



July 8, 2009

# **An Examination of Recreational Pressures On Candlewood Lake, CT**

Prepared by

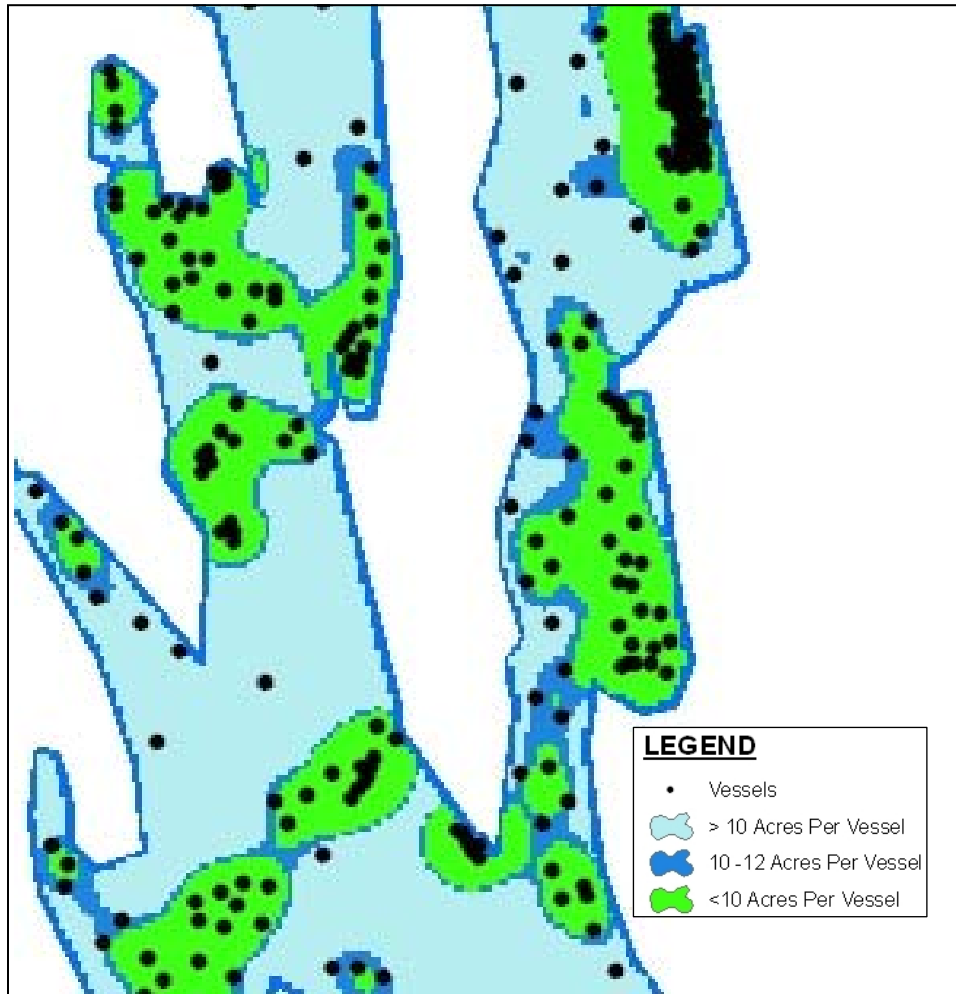
**Candlewood Lake Authority**

**Serving the Communities of Brookfield,  
Danbury, New Fairfield, New Milford, and  
Sherman, Connecticut**

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# **An Examination of Recreational Pressures On Candlewood Lake, CT**



**July 8, 2009**

**Candlewood Lake Authority**

**Larry Marsicano  
Executive Director**



## **Executive Summary**

**There is considerable data confirming that Candlewood Lake suffers from boating overcrowding and resulting user conflicts.** These data, discussed in the following pages, include resident boat counts; numbers of launch sites on the lake; in-use vessel counts and in-use vessel densities; fishing tournament data; boating accident data; and public opinion surveys. Based on these, it may be safe to say that the recreational opportunity and public safety have deteriorated at Candlewood Lake over the years.

**Also discussed below is the legitimate fear that overcrowding and user conflict problems on Candlewood Lake can substantially increase in the future, by the addition of several thousand resident vessels on the lake for entire seasons.** These additional vessels would result from the execution of asserted legal agreements, in the form of deeded rights for docks that have not yet been executed. The critical facts are:

- Many of the original owners/purchasers of lands abutting the project negotiated deeded rights to pass and repass project lands to access the lake, to have a dock of simple construction, and to erect a seawall from the original project owner and creator of the lake.
- No one, including the current licensee, knows how many of these deeded rights were negotiated, how many have been exercised or how many have not yet been exercised.
- A subdivision proposed in recent years has applied to local land use agencies to construct on their property abutting the project, a docking system to provide dockage for each of all the proposed twenty homes, most of which are not directly abutting the project. The developers believe they should be allowed this size marina since one of the original parcels they purchased and merged with others, and is now part of the site of the proposed subdivision, had the aforementioned deeded rights (including the right for a dock of simple construction). They believe the original deeded rights attached to the one

merged parcel should now be extended to include all the newly created lots in their subdivision.

- If permitted (which will require FERC approval because of the number of slips) then the precedent will be set where a right for a dock attached to the deed of one parcel of land can be subdivided and conveyed to all homes in the subdivision that were or are created on that parcel. **Based on a survey of twelve of the 60+ lake communities abutting the project, discussed in Section 3 below, this could result in nearly 2,000 additional vessels on the lake for the season if each claim of deeded right to dockage adds only one resident vessel to the lake.**

**This would obviously exacerbate the deterioration of the recreational opportunities and the public safety on the lake, as well as escalate the user conflict that already exists.** Given the lack of substantive measures in the Recreation and Shoreline Management Plans to address overcrowding and user conflict and lack of data on exercised and unexercised deeded rights for docks (which are the precursor for additional vessels) in these plans, the fears of future deterioration of conditions on Candlewood are quite justified.

Protection of the recreational values and safety of those who use Candlewood Lake is a complex, multi-jurisdictional issue. Through a licensing renewal process, the Federal Energy Regulatory Commission made it clear that their licensee, currently FirstLight Power Resources, has responsibilities as they pertain to overcrowding and user conflicts on Candlewood Lake. These include discussing in their Shoreline Management Plan the extent of overcrowding and user conflict and measures to address the problems. The State of Connecticut, through the Department of Environmental Protection, is also obligated by state law to protect the State's natural resources and the safety of those that enjoy them. Locally, the surrounding Connecticut municipalities of Brookfield, Danbury, New Fairfield, New Milford, and Sherman are the primary contributors to recreation management and public safety, at their discretion, through the Candlewood Lake Authority.



