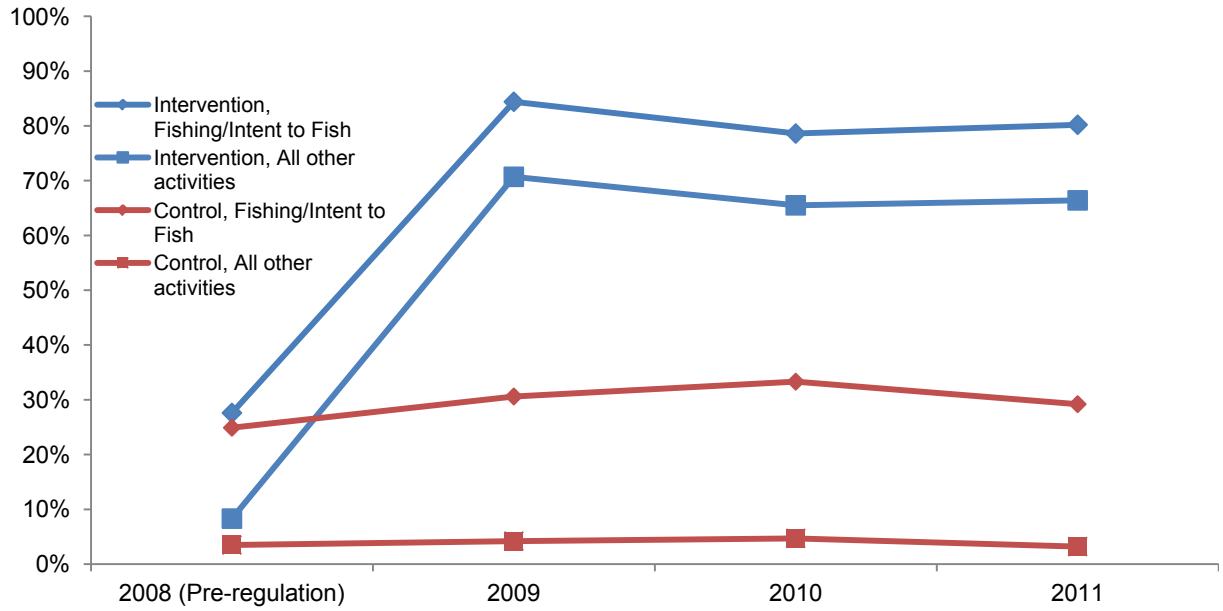


Table 7: Trends in Adult Wear Rates by Presence of Kids and by Boat Activity in Mississippi

(Excluding non-regulated boats, PWC's and towed watersports participants)

Table 7. Trends in Adult Wear Rates, By Boat Passengers & Boat Activity	*Pre-Regulation (2008)*	*Year 1 Post Regulation (2009)*	*Year 2 Post Regulation (2010)*	*Year 3 Post Regulation (2011)*
Adults on Power Boats for Pleasure, No PWC/WS - Intervention				
-- With no Kids (% Wearing)	7.8%	67.7%	63.8%	63.3%
. . . N Wearing	85	1628	1852	1394
. . . N Total Observed	1084	2406	2905	2201
-- With Kids (% Wearing)	6.9%	75.9%	68.5%	71.6%
. . . N Wearing	32	988	930	891
. . . N Total Observed	464	1301	1357	1244
Adults on Power Boats for Pleasure, No PWC/WS - Control				
-- With no Kids (% Wearing)	2.4%	3.1%	3.2%	2.2%
. . . N Wearing	9	87	113	58
. . . N Total Observed	372	2776	3572	2595
-- With Kids (% Wearing)	6.5%	3.6%	4.6%	3.1%
. . . N Wearing	7	33	55	35
. . . N Total Observed	107	915	1184	1119
Fishing/Intent to Fish, No PWC/WS				
-- Intervention (% Wearing)	27.6%	84.4%	78.6%	80.2%
. . . N Wearing	180	1812	1682	972
. . . N Total Observed	652	2147	2140	1212
-- Control (% Wearing)	24.9%	30.6%	33.3%	29.2%
. . . N Wearing	103	295	241	170
. . . N Total Observed	413	964	724	582
All other activities, No PWC/WS				
-- Intervention (% Wearing)	8.3%	70.7%	65.5%	66.4%
. . . N Wearing	134	2737	2854	2325
. . . N Total Observed	1619	3873	4356	3503
-- Control (% Wearing)	3.5%	4.2%	4.7%	3.2%
. . . N Wearing	17	158	228	123
. . . N Total Observed	488	3805	4904	3821

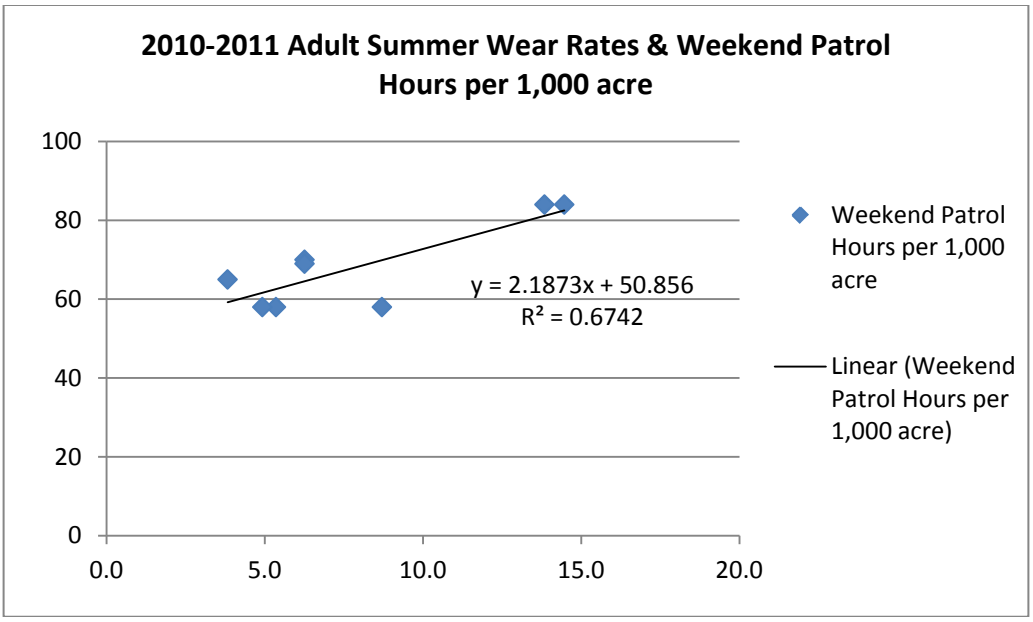
THE IMPACT OF PATROL HOURS ON WEAR RATES

In 2010 and 2011 we obtained information from the four MS USACE lake managers on the number of patrol hours conducted for each day during the summer months. We conducted analyses to look for a relationship between patrol hours on the weekends and wear rates. We focused on wear rates for non-anglers since many anglers participate in fishing tournaments that also have mandatory wear regulations. Based on preliminary analyses in 2010 we found there was a relationship between density of patrol hours (hours per 1000 acres of lake surface area) and non-angler (either fishing or intending to fish) wear rates. Our findings, using information from both 2010 and 2011 summer periods, are summarized below in Table 8 and Figure 4.