Candlewood Lake is at a critical juncture in time and in need of significant measures to meet the challenge of managing recreational pressures. **However, the omission of many important aspects of the overcrowding and user conflict issues on Candlewood Lake and the lack of provisions in the Shoreline Management Plan commensurate with the magnitude of the problem will leave FERC falling short of its mandate to ensure that the recreational values of Candlewood are protected.** Therefore, FERC itself must take an active role in determining appropriate measures to mitigate the overcrowding and user conflict on Candlewood.

## **About the Candlewood Lake Authority**

The Candlewood Lake Authority (CLA) is a local quasi government agency created by identical ordinances passed in the municipalities of Brookfield, Danbury, New Fairfield, New Milford, and Sherman as provided in Connecticut General Statute 7-151a. The CLA provides lake, shoreline and watershed management to foster the preservation and enhancement of recreational, economic, scenic, public safety and environmental values of the Lake for the municipalities it serves in cooperation with the State of Connecticut and the licensee. Created in 1972, the CLA has provided a marine patrol now comprised of officers trained and commissioned by the Connecticut Department of Environmental Protection to enforce Connecticut's Boating Laws. The CLA also provides local leadership in the protection of the values Candlewood Lake provides to all users of the lake. It does so, for example, through the implementation of a 25 year old water quality monitoring program; by developing a regional education program for high school students in the surrounding school systems; through development of technologies to notify local land use agencies and the licensee of activities along the shoreline; by the development of buffer protection education programs; and through efforts to amend local land use regulations within the watershed of the lake to reduce exports of nonpoint source pollutants.

The CLA was one of the most active interveners in the recent license renewal of the Housatonic Hydroelectric Project, FERC No. 2576, as well as in the development of many of the plans required in the new license issued by FERC in June of 2004. As the agency closest and most familiar with issues pertaining to the ecological health and public safety on Candlewood Lake, we remain committed to working and collaborating with other interests toward a Shoreline

Management Plan that addresses all the important issues that the plan is required to adequately address.



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## 1. Introduction

There is no arguing that the recreational experience and public safety on the waters of Candlewood Lake are being compromised because of boating overcrowding and user conflict. This has been repeatedly supported by representatives of the National Park Service,<sup>1</sup> the Connecticut Department of Environmental Protection (CTDEP),<sup>2</sup> the Candlewood Lake Authority (CLA), many of the area's elected leaders, and the numerous citizens who live near or use the lake itself. Many continue to voice their awareness and growing concern of this problem.

Candlewood is unquestionably one of the premier destination locations for those who enjoy inland water, boating-related activities in Connecticut and the Tri-State region and untold numbers of visitors utilize the numerous launch sites through out the recreation season. Additionally, 60% of the shoreline of Candlewood Lake is lined with private docks, small community marinas, medium size municipal marinas, and larger commercial marinas, resulting in a seasonal resident vessel population that also significantly contributes to the number of users of the lake. Both the visiting and resident boat numbers have collectively resulted in escalating overcrowding and user conflict problems on Candlewood that are perhaps unparalleled on Connecticut inland waters or on freshwater resources across the Northeast.

Too many vessels on a waterbody will adversely affect boating safety and reduce the recreational user's experience. Impaired experience often takes the form of user conflicts, initiated by

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<sup>1</sup> See National Park Service Comments on Preliminary RMP under P-2576 (FERC submittal no. 20050526-5033, May 26, 2005)

<sup>2</sup> See letter from the CTDEP to the CLA on file with the CLA, Sherman, CT, dated February 28, 2009. Therein, Deputy Commissioner Frechette states that the recreational pressures "*are the unfortunate result of extremely dense development along the entire shoreline of Candlewood Lake and the land development policies on and adjacent to Candlewood Lake by FirstLight's predecessors, Northeast Utilities and Connecticut Light and Power... Candlewood Lake is used to generate millions of dollars in revenue as a result of electric power generation by way of the rights granted by FERC, yet none of those revenues are spent on measures to address these extraordinary recreational pressures brought about by the creation of the lake and the developments it spawned.*"

recreational user groups competing for limited space and time on the lake. Once the numbers of users exceed the capacity of a lake at a given time, the users' recreational experiences are lessened, safety is compromised, and user groups invariably blame each other. Conflicts on Candlewood exist between various user groups on the water (e.g. swimmers, water skiers, paddlers, users of personal watercraft) as well as between residents of the shoreline areas and user groups on the water (e.g. fishermen, owners/operators of high speed watercraft). In the latter case, the shoreline homeowners are also considered a user group, whose use could include enjoying quite, serene, or private family time on the lake. It is important to recognize that all users have the same rights to the waters of the lake. However, excessive numbers of users of any type on or along the lake can ultimately detract from the enjoyment, and sometimes safety, of all.

Documenting symptoms of a lake with excessive recreational pressures can be challenging. In some cases, an assessment may actually be more of a subjective opinion. However, work in the field of Natural Resource Management has resulted in more objective and consistent ways of discerning levels of recreational pressure. Because of its high level of recreational pressure, documenting the symptoms at Candlewood is actually not all that difficult. Section 2 of this report identifies many of the current symptoms and degrees of severity based on the standards used by recreational use experts and through other available recreational use data.

In addition to identification of current symptoms, this report investigates the potential for overcrowding and user conflict to increase in the future. There are an unknown number of legal agreements between historical landowners and the power companies that have owned this hydroelectric reservoir that allow for docks on the shores of the lake. As discussed in Section 3, the addition of the deeded right docks that have yet to be exercised may increase the numbers of vessels seasonally moored by several thousand in the years to come.

There is also a problem that is somewhat unique to Candlewood Lake, which is the number of jurisdictional layers involved in the recreational management on this inland water resource. Section 4 of this report describes the federal, state, and local mandates involving Candlewood Lake and the parties responsible for protecting the recreational experience and public safety on the waters of this lake. After understanding the governmental layers and agencies involved and

the laws and regulations that link them, the challenge will be determining how each level should fulfill its responsibility, financial and otherwise, for protecting the recreational experience at Candlewood Lake and the safety of those who boat on it.

## ***1.2 The Lake***

Candlewood Lake is the largest lake in Connecticut with approximately 5,420 acres of surface water and over 60 miles of shoreline. The lake was created in the late 1920s as a pumped-storage reservoir component of the Housatonic Hydroelectric facilities constructed along the Housatonic River in western Connecticut. Since its creation, the lake has seen a substantial increase in shoreline development with lakeside homes and communities (i.e., tax districts, homeowners or lake associations, etc.) now comprising almost 60% of the shoreline. Recreational boating pressures have also subsequently increased as those developments provided the opportunity to keep boats on the lake. The lake is one of Connecticut's most important recreational inland water resources, and a favorite destination for diverse groups of boaters who visit in large numbers and access it through the numerous ramps along the shoreline.