Table 8: 2010-2011 Adult Summer Wear Rates and Weekend Patrol Hours

Lake & Year	Patrol Hours Per 1000 Acres	Ranking	Non-Angler Wear Rates	Ranking
Arkabutla 2010	14.5	1	84	1
Arkabutla 2011	13.8	2	84	2
Enid 2010	8.7	3	58	6
Grenada 2010	6.3	4	70	3
Grenada 2011	6.3	5	69	4
Sardis 2010	5.4	6	58	7
Sardis 2011	4.9	7	58	8
Enid 2011	3.8	8	65	5

Figure 4: 2010-2011 Adult Summer Wear Rates and Weekend Patrol Hours



Inspection of these rankings shows that with the exception of the Enid Lake data there is a perfect correlation between patrol hour density and non-angler wear rates (see Figure 4). Enid Lake shows lower wear rates than might be predicted given the high patrol hour density in 2010 and higher wear rates than might be expected given the low patrol hour density in 2011. The data from the other three lakes for the two-year period correlate perfectly with the higher patrol density leading to higher wear rates among non-angler boaters.

CONCLUSIONS FOR MISSISSIPPI

The test of mandatory regulations in the Vicksburg District in four Mississippi lakes was very successful. There was an immediate increase in wear rates in the first year of the regulation and that increase stayed relatively steady for the next three years. The increase in wear rates was generally from 10% pre-regulation to 70% post-regulation.

The increases were seen for all types of boaters: male and female adults, teens and even those children under age 13 who were already covered by state regulations.

The increases were seen for all types of boats and boat sizes that were regulated (boats over 26 feet in length were not regulated although there were relatively few of this size boat on the four lakes).

The increases were seen for all types of boating activities whether fishing, intending to fish or any other boating activity.

There was some variation in levels of compliance with the regulations by lake ranging from 58% to 84% for non-angler activity boaters. Much of this variation could be accounted for by differences in the density of patrolling by rangers on the lake. Although the amount of hours of patrolling were similar on the four lakes, since the lakes varied in size (surface acreage) when the hours were standardized by 1,000 acres of surface area, it was seen that more patrol density led to higher wear rates.

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V. RESULTS FOR CALIFORNIA

PINE FLAT LAKE INTERVENTION

In 2011 the US Army Corps of Engineers (USACE) implemented an additional test of mandatory regulations at Pine Flat Lake in the Fresno, California area. Millerton Lake, managed by the state park service and in the same area, was used as a control lake (see map in Appendix for locations). The intervention began on April 1, 2011. Baseline observations were conducted one weekend in each of April, May, and October 2010 and 2 weekends in each of July, August, and September 2010. Baseline observations were conducted again in 2011 for one weekend in both February and March. Intervention year observations were conducted two weekends in 2011 in each of April, May, June, September; a total of nine weekends in July and August; and one weekend in October. Observations were conducted for a full day on either a Saturday or Sunday, alternating each weekend as to which lake was observed on Saturday and which on Sunday.

The regulations were similar to those in Mississippi, but differed in one regard. At Pine Flat, all boat lengths were included in the mandatory regulations. For non-powered boats (paddle craft and sailboats) life jackets were required at all times. For powered boats under 16 feet, life jackets were required at all times. For powered boats over 16 feet, life jackets were only required when the boat was moving under primary propulsion. This contrasts with Mississippi where boats over 26 feet were not regulated.

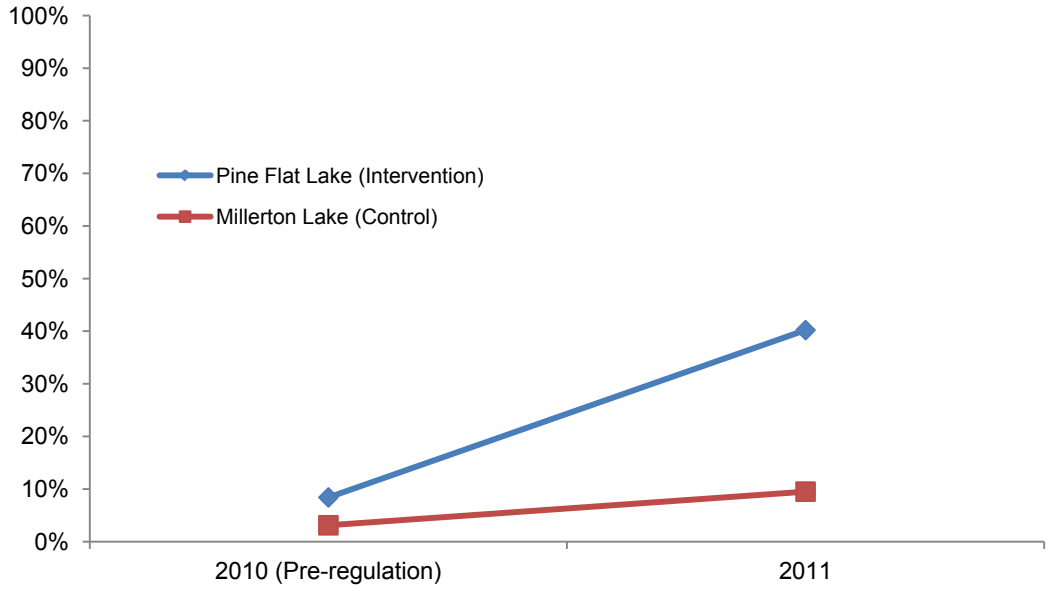
OVERALL COMPARISONS FOR CALIFORNIA DISTRICT

Figure 5 and Table 9 show overall adult life jacket wear rate changes for the intervention lake (Pine Flat) compared to the control lake (Millerton). Data are available to compare one year of pre-regulation behaviors with one year of post-regulation behaviors. Pre-regulation behaviors were measured in the summer of 2010 and spring of 2011 before the new regulations took effect. The post-regulation year includes spring 2011 after the regulations took effect (April 1), summer 2011 and fall 2011.

Please note that all rates throughout this California section follow the same sequence comparing the pre-regulation period (summer 2010 and spring 2011) to the post-regulation period (spring, summer, and fall 2011).