Candlewood Lake and the other impoundments along of the Housatonic River, as part of a hydroelectric facility, are collectively licensed by the Federal Energy Regulatory Commission (hereinafter FERC). With the original FERC license expiring in 2001, the licensee filed for a new license in 1999, was issued a new license in 2004, and post-licensing, management plan development still ongoing in 2009. The current licensee is FirstLight Power Resources (FLPR) which became a subsidiary of GDF Suez Energy North America in 2008. When the license renewal process began, Connecticut Light & Power (CL&P) was the licensee. The project and license application were transferred to Northeast Generation Company (NGC) in 1999. Both CL&P and NGC are subsidiaries of Northeast Utilities. Energy Capital Partners bought the facilities from NGC and formed FLPR in 2006 and later sold the project, including FLPR, to GDF Suez Energy North America.

## **2. Indicators of Overcrowding and User Conflict**

Regardless of whose jurisdiction the responsibility of protecting the recreational experience and public safety on Candlewood Lake falls to (see Section 4), one thing is certain – Candlewood Lake clearly exhibits many signs of overcrowding and user conflict; and these conditions jeopardize safety. The current situation is a result of a historical lack of planning and mismanagement on the part of many. Some of the mismanagement resulted in a shoreline lined yearly with more docked and moored vessels than the lake can theoretically sustain as discussed in Section 2.1.

Not all vessels operating on the Lake on a given weekend originate from private docks or commercial, municipal, or private marinas lining the shoreline. As discussed in Section 2.2, many vessels access the lake through the numerous ramps on the lake, whether those ramps are operated by federal, state, municipal, community or private entities. Regardless of origin, in-use vessel densities and total numbers often exceed theoretical safe limits in many areas of the lake or the lake in general, thereby reducing safety and quality of recreational experience as discussed in Sections 2.3 and 2.4.

The CTDEP regulates much of the organized access on Candlewood Lake, including the prize fishing tournaments and other events. Statistics on fishing tournaments on Candlewood Lake are unparalleled in Connecticut and possibly New England as discussed in Section 2.5. It is important to note that the CLA does not endorse the exclusion of any user group from the lake, but rather sees prize fishing tournament data as a surrogate measure of all recreational boating communities visiting the lake, and struggles with how to accommodate each different user group, including the shoreline property owners, without impacting the quality of recreational experience and safety on the lake.

Other signs of a lake in recreational use crisis, like boat accidents, are also discussed below in Section 2.6. And while there are ways to measure recreational pressures in lakes, methods of quantifying user conflicts are limited. However, at least two surveys conducted in the last ten years have shed some light on the subject and are discussed in Section 2.7.

## 2.1. Resident Vessel Counts

The CLA has conducted a moored/docked vessel count on Candlewood Lake since the early 1980s. In the early morning hours of the first weeks of August, CLA staff slowly cruise along the entire shoreline and count all docked, moored, or beached vessels. Counts include vessels observed along private residential areas, community marinas, commercial marinas, and municipal marinas (collectively referred to as “Resident Vessels”). In 2008 the CLA counted 1,458 vessels not subject to registration (e.g. canoes, kayaks, small sailboats), 3,151 power boats without cabins, 491 power boats with cabins, and 577 personal watercraft (e.g. Jet skis) for a total of 5,677 resident vessels. Figure 1 below provides the results of the boat counts since 1981.

Mr. Michael Payton from the CT DEP Boating Division developed a modeling tool to aid in gauging carrying capacity in lakes. This model is similar in some ways to other models used across the country to assess recreational boating pressures on water resources. It must be emphasized that these models are only tools, and that carrying capacities can be influenced by variables not always incorporated into a particular model, including the shape of the waterbody (e.g. circular vs. irregular shape).

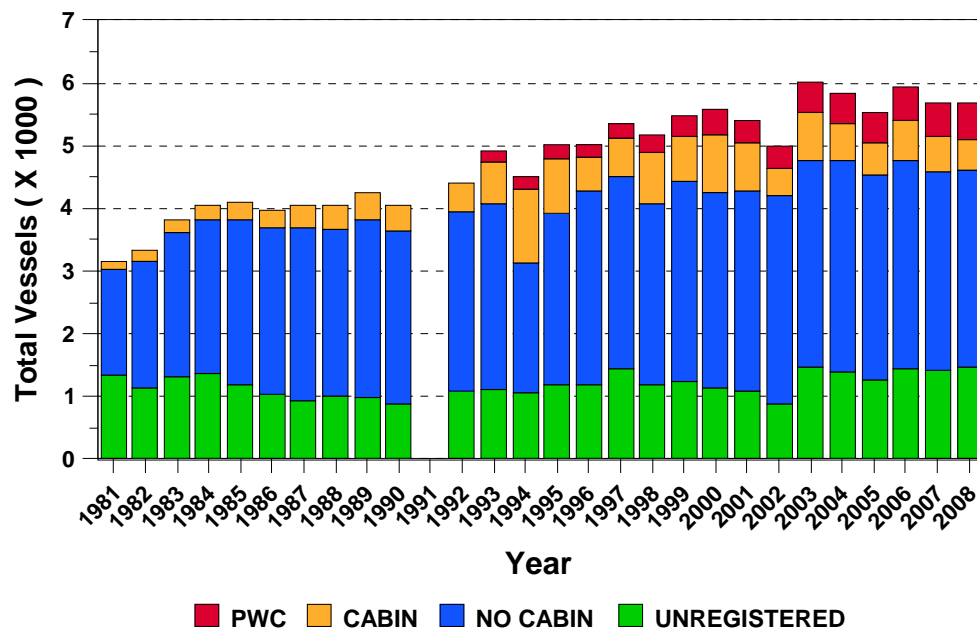


Figure 1. Results of the CLA's annual docked/moored vessel count since 1981 (a count was not conducted in 1991. PWC = personal watercraft; Cabin = vessels with cabins; No cabin = vessels without cabins; Unregister = those vessels not subject to registration.



Based on the Payton model, the total carrying capacity (both in-use vessels and those docked or moored) for Candlewood Lake is estimated to be 4,480 vessels. Using this estimation and only the CLA's moored/docked vessel count totals, total carrying capacity has been exceeded at Candlewood Lake since 1993. It is important to understand, however, that this does not include use data for vessels that access the lake for a short period of time through the numerous boat ramps on Candlewood Lake discussed in Section 2.2. The addition of visiting vessels accessing the lake through the ramps adds, further complicates, and intensifies the problem.

The results from the CLA's resident boat count data reflect trends seen nationwide. In 2003 Asplund reported data of the National Marine Manufacturers Association indicating that recreational boat ownership has doubled since 1971.<sup>3</sup> Resident boat numbers on Candlewood Lake have approximately doubled since at least 1981 when the boat counts began, and as discussed below in Section 3, there appears to be potential for additional significant growth in residential boats (as many as 2,000 or more) on the lake in the future.

**Table 1. Vessels counted at the nine commercial marinas on Candlewood Lake in 2006.**

<b>Marina</b>	<b># of Vessels</b>
Pocono Point Marina	124
Chatteron Marina	128
The Marina (Causeway)	106
Echo Bay Marina	429
Candlewood East Marina	293
Danbury Yacht Club	36
Crystal Bay Marina	115
Brookfield Bay Marina	294
Gerard's Waters Edge Marina	214
Total	1739

<sup>3</sup> See Tim Asplund. Preface. The Ecological Impacts and Management of Recreational Boating. Lake and Reservoir Management. 2003. 19:iii-iv

As noted above, the resident vessel numbers also include those docked at the community, municipal, and commercial docks. It is estimated that roughly one-third of the resident vessels are kept at the commercial marinas on the lake (Table 1) and only about 280 vessels are seasonally moored/docked at the municipal marinas (Table 2). That leaves the remaining resident vessels, approximately 65%, kept at private docks or the community docking facilities of the 60+ lakeside communities around the lake.

**Table 2. Numbers of ramp passes issued at municipal ramps based on 2005 data. Note that the total number of seasonal passes is 570.**

Town	Marina Slips	Additional Ramp Passes	Notes
Brookfield	No Marina	96 “A few”	Seasonal Day Passes
Danbury	No Marina	186 45	Seasonal Day Passes
New Fairfield	150	23	Seasonal
New Milford	82	140	Seasonal
Sherman	49	125	Seasonal
		615	Total passes

## ***2.2. Public Ramp Use***

There is limited data available that provides insight into the visiting / temporary boating populations on Candlewood Lake. We do know that there are two state ramps on Candlewood Lake and one on Squantz Pond. The 2008 CTDEP Boating Guide specifies that parking at both ramps on Candlewood can accommodate 100 cars.<sup>4</sup> Much of the data on use of the State ramps comes from the lists of fishing tournaments scheduled and permitted by the CTDEP as discussed in Section 2.5. But the tournament fishing community is by no means the only user of the State ramps and there are standards by which tournaments must operate including how many of the parking spaces at the ramps they can use during any one tournament.

Each of the five municipalities bordering Candlewood Lake provides a ramp at their park on the Lake for use by their residents. Data on town permits or passes issued by each municipality

<sup>4</sup> See Connecticut Boater’s Guide 2009 – Boat Launch Information and Digest of Local Regulations at P 68 ([www.ct.gov/dep/lib/dep/boating/boating\\_guide/part6.pdf](http://www.ct.gov/dep/lib/dep/boating/boating_guide/part6.pdf))

provides some insights into the use of the municipal ramps (Table 2). The data in Table 2 was based on a 2005 survey.

Many of the approximately 65 lakeside communities (tax districts, associations, etc.) have a launch ramp. An undetermined number of homes on the lake also have ramps. However, there is no known attempt to count those ramps. Aerial flyover assessments discussed below in Section 2.3 may provide some opportunity to count those in the future.

### ***2.3. In-Use Vessel Levels***

The Payton model discussed in Section 2.1 can also be used to estimate carrying capacity for in-use vessels, and for Candlewood Lake it estimates that number to be 448 vessels, i.e. the theoretical maximum number of vessels capable of operating on the lake is 448. Logically then, when there are more than 448 vessels operating on the lake at a given time, the quality of the recreational experience and/or safety may be compromised. For both the total and in-use models, Payton uses a variety of lake and vessel characteristics in determining capacities.

The FERC-approved Recreation Management Plan made provisions for FirstLight Power Resources to have conducted six aerial in-use watercraft counts on Candlewood Lake from May through Labor Day every sixth year of the current license.<sup>5</sup> The first set of data was collected in the summer of 2008 (Table 3) and indicated that the in-use capacity threshold is regularly reached or surpassed based on Payton's model. It is important to recognize that the summer of 2008, when the aerial photographic data was collected, saw fuel prices at unprecedented high levels which theoretically should have reduced recreational boating on the lake. The CTDEP has recently confirmed an increase in state boating registrations in 2009 and attributes it, in part, to reduced fuel costs.<sup>6</sup>

In the Recreation Management Plan submitted to and approved by FERC, the power company's consultant utilized an in-use density standard of 12 acres per operating vessel. By dividing the

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<sup>5</sup> See Housatonic River Hydroelectric Project FERC No. 2576 Recreation Plan (FERC submittal no. 20050622-5003, June 22, 2005) ("Recreation Plan") at P 4

<sup>6</sup> See Appendix 1

entire lake surface (5,420 acres) by the standard, they determined that the theoretical maximum number of in-use vessels on the lake was 452 vessels.<sup>7</sup> Based on the 2008 aerial flyover data and the threshold proposed by the licensee's consultant, the carrying capacity was also reached or exceeded on four of the six dates when the data was collected, as it was when based on the Payton model. The mean number of in-use vessels of 473, based on the six flyover counts, also exceeds the theoretical maximum capacity from both models. Table 3 below uses a maximum capacity of 450 vessels as a point of comparison based on the averaged theoretical capacity determined in the Payton model (448) and the model used in the RMP (452).

**Table 3. In-use boating activity on Candlewood Lake. Data was collected by flyovers conducted on summer holiday and other selected weekends. Counts are compared to an in-use boating carrying capacities of 450 vessels (average of Michael Payton model and the model discussed in the RMP).**

Date	Powerboats	Sailboats	Canoe / Kayak	PWC	Total	Carrying Capacity (450 vessels)
May 25 <sup>th</sup>	318	17	10	3	348	Not exceeded
June 21 <sup>st</sup>	426	3	9	13	451	Exceeded
July 12 <sup>th</sup>	417	9	12	12	450	Reached
July 19 <sup>th</sup>	476	4	14	21	515	Exceeded
August 9 <sup>th</sup>	403	11	5	17	436	Not exceeded
August 31 <sup>st</sup>	581	10	20	26	637	Exceeded
Mean	437	9	12	15	473	Exceeded

## ***2.4. In-Use Density Analyses***

One of the by-products of the aerial flyover vessel counts discussed above were maps provided to the licensee showing the approximate position of the in-use vessels (see left side of Fig. 2). Using those maps, ESRI's ArcGIS 9.3 software, and the density analyses tools in the Spatial Analyst Extension of that software, in-use vessel density analyses were performed using four of the six 2008 weekend data collections. These were done to estimate where or how much of the lake might be experiencing recreational impairment or compromised safety. In Section 2.3, the

<sup>7</sup> See Recreation Plan at P 22

in-use capacity discussed is a theoretical maximum density for the entire lake. However, in-use vessels are never equally distributed across the surface of a waterbody and tend to cluster in certain areas. Density analyses discussed in this section differs from in-use capacities in that results can reveal that even when lake capacity is not exceeded (e.g. May 25, 2008 from Table 3), portions of the lake may have in-use vessel densities that do exceed safe levels (see Fig. 2).