The average life jacket wear rates for adults (excluding PWCs, and towed watersports participants) for the intervention lake, changed from 8.4% (pre-regulation) to 40.2% (post-regulation). At the control lake life jacket wear rates for adults showed a much lower increase across this time period—3.1% to 9.5%.

Figure 5. Average Adult Wear Rates by Intervention and Control Lake for All Years in California



SEASONAL VARIATIONS

The types of boating activities change on the lakes in the spring and fall seasons. There are a lot more anglers on the water in the spring and fall periods and fewer family recreational boaters. This also leads to a change in the distribution of boat types on the lakes tending toward more skiffs and smaller boats. Also, these are periods of times that both control and intervention lakes see more fishing tournaments. At Pine Flat summer rates went from 2.9% to 37.1% compared to Millerton where they went from 3.0% to 6.7%. In the spring, Pine Flat moved from 45.9% to 68.6% and Millerton from 5.6% to 37.4%. This increase at Millerton may reflect some confusion on the part of boaters in the early months of the regulation, as to whether Millerton was also included in the new regulations. (See Table 9)

Table 9: Trends in Adult Wear Rates by Lakes in California District

Pre-Regulation Trends

Table 9. Trends in Adult Wear Rates, By Lakes	*Summer 2010*	*Spring 2011 (Pre)*	*Pre-Regulation Total (2010)*
Pine Flat Lake (Intervention), Adults, No PWC/WS (% Wearing)	2.9%	45.9%	8.4%
. . . N Wearing	51	119	170
. . . N Total Observed	1754	259	2013
Millerton Lake (Control), Adults, No PWC/WS (% Wearing)	3.0%	5.6%	3.1%
. . . N Wearing	79	7	86
. . . N Total Observed	2635	126	2761

Post-Regulation Trends

Table 9. Trends in Adult Wear Rates, By Lakes	*Spring 2011 (Post)*	*Summer 2011*	*Fall 2011*	*Post-Regulation YTD 2011*
Pine Flat Lake (Intervention), Adults, No PWC/WS (% Wearing)	68.6%	37.1%	29.2%	40.2%
. . . N Wearing	432	1564	121	2117
. . . N Total Observed	630	4223	415	5268
Millerton Lake (Control), Adults, No PWC/WS (% Wearing)	37.4%	6.7%	26.0%	9.5%
. . . N Wearing	177	506	117	800
. . . N Total Observed	474	7515	450	8439

Note: Rates exclude PWCs, and towed boaters in the water.

AGE AND GENDER OF BOATERS

Age of Boaters

Table 10 shows changes in life jacket wear behavior for children, teenagers and adults at both the intervention and the control lakes.

Children under 13 wore life jackets at relatively high rates on both the intervention and control lakes before the regulations changed, because California law mandated wearing for all boaters under the age of 13 even before this new regulations went into effect. Annual wear rates of children under 13 in the intervention lake moved from 84.6% to 92.6% while the control lake moved from 92.6% to 87.8%.

For teenagers, who were not previously mandated by state law, large improvements were observed on the intervention lake. At the intervention lake the wear rates went from 15.1% to 69.6% while at the control lake it went from 15.5% to 40.5%.

Gender of Adults

Results were similar for adult men and women with notable changes post-regulation on the intervention lake while the control lakes showed less changes (see Table 10). Men moved from 11.2% to 41.9% on Pine Flat compared to Millerton with rates of 3.3% rising to 11.7%. Women moved from 2.6% to 37.0% at Pine Flat compared to Millerton where rates moved from 2.9% to 6.0%.

Table 10: Trends in Wear Rates by Boater Characteristics in California District

Table 10. Trends in Wear Rates, By Boater Characteristics	*Summer 2010*	*Spring 2011 (Pre)*	*Pre-Regulation Total (2010)*	*Spring 2011 (Post)*	*Summer 2011*	*Fall 2011*	*Post-Regulation YTD 2011*
Adults, No PWC/WS							
-- Intervention (% Wearing)	2.9%	45.9%	8.4%	68.6%	37.1%	29.2%	40.2%
. . . N Wearing	51	119	170	432	1564	121	2117
. . . N Total Observed	1754	259	2013	630	4223	415	5268
-- Control (% Wearing)	3.0%	5.6%	3.1%	37.4%	6.7%	26.0%	9.5%
. . . N Wearing	79	7	86	177	506	117	800
. . . N Total Observed	2635	126	2761	474	7515	450	8439
Age 0-12, No PWC/WS							
-- Intervention (% Wearing)	85.4%	33.3%	84.6%	90.6%	93.9%	80.6%	92.6%
. . . N Wearing	164	1	165	58	383	25	466
. . . N Total Observed	192	3	195	64	408	31	503
-- Control (% Wearing)	93.1%	71.4%	92.6%	74.1%	88.2%	93.9%	87.8%
. . . N Wearing	284	5	289	43	786	62	891
. . . N Total Observed	305	7	312	58	891	66	1015
Age 13-17, No PWC/WS							
-- Intervention (% Wearing)	13.1%	100.0%	15.1%	75.8%	69.5%	54.5%	69.6%
. . . N Wearing	23	4	27	25	242	6	273
. . . N Total Observed	175	4	179	33	348	11	392
-- Control (% Wearing)	15.6%	0.0%	15.5%	50.0%	39.0%	76.9%	40.5%
. . . N Wearing	34	.	34	18	210	10	238
. . . N Total Observed	218	2	220	36	538	13	587
Adult Males, No PWC/WS							
-- Intervention (% Wearing)	3.7%	46.3%	11.2%	68.9%	37.9%	34.9%	41.9%
. . . N Wearing	41	112	153	323	1006	106	1435
. . . N Total Observed	1122	242	1364	469	2656	304	3429
-- Control (% Wearing)	3.0%	6.5%	3.3%	41.4%	8.0%	29.9%	11.7%
. . . N Wearing	48	7	55	150	360	94	604
. . . N Total Observed	1581	107	1688	363	4502	314	5179

Table 10. Trends in Wear Rates, By Boater Characteristics	*Summer 2010*	*Spring 2011 (Pre)*	*Pre-Regulation Total (2010)*	*Spring 2011 (Post)*	*Summer 2011*	*Fall 2011*	*Post-Regulation YTD 2011*
Adult Females, No PWC/WS							
-- Intervention (% Wearing)	1.6%	41.2%	2.6%	68.1%	35.5%	13.5%	37.0%
. . . N Wearing	10	7	17	109	556	15	680
. . . N Total Observed	631	17	648	160	1565	111	1836
-- Control (% Wearing)	2.9%	0.0%	2.9%	24.3%	4.8%	16.9%	6.0%
. . . N Wearing	31	.	31	27	146	23	196
. . . N Total Observed	1054	19	1073	111	3012	136	3259

TYPES OF BOATS

Tables 11 and 12 show results for adults by types of boats. On Pine Flat and Millerton Lakes the most common boats used are power boats—mainly skiffs, runabout/speedboats and pontoon boats.