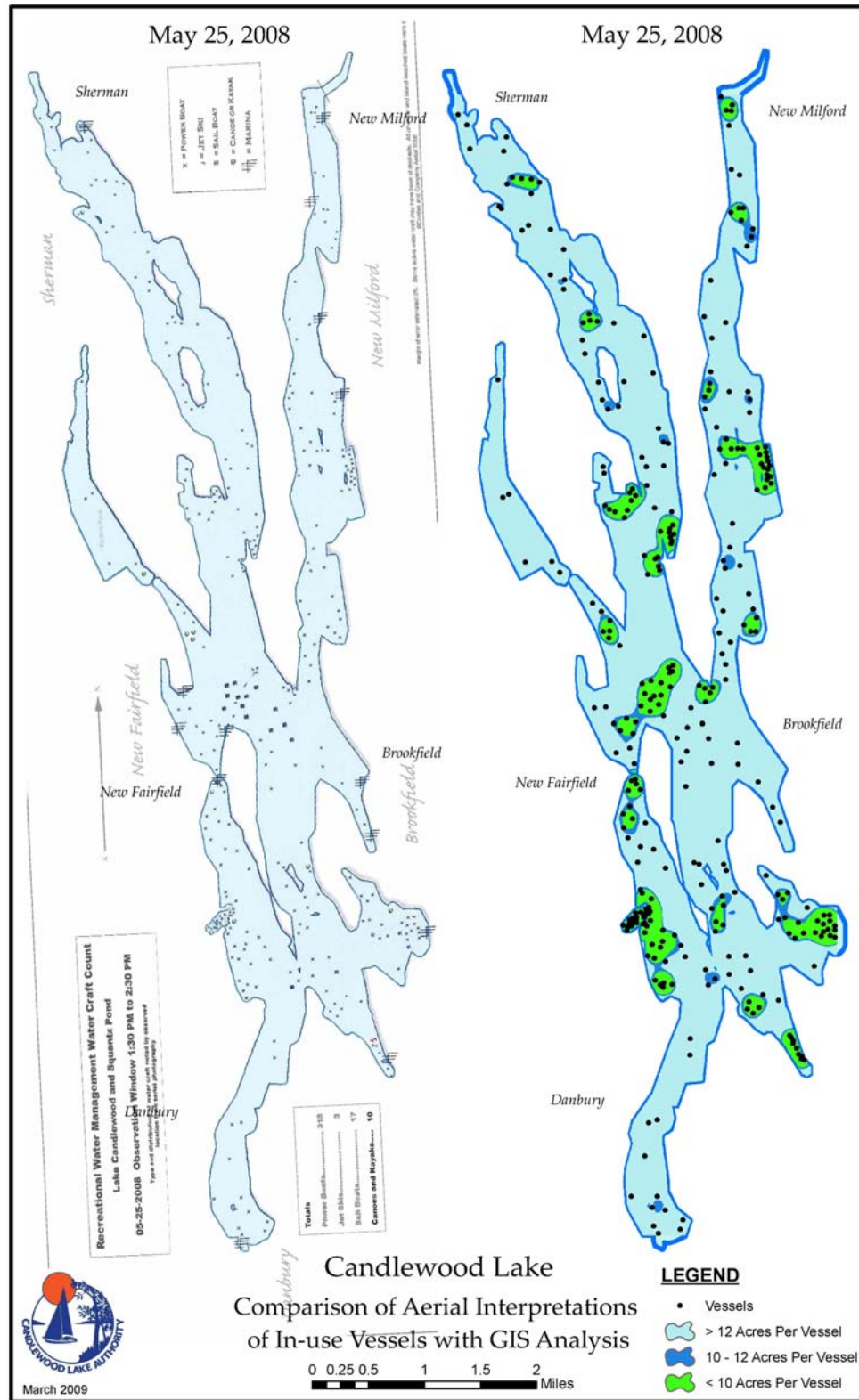
A more complete description of the methods used to analyze in-use density is provided in Appendix 2. A summary of the methods is provided here. During the flyovers conducted in 2008, numerous aerial photographs of the lake were taken. Photographs were taken during peak density, i.e. on weekends between 1 PM to 2 PM. From these, locations of in-use vessels were interpreted onto a map of the lake. Those maps with approximate locations of in-use vessels were provided to FLPR who in turn provided them to the CLA. Maps were digitally scanned, uploaded into a geographic information system (GIS), and geo-referenced. The shape of the lake used in the original maps and the locations of the in-use vessels were digitized in the GIS. Once digitized, the data was then ready for density analyses with the GIS software.

The analyses produced maps identifying boat densities across the lake. Using the density standards discussed in the RMP<sup>8</sup> density was delineated as either >12 acres per operating vessel; 10 – 12 acres per operating vessel (theoretical density thresholds); or <10 acres per operating vessel (where potentially impaired recreational experience or compromised safety could occur). The maps resulting from these analyses are provided in Appendix 2 as is the more complete description of the methods used.

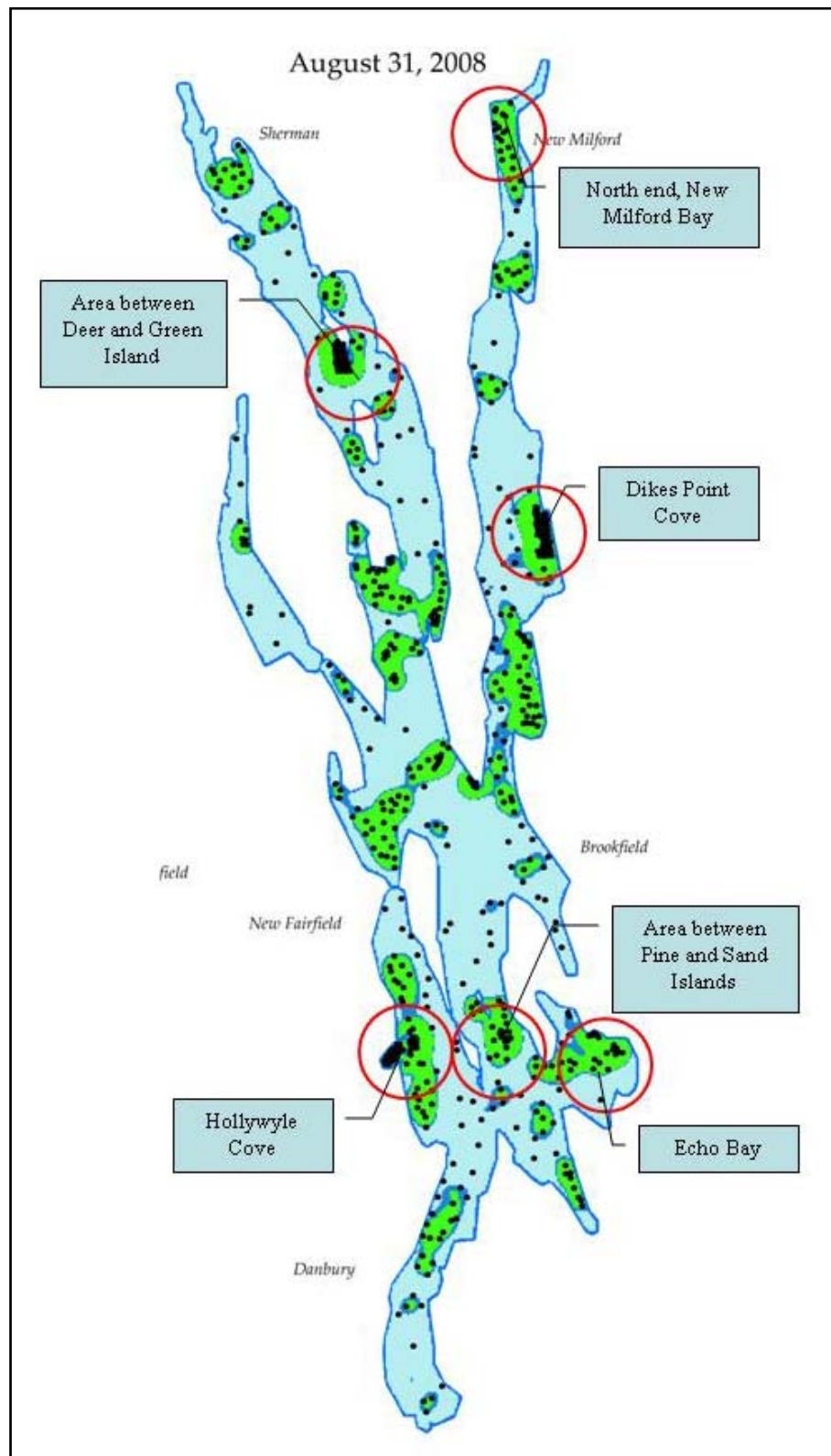
It is clear from these analyses that many areas in the Lake can have in-use vessel densities that potentially impact recreation and safety regardless if in-use lake capacity is exceeded or not. Based on the 2008 flyovers, the total area of the lake exceeding safe density levels generally increased as the 2008 summer progressed and peaked at the Labor Day weekend. There were a number of areas that appeared to always be exceeding safe capacities, e.g. in and near Hollywyle Cove, the Dikes Point Cove, the north end of the New Milford bay, the area between Green and Deer Islands, Echo Bay, and the area between Sand and Pine Island (see Fig. 3).

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<sup>8</sup> See Recreation Plan at P 22



**Figure 2. Comparison of the of aerial flyover interpretations of in-use vessels contracted for by FirstLight Power Resources (map on left) to the vessel density analysis (map on right) based on the GIS analysis of the original map. (Map on left derived from Lake Candlewood Use Study done by James Cordes 2008.)**



**Figure 3. Locations of areas on Candlewood Lake that regularly have excessively high in-use vessel densities.**



Data included in these analyses were from 2008 flyovers conducted on May 25<sup>th</sup>, June 21<sup>st</sup>, July 19<sup>th</sup>, and August 31<sup>st</sup>. Not included in these analyses were data collected from July 12<sup>th</sup> and August 9<sup>th</sup>. Results from density analyses of these data may be presented at a later date.

However, based on the current results it is certain that there are areas of Candlewood Lake where recreational experience and safety may be compromised based on in-use boating densities.

## ***2.5. CTDEP Fishing Tournament Data***

As discussed in Section 2.3, there is limited data on the use of the public ramps on Candlewood other than the CTDEP's fishing tournament data. As such this section provides data on those events but should be considered a surrogate measure of all visiting user groups to Candlewood Lake. As stated above, the CLA does not support the use of the lake by one user group at the expense of another. If sacrifices must be made to mitigate recreational pressures, then all user groups should make sacrifices. Nonetheless, the data on scheduled fishing tournaments at Candlewood Lake is compelling and demonstrates the high demand for use of these waters by the various recreational boating groups.

Candlewood Lake is clearly one of the premier fisheries in Connecticut, as described by the CTDEP.<sup>9</sup> It is the State's most reliable producer of large brown trout and is considered an excellent site for large and smallmouth bass. As such, and because of its size, Candlewood Lake has hosted more fishing tournaments than any other inland waterbody in Connecticut for many years (see Figs. 4 and 5).

In the past most tournaments scheduled by the CTDEP were provided access to the lake through either the Lattin's Cove (Danbury) or Squantz Cove (New Fairfield) State ramps. Both coves are fairly narrow and lined with lakeside homes. For these and other associated reasons, a user conflict developed between lakeside homeowners and the fishing tournament community. It was in the late 1990s when the CLA learned that Candlewood hosted more tournaments than any other inland water resource in Connecticut. In 2000 the CLA surveyed tournament fishing data

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<sup>9</sup> See Robert Jacobs and Eileen O'Donnell. 2002. A Fisheries Guide to Lakes and Ponds of Connecticut at P 104

in other New England states and learned that Candlewood hosted more tournaments than any other lake in those states, including those lakes that were far larger than Candlewood (Fig. 6).