All Power Boats primarily includes speedboats, skiffs and pontoon boats since relatively few cabin cruisers are seen on the lakes. On the intervention lake the average yearly wear rates for this type of boat moved from 8.4% to 40.1%. On the control lake much smaller increases were noted as the rates moved from 3.0% to 9.1%.

Open motorboats (combination of skiffs and speedboats/runabouts). The intervention lake wear rates moved from 10.4% to 43.2%, while the control lake rates showed a much smaller increase moving from 3.0% to 10.3%.

Table 11: Trends in Adult Wear Rates for All Power Boats & Open Motor Boats in California District

(Excluding PWCs and towed watersports participants)

Table 11. Trends in Adults Wear Rates, By Power Boat & Open Motor Boats	*Summer 2010*	*Spring 2011 (Pre)*	*Pre-Regulation Total (2010)*	*Spring 2011 (Post)*	*Summer 2011*	*Fall 2011*	*Post-Regulation YTD2011*
All Power Boats, No PWC/WS							
-- Intervention (% Wearing)	2.8%	45.9%	8.4%	68.8%	36.9%	29.2%	40.1%
. . . N Wearing	48	119	167	432	1554	121	2107
. . . N Total Observed	1741	259	2000	628	4208	415	5251
-- Control (% Wearing)	2.8%	5.9%	3.0%	37.3%	6.4%	26.4%	9.1%
. . . N Wearing	74	7	81	165	476	116	757
. . . N Total Observed	2613	118	2731	443	7433	440	8316
Open Motor Boats							
-- Intervention (% Wearing)	3.5%	49.2%	10.4%	71.3%	39.9%	32.1%	43.2%
. . . N Wearing	47	118	165	365	1315	108	1788
. . . N Total Observed	1344	240	1584	512	3295	336	4143
-- Control (% Wearing)	2.9%	5.5%	3.0%	39.3%	7.1%	31.7%	10.3%
. . . N Wearing	63	6	69	161	428	106	695
. . . N Total Observed	2207	109	2316	410	6018	334	6762

TYPES OF BOATS (CONTINUED)

Wear rates for specific types of power boats are shown in Table 12.

Skiffs tend to be smaller types of power boats and are often used by anglers many of whom participate in fishing tournaments on both lakes that also require wearing of life jackets; therefore it is not surprising that wear rates are higher for this type of boat than other types of boats. There were increases at the intervention lake with yearly average rates moving from 31.9% to 67.1% while the control lake moved from 7.7% to 34.9%.

Speedboats/runabouts are the most common type of boats seen on both lakes. The intervention lake showed similar amounts of changes as with yearly averages moving from 2.7% to 36.3%, but a much smaller increase was seen on the control lake moving from 2.5% to 5.5%.

Pontoon boats on the intervention lakes showed a change from 0.0% to 33.1%. The control lakes showed no such increases moving from 3.1% to 3.9%.

Table 12: Trends in Adult Wear Rates by Type of Power Boat in California District
(Excluding PWCs and towed watersports participants)

Table 12. Trends in Adults Wear Rates, By Type of Power Boat	*Summer 2010*	*Spring 2011 (Pre)*	*Pre-Regulation Total (2010)*	*Spring 2011 (Post)*	*Summer 2011*	*Fall 2011*	*Post-Regulation YTD 2011*
Skiffs							
-- Intervention (% Wearing)	16.0%	51.3%	31.9%	73.0%	64.0%	65.7%	67.1%
. . . N Wearing	37	97	134	222	334	67	623
. . . N Total Observed	231	189	420	304	522	102	928
-- Control (% Wearing)	6.9%	10.6%	7.7%	61.1%	23.1%	63.6%	34.9%
. . . N Wearing	12	5	17	129	175	77	381
. . . N Total Observed	173	47	220	211	759	121	1091
Speedboats							
-- Intervention (% Wearing)	0.9%	41.2%	2.7%	68.8%	35.4%	17.5%	36.3%
. . . N Wearing	10	21	31	143	981	41	1165
. . . N Total Observed	1113	51	1164	208	2773	234	3215
-- Control (% Wearing)	2.5%	1.6%	2.5%	16.1%	4.8%	13.6%	5.5%
. . . N Wearing	51	1	52	32	253	29	314
. . . N Total Observed	2034	62	2096	199	5259	213	5671
Cabin Cruiser							
-- Intervention (% Wearing)	0.0%	0.0%	0.0%	13.3%	24.3%	20.0%	22.7%
. . . N Wearing	.	.	.	2	25	2	29
. . . N Total Observed	20	1	21	15	103	10	128
-- Control (% Wearing)	1.1%	16.7%	2.1%	0.0%	2.5%	20.0%	2.8%
. . . N Wearing	1	1	2	.	6	1	7
. . . N Total Observed	89	6	95	4	240	5	249
Pontoon							
-- Intervention (% Wearing)	0.0%	0.0%	0.0%	67.0%	29.5%	20.0%	33.1%
. . . N Wearing	.	.	.	63	204	11	278
. . . N Total Observed	329	15	344	94	691	55	840
-- Control (% Wearing)	3.2%	0.0%	3.1%	0.0%	3.6%	8.9%	3.9%
. . . N Wearing	10	.	10	.	42	9	51
. . . N Total Observed	317	3	320	25	1171	101	1297

SIZE OF POWER BOATS

In Figure 6 and Table 13 life jacket wear rates for different sized power boats are presented; the size categories presented are less than 16 feet, 16 to 20.9 feet, and 21 feet and over. For boats over 16 feet, the boaters are on boats that are moving under their main propulsion (requirement for regulation to apply). At both the intervention and control lake, there is a common finding that as boat length increases, wear rate decreases.

For **power boats less than 16 feet** in length, yearly averages at the intervention lake moved from 22.9% to 68.1% whereas at the control lake the increase was much less moving from 8.2% to 23.9%.

For **power boats between 16 and 20.9 feet** in length, yearly averages at the intervention lake went from 10.3% to 42.3% whereas at the control lake it went from 4.5% to 10.6%.

For **power boats over 21 feet** in length yearly averages at the intervention lake moved from 3.5% to 30.9% while at the control lake rates increased by a small amount from 1.2% to 4.9%.

Non-regulated power boats, boats over 16 feet in length that are either at anchor or drifting, wear rates would not be expected to change if boaters were aware of this nuance. Any change that is observed could be attributed to either lack of awareness of this aspect of the regulation or boaters finding it more convenient to leave their life jackets on when the boat is not underway. These data are not shown in the table, but, for the intervention lake these boaters showed wear rates moving from 8.5% to 22.8% and at the control lake moving from 0.0% to 7.4%.

Figure 6. Average Adult Life Jacket Wear Rates by Size of Power Boats by Intervention and Control Lakes for All Years in California

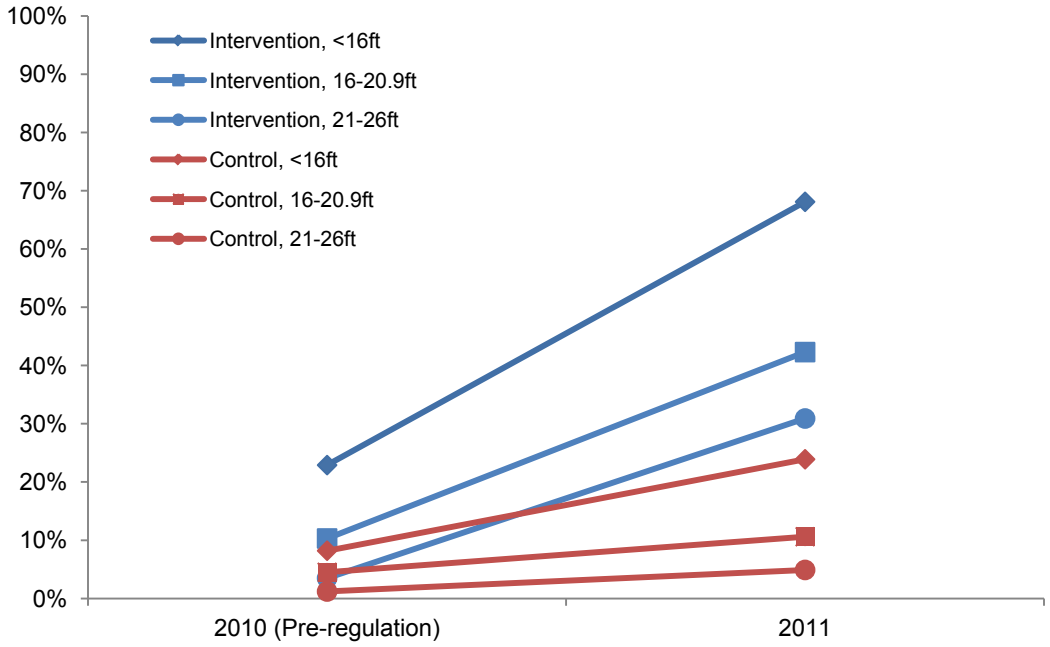


Table 13: Trends in Adult Wear Rates by Size of Power Boat in California District
(Excluding non-regulated boats, PWCs and towed watersports participants)

Table 13. Trends in Adult Wear Rates, By Size of Power Boat	*Summer 2010*	*Spring 2011 (Pre)*	*Pre-Regulation Total (2010)*	*Spring 2011 (Post)*	*Summer 2011*	*Fall 2011*	*Post-Regulation YTD2011*
All Power Boats, No PWC/WS							
-- Intervention (% Wearing)	2.8%	45.9%	8.4%	68.8%	36.9%	29.2%	40.1%
-- Control (% Wearing)	2.8%	5.9%	3.0%	37.3%	6.4%	26.4%	9.1%
Power Boat Size <16 ft							
-- Intervention (% Wearing)	12.5%	43.8%	22.9%	80.0%	69.0%	40.6%	68.1%
. . . N Wearing	8	14	22	48	140	13	201
. . . N Total Observed	64	32	96	60	203	32	295
-- Control (% Wearing)	8.5%	7.1%	8.2%	52.9%	20.8%	35.7%	23.9%
. . . N Wearing	4	1	5	9	43	5	57
. . . N Total Observed	47	14	61	17	207	14	238
Power Boat Size 16-20.9ft							
-- Intervention (% Wearing)	3.8%	48.8%	10.3%	70.1%	39.0%	24.1%	42.3%
. . . N Wearing	38	81	119	330	1001	61	1392
. . . N Total Observed	993	166	1159	471	2571	253	3295
-- Control (% Wearing)	4.4%	5.6%	4.5%	38.2%	7.2%	30.9%	10.6%
. . . N Wearing	56	4	60	135	334	93	562
. . . N Total Observed	1260	71	1331	353	4634	301	5288
Power Boat Size 21ft+							
-- Intervention (% Wearing)	0.3%	39.3%	3.5%	55.7%	28.8%	36.2%	30.9%
. . . N Wearing	2	24	26	54	413	47	514
. . . N Total Observed	684	61	745	97	1434	130	1661
-- Control (% Wearing)	1.1%	6.1%	1.2%	29.2%	3.8%	14.4%	4.9%
. . . N Wearing	14	2	16	21	99	18	138
. . . N Total Observed	1306	33	1339	73	2592	125	2790

ACTIVITIES

Figure 7 and Table 14 show evidence of the effects of the boaters' activity on life jacket wear rates and in particular show the impact of fishing or intending to fish activities on life jacket wear rates. The higher wear rates during pre-regulation periods for those involved in fishing or intending to fish compared to other activities are, in part, due to the type of boat and boat size used in these activities. It is also due to the fact that some boaters who are fishing or intending to fish were participating in tournaments which required wearing of life jackets when underway even before the new regulations went into effect.

On the intervention lake, for those involved in **fishing or intending to fish,** yearly averages moved from 34.0% to 70.8%. On the control lake yearly averages moved from 8.7% to 48.1%. Some of this difference reflects the presence of fishing tournaments on some days observations took place on these control lakes, whereas in the pre-regulation year there were not active tournaments on the control lake observation days.

For boaters participating in **all other activities**, mostly pleasure boating, on the intervention lake the yearly averages moved from 2.2% to 36.4% while on the control lake the yearly averages showed a small increase from 2.8% to 6.7%.