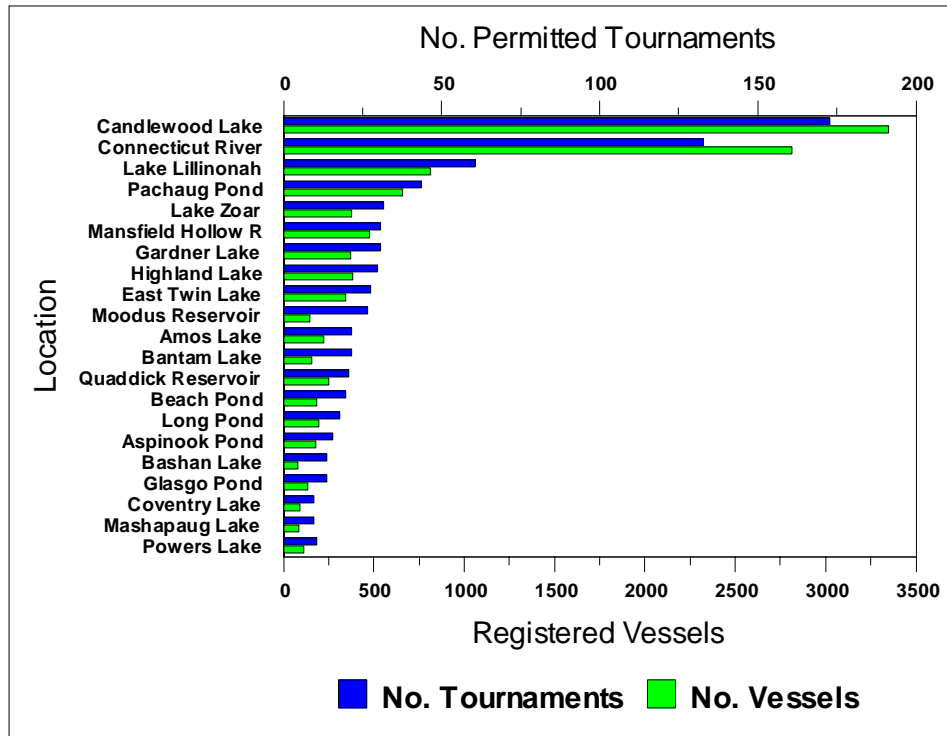
The CTDEP recently standardized fishing tournament data by dividing the total number of vessels scheduled to visit into the size of the lake.<sup>10</sup> This analysis brought Candlewood Lake down from 1<sup>st</sup> (based on total number of tournaments and vessels) to 12<sup>th</sup> (based on number of tournament boats per acre) out of the top twenty tournament lakes in the State. However, surface area is only one of many physical attributes of a lake that should be considered if attempting to standardize by a lake's physical features. Total surface area may not be the best feature to use to standardize tournament data since a circular lake of a given acreage is much different than a lake of the same acreage but with long narrow fingers and channels, like Candlewood. There are calculations such as shoreline development that examine the differences in the two different kinds of lakes.<sup>11</sup> If area is going to be considered as a variable to standardize tournament data, then other variables, including shoreline development index should be considered as well.

Through a cooperative approach by the CLA, the CTDEP, and the Connecticut fishing tournament community, some of the user conflict associated with tournament fishing has been resolved. Tighter enforcement of tournament guidelines, such as start time and speeds, as well as new CTDEP regulations and more boating law enforcement presence on the lake during the start of tournaments has noticeably reduced the concerns of lakeside homeowners.

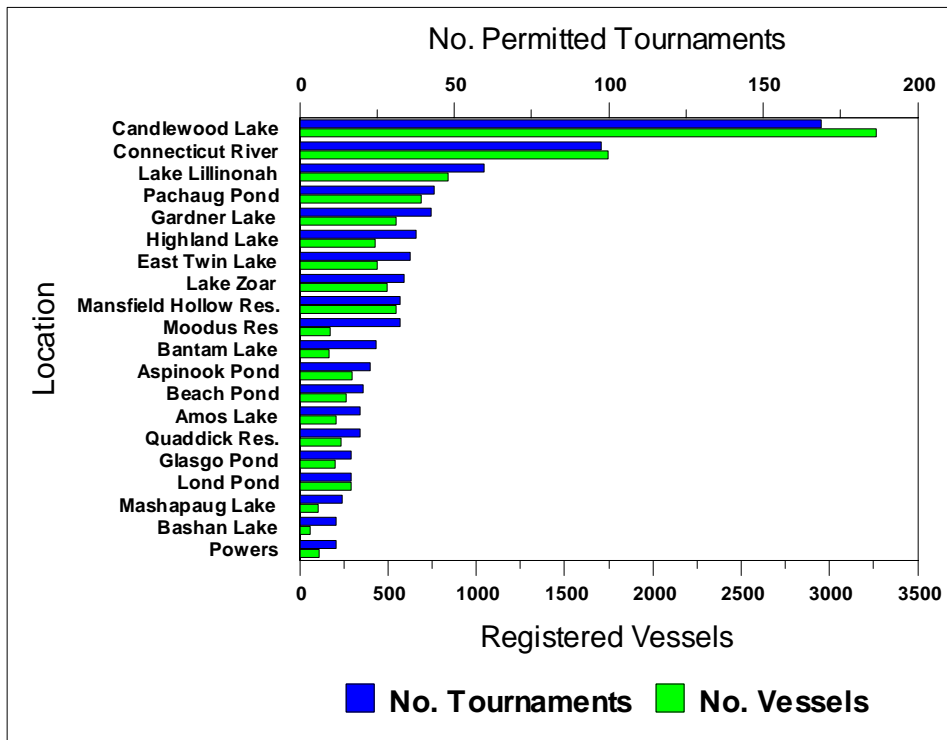
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<sup>10</sup> See memo from Robert Gates of FLPR to member of the Lake Advisory Committee Re: Comments on Draft Minutes or the LAC Meeting. Recreation Management Plan Housatonic River Project, FERC Project No. 2576 at Attachment E

<sup>11</sup> The shoreline development index is a comparative figure relating the shoreline length to the circumference of a circle that has the same area of the lake.



**Figure 4. Total number of scheduled tournaments and participating vessels in the top twenty-one inland water resources in Connecticut during 2007.**



**Figure 5. Total number of scheduled tournaments and participating vessels in the top twenty inland water resources in Connecticut during 2008.**