Figure 7. Average Adult Wear Rates by Boating Activity by Intervention and Control Lakes for All Years in California

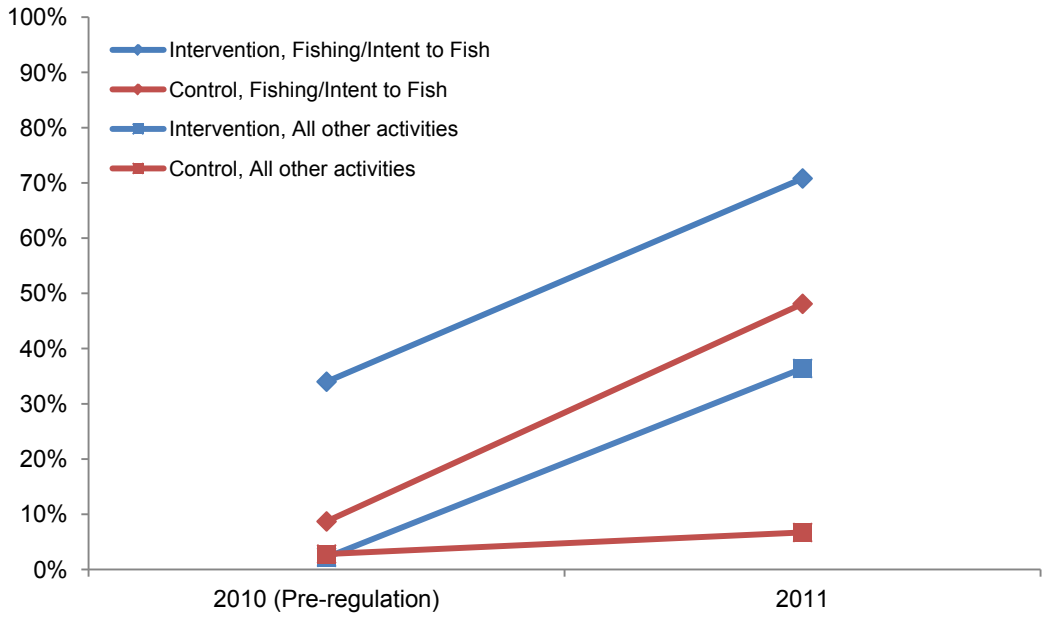


Table 14: Trends in Adult Wear Rates by Boat Activity in California District
(Excluding non-regulated boats, PWCs and towed watersports participants)

Table 14. Trends in Adult Wear Rates, By Boat Passengers & Boat Activity	*Summer 2010*	*Spring 2011 (Pre)*	*Pre-Regulation Total (2010)*	*Spring 2011 (Post)*	*Summer 2011*	*Fall 2011*	*Post-Regulation YTD 2011*
Fishing/Intent to Fish, No PWC/WS							
-- Intervention (% Wearing)	18.2%	48.3%	34.0%	77.7%	64.7%	76.3%	70.8%
. . . N Wearing	34	100	134	146	194	74	414
. . . N Total Observed	187	207	394	188	300	97	585
-- Control (% Wearing)	8.1%	9.4%	8.7%	69.2%	31.4%	63.5%	48.1%
. . . N Wearing	7	6	13	108	95	73	276
. . . N Total Observed	86	64	150	156	303	115	574
All other activities, No PWC/WS							
-- Intervention (% Wearing)	1.1%	36.5%	2.2%	64.7%	34.9%	14.8%	36.4%
. . . N Wearing	17	19	36	286	1370	47	1703
. . . N Total Observed	1567	52	1619	442	3923	318	4683
-- Control (% Wearing)	2.8%	1.6%	2.8%	21.8%	5.7%	13.1%	6.7%
. . . N Wearing	72	1	73	69	411	44	524
. . . N Total Observed	2549	62	2611	318	7212	335	7865

VI. CONCLUSIONS

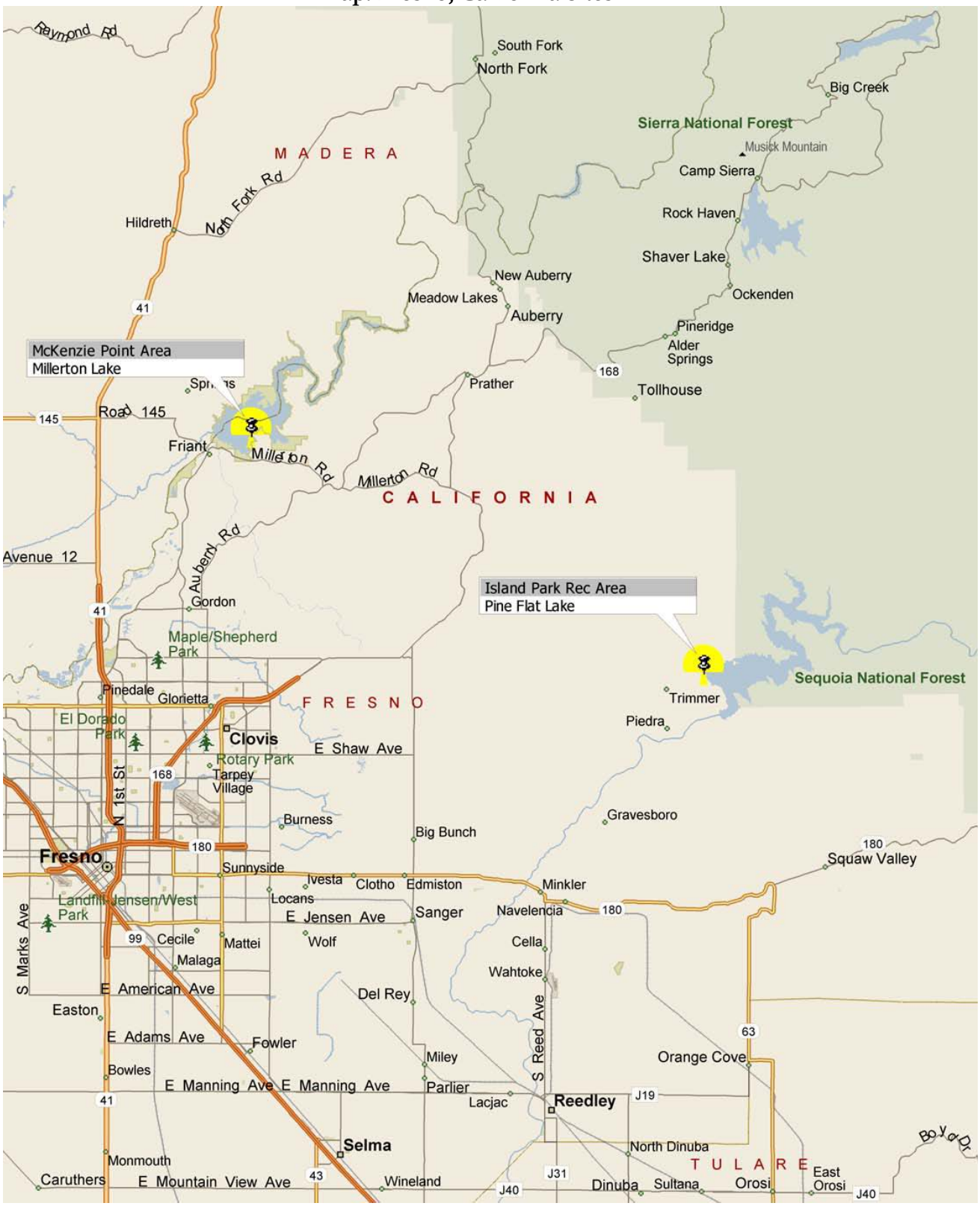
This evaluation report provides evidence of the effectiveness of the U.S. Army Corps of Engineers' test of mandatory regulations in two areas—the Vicksburg District in northern Mississippi and the Southern Sacramento District in Fresno, California. Both tests showed success in increasing adult life jacket wear rates—increasing to approximately 70% in Mississippi and 40% in Fresno. The Mississippi findings are important because not only did the wear rates increase dramatically, but they remained at these high levels for three boating seasons. Although the Fresno trial was also successful, it was evaluated for only one boating season and the increases were not as dramatic as they were in Mississippi. It is useful to note what was similar and what was different about these test areas and their results.

In Mississippi the regulations covered boats that were up to 26 feet in length. However, since almost all boats on the four test lakes were less than 26 feet in length, the regulations covered almost all boating activity. The four test lakes were the primary recreational boating destinations in the area; there were no competing, non-regulated lakes nearby. The boating activity at these lakes included a great deal of family oriented boating. The lakes were also host to numerous fishing tournaments which had their own set of mandatory wear regulations. Enforcement such as visible ranger patrols and an active program of giving out "warnings" to boaters were also in place in all four of the lakes. In the year leading up to the implementation of the regulations, there was a good deal of publicity about the impending changes. During this time there were some grumblings from the local boating community about the impending regulations, but the newspaper reports were generally balanced and none of the "opposition" was organized or came from outside groups. High compliance rates were seen right away providing "visual" evidence to the boating community that most other boaters supported the regulations. All of these factors encouraged compliance with the regulations. The only factor that worked in opposition to compliance was the weather in Mississippi during the summer boating season. It was very hot and humid and the fact that inflatable style life jackets were not a big component may have led to reduced compliance with the regulations.

In Fresno the regulations covered all boats, no matter how large. Given the presence of larger speedboats, cabin cruisers and pontoon boats on the lake for which the perceived risk of capsizing or falling overboard was probably lower, compliance was lower for these boats. This "visual" lack of compliance early on probably helped to erode compliance on medium sized boats as the summer progressed. In contrast to Mississippi, alternative non-regulated lakes were nearby (the control lake Millerton Lake being the main one). Even though usage remained high at Pine Flat, it was likely that boaters spent time on both lakes over the summer, and this "inconsistency" in whether regulations were in place probably contributed to erosion of wear rates in the summer. Fishing tournaments operated in the spring and fall, but less frequently in the summer months and thus synergistic support from additional regulations and compliance did not make as much of an impact as in Mississippi. The shape of Pine Flat lake (a very long tail along the river bed) meant that much of the time enforcement patrols were on the lake, they were not visible to the boating traffic in the main body of the lake. Perhaps the key difference between the two test experiences, however, was the presence of organized, outside opposition to the regulations in Fresno. A national boating user group lobbied actively against the regulations and generated negative publicity and position papers both in the printed press and on the internet. In spite of all of this, adult wear rates increased by a factor of five.

VII. APPENDIX

Map: Fresno, California Sites



Map: Mississippi Sites

TIME: ○ 7:59 or earlier ○ 8:00 - 9:59 am ○ 10:00 - 11:59 am ○ 12:00 - 1:59 pm ○ 2:00 - 3:59 pm ○ 4:00 - 5:59 pm ○ 6:00 or later

42114

2009 Boat Form

POWER BOAT:		PADDLE:	SAIL:	OTHER:
○ Skiff/Utility	○ PWC	○ Kayak	○ Day sailor	○ Inflatable/Raft
○ Runabout/Speedboat	○ Pontoon	○ Canoe	○ Cabin sailboat	○ Houseboat
○ Cabin cruiser		○ Rowboat/Dinghy	○ Sailboard	○ Other

SIZE (ft):	PROPULSION:	OPERATION:	ACTIVITY:	
○ Under 16	○ Outboard	○ Cruising/Motoring	○ Pleasure	○ Fishing
○ 16 - 20.9	○ Sterndrive/Inboard	○ Sailing	○ Water skiing	○ Intent to Fish
○ 21 - 25.9	○ Sail Only	○ Rowing/Paddling	○ White water	○ Swimming
○ 26 - 45.9	○ Sail and Motor	○ Drifting	○ Racing or High Speed	○ Other
○ 46 +	○ Paddles, Oars/Manual	○ Anchored		
	○ Air Thrust			
	○ Other			

	GENDER			AGE(years)					PFD			WS
	M	F	?	0-5	6-12	13-17	18-64	65+	Old	New	No	
OP	○	○	○	○	○	○	○	○	○	○	○	Yes
P1	○	○	○	○	○	○	○	○	○	○	○	○
P2	○	○	○	○	○	○	○	○	○	○	○	○
P3	○	○	○	○	○	○	○	○	○	○	○	○
P4	○	○	○	○	○	○	○	○	○	○	○	○
P5	○	○	○	○	○	○	○	○	○	○	○	○
P6	○	○	○	○	○	○	○	○	○	○	○	○
P7	○	○	○	○	○	○	○	○	○	○	○	○
P8	○	○	○	○	○	○	○	○	○	○	○	○
P9	○	○	○	○	○	○	○	○	○	○	○	○

POWER BOAT:		PADDLE:	SAIL:	OTHER:
○ Skiff/Utility	○ PWC	○ Kayak	○ Day sailor	○ Inflatable/Raft
○ Runabout/Speedboat	○ Pontoon	○ Canoe	○ Cabin sailboat	○ Houseboat
○ Cabin cruiser		○ Rowboat/Dinghy	○ Sailboard	○ Other

SIZE (ft):	PROPULSION:	OPERATION:	ACTIVITY:	
○ Under 16	○ Outboard	○ Cruising/Motoring	○ Pleasure	○ Fishing
○ 16 - 20.9	○ Sterndrive/Inboard	○ Sailing	○ Water skiing	○ Intent to Fish
○ 21 - 25.9	○ Sail Only	○ Rowing/Paddling	○ White water	○ Swimming
○ 26 - 45.9	○ Sail and Motor	○ Drifting	○ Racing or High Speed	○ Other
○ 46 +	○ Paddles, Oars/Manual	○ Anchored		
	○ Air Thrust			
	○ Other			

	GENDER			AGE(years)					PFD			WS
	M	F	?	0-5	6-12	13-17	18-64	65+	Old	New	No	
OP	○	○	○	○	○	○	○	○	○	○	○	Yes
P1	○	○	○	○	○	○	○	○	○	○	○	○
P2	○	○	○	○	○	○	○	○	○	○	○	○
P3	○	○	○	○	○	○	○	○	○	○	○	○
P4	○	○	○	○	○	○	○	○	○	○	○	○
P5	○	○	○	○	○	○	○	○	○	○	○	○
P6	○	○	○	○	○	○	○	○	○	○	○	○
P7	○	○	○	○	○	○	○	○	○	○	○	○
P8	○	○	○	○	○	○	○	○	○	○	○	○
P9	○	○	○	○	○	○	○	○	○	○	○	○

POWER BOAT:		PADDLE:	SAIL:	OTHER:
○ Skiff/Utility	○ PWC	○ Kayak	○ Day sailor	○ Inflatable/Raft
○ Runabout/Speedboat	○ Pontoon	○ Canoe	○ Cabin sailboat	○ Houseboat
○ Cabin cruiser		○ Rowboat/Dinghy	○ Sailboard	○ Other

SIZE (ft):	PROPULSION:	OPERATION:	ACTIVITY:	
○ Under 16	○ Outboard	○ Cruising/Motoring	○ Pleasure	○ Fishing
○ 16 - 20.9	○ Sterndrive/Inboard	○ Sailing	○ Water skiing	○ Intent to Fish
○ 21 - 25.9	○ Sail Only	○ Rowing/Paddling	○ White water	○ Swimming
○ 26 - 45.9	○ Sail and Motor	○ Drifting	○ Racing or High Speed	○ Other
○ 46 +	○ Paddles, Oars/Manual	○ Anchored		
	○ Air Thrust			
	○ Other			

	GENDER			AGE(years)					PFD			WS
	M	F	?	0-5	6-12	13-17	18-64	65+	Old	New	No	
OP	○	○	○	○	○	○	○	○	○	○	○	Yes
P1	○	○	○	○	○	○	○	○	○	○	○	○
P2	○	○	○	○	○	○	○	○	○	○	○	○
P3	○	○	○	○	○	○	○	○	○	○	○	○
P4	○	○	○	○	○	○	○	○	○	○	○	○
P5	○	○	○	○	○	○	○	○	○	○	○	○
P6	○	○	○	○	○	○	○	○	○	○	○	○
P7	○	○	○	○	○	○	○	○	○	○	○	○
P8	○	○	○	○	○	○	○	○	○	○	○	○
P9	○	○	○	○	○	○	○	○	○	○	○	○

PFD Study 2009

CODE State | Site | Block | Group | Phase | Page Number

2009 Site Form

***Actual form provides 3 blocks to record Weather Observations across the 4 hours of data collection*

APPENDIX J

USACE RECREATION FATALITIES

STATISTICAL SUMMARY

USACE Public Recreation Fatality One-Page Summary FY98 - FY11

Activity Summary (Based on Codes)	Number	% of Total
Swimming Total	**1074**	**46.90%**
Designated Area	210	9.17%
Undesignated Area	864	37.73%
Boating Total	**975**	**42.58%**
Swimming	212	9.26%
Collision	132	5.76%
PWC	55	2.40%
Capsized	187	8.17%
Falls from Boat	276	12.05%
*****Other Boating	113	4.93%
Other Falls	**146**	**6.38%**
Other Recr Total	**95**	**4.15%**
TOTAL	2290	100.0%

Total Undesignated Swimming Area	**47.0%**
Total Falls Boat, Dock, Shore, etc.	**18.4%**

Category Summary

Gender		%
246	Female	10.7%
2024	Male	88.4%
20	Unknown	0.9%
2290	**Total**	

*Wearing PFD		%
YES	108	4.7%
NO	2046	89.3%
Unknown	95	4.1%
*N/A	41	1.8%
	2290	

Common Age Groupings		
13 and under	9%	214
Age14-17	10%	233
Age18-35	39%	889
Age36-53	24%	544
Age 54 & Over	15%	350
		2290

**Alcohol/Drug		%	
YES	461	20%	
NO	1231	54%	
SUSP	34	1%	#
Unk	564	25%	
	2290		

10 Yr Age Groupings		
Age 0-9	6%	135
Age 10-20	23%	520
Age 21-30	22%	493
Age 31-40	15%	350
Age 41-50	13%	295
Age 51-60	9%	216
Age 61-70	6%	126
71 & Over	4%	95
Age Unknown	3%	60
		2290

**** Swimming Fatalities (incl boat&swim)		%
Designated Area	221	17%
Undesignated Area	1065	83%
Total Swimming Only	1286	

***Cause			
D = Drowning		1959	86%
T = Trauma		198	9%
DH = Hypothermia		46	2%
M = Medical		24	1%
*****CO = Carbon Monoxide**		11	0%
U = Unknown		52	2%
		2290	100%

Note:

* New not applicable category in PFD section in FY06

**FY06-combined alcohol/drugs together so we could summarize with FY98-05 data, assumed that if no alcohol reported then no drugs were involved

***Started tracking in FY06 - carbon monoxide as new cause

**** All swimming-related drownings including boating & swimming when location is known

*****BAC, BAE, BAM,BAS (Control/Speed, Electrical, Carbon Monoxide, Skiing/Towing)

Started tracking "Suspected" Alcohol in 2010

Started including all public recreation-related fatalities in FY11 (7 additions)

APPENDIX K

LIFE JACKET POLICY STUDY

PRODUCT DELIVERY TEAM

Life Jacket Policy Study PDT was comprised of:

Lynda Nutt, Operations Division, HQUSACE National Operations Center for Water Safety manager

Stephen Austin, HQUSACE, Senior Policy Advisor for Park Rangers

Samuel Crispin, HQUSACE, Safety and Occupational Health, Loss Prevention Manager

Rachel Garren, National Operations Center for Water Safety assistant/Natural Resource Specialist, Mississippi Valley Division, St. Louis District

Jerry Balcom, Chief, Safety and Occupational Health, South Atlantic Division

Madeline Morgan, Chief, Safety and Occupational Health, Southwestern Division, Fr. Worth District

Charles Burger, Chief, Operations Division, Southwestern Division, Ft. Worth District

Wayne Stogsdill, Operations Project Manager, Mississippi Valley Division, Vicksburg District, Mississippi Lakes Project

Tom Ehrke, Resource Manager, South Pacific Division, Sacramento District, Pine Flat Lake Project

Chris Gray-Garcia, South Pacific Division, Sacramento District, Public Affairs Specialist

Greg Webb, Resource Manager, Northwestern Division, Portland District, Bonneville Lock and Dam

Pam Samuels, Park Ranger, Mississippi Valley Division, Vicksburg District, Mississippi Lakes Project

Team senior advisors:

Michael Ensch, HQUSACE, Chief, Operations and Regulatory

Mary Coulombe, HQUSACE, Chief, Natural Resources, Operations Division

Richard Wright, HQUSACE, Chief, Safety and Occupational Health

Doug Garman, HQUSACE, Public Affairs