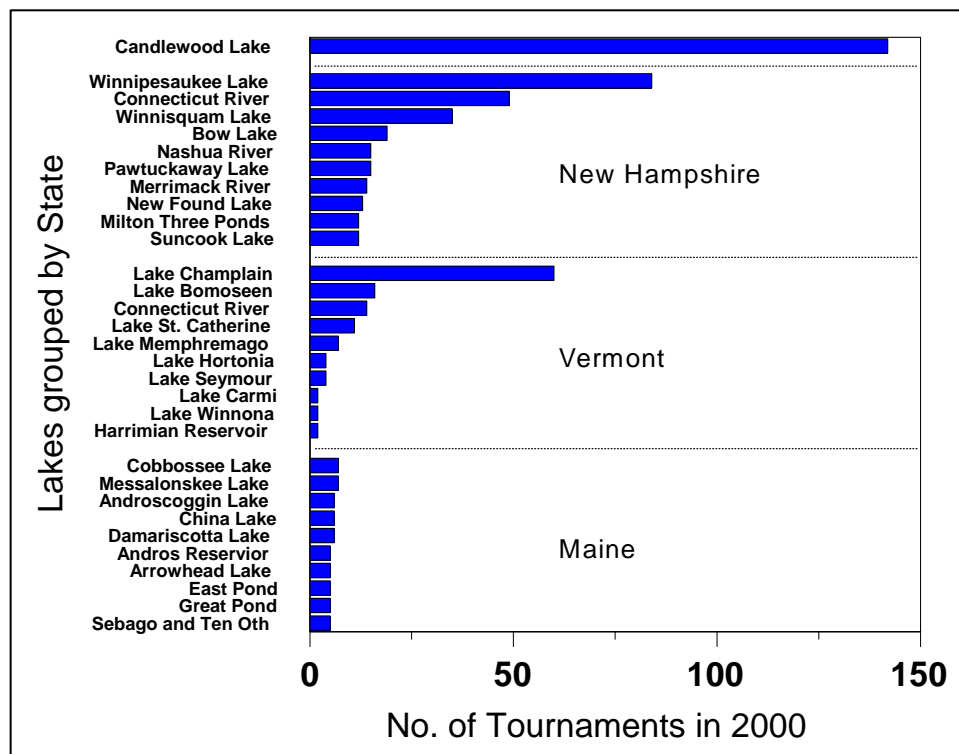


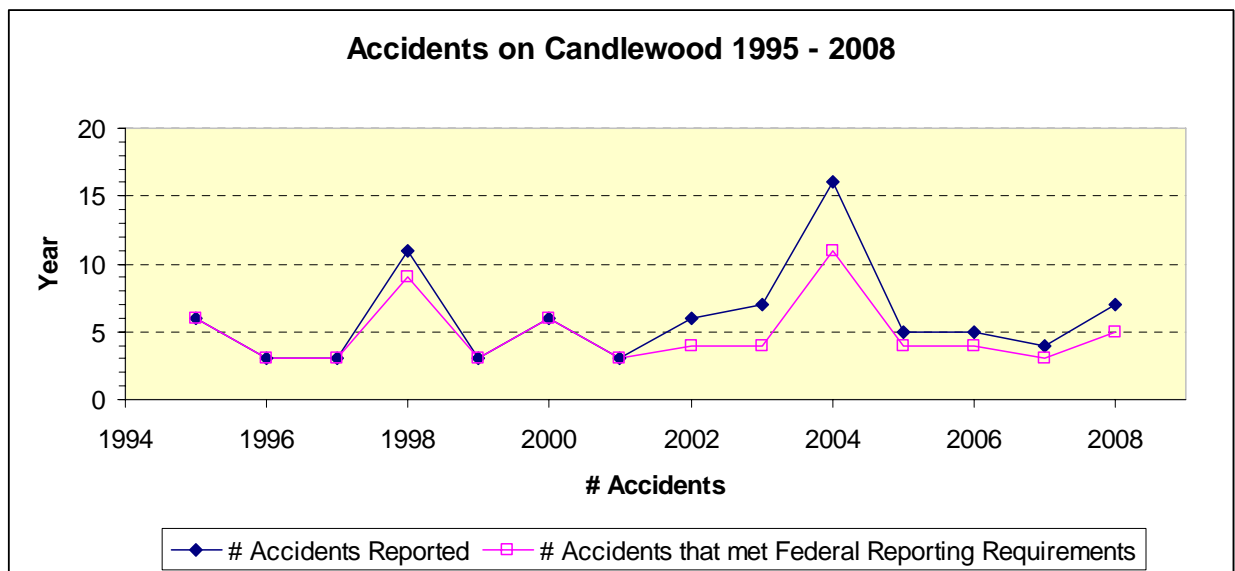
Figure 6. Total number of scheduled tournaments in the top ten inland water resources in New Hampshire, Vermont, and Maine as compared to Candlewood Lake, CT in 2000.

## 2.6. Boating Accident Data

Boating accidents are perhaps one of the best indicators of overcrowded conditions on lakes. In 2008, the CTDEP reported 37 accidents on Candlewood Lake between 2003 and 2007 and 30 accidents between 1998 and 2002.<sup>12</sup> The next two lakes closest to Candlewood in the 2003 to 2007 date range were Bantam Lake and Lake Housatonic with seven and six accidents, respectively. The two lakes closest to Candlewood in the 1998 to 2002 range were Bantam Lake and Lake Lillinonah with five accidents each. This roughly equates to Candlewood Lake having five to six more times the number of accidents than does any other lake in the State of Connecticut.

<sup>12</sup> See Appendix 5

Figure 7 below shows the number of accidents meeting Connecticut and federal standards since 1995.<sup>13</sup> A regression analysis of the data was performed where the independent variable was year and the dependant variable is number of accidents (meeting CT standards). Based on p-value (0.959), no linear relationship between year and the number of accidents existed, and therefore, no trend in accidents over time since 1995 was observed. This suggests that the pressures from overcrowding on Candlewood Lake are not changing, despite increased patrol activity in recent years. This differs from the position of the CTDEP provided at a public hearing of the CT Legislature’s Environment Committee in March of 2008. In that testimony, the CTDEP stated that, “A review of the boating accidents over the last five years (2003 – 2007) shows a steady decrease in the number of accidents on the lake”.<sup>14</sup>



**Figure 7. Accidents on Candlewood Lake since 1995 as reported by the United States Coast Guard. Reporting requirements differ from state to state and between states and federal standards. For an explanation of those differences and the all of the data provided by the USCG, see Appendix 2.)**

<sup>13</sup> See Appendix 3

<sup>14</sup> See Appendix 5

## 2.7. Surveys on Recreational Use

Unlike boating density and carrying capacity, recreational experience and user conflict are not typically modeled mathematically. More often, public survey methods are used. There were at least two surveys conducted in the last ten years that have provided insights into the recreational pressures on Candlewood Lake. The first of these was part of a study by Western Connecticut State University and the CLA to quantify the values the Lake provides to lakefront and lake community properties because of the amenities associated with the Lake (boating, swimming, and fishing).<sup>15</sup> Approximately 3,700 questionnaires were sent to homes in the 60+ communities surrounding the lake, with 880 returned for a response rate of 24%. Of those returned, 618 contained answers to all the questions yielding an effective response rate of 17%. Part of the survey included two questions specific to recreational use, as well as a section at the end of the survey to provide the public an opportunity to comment on anything related to the study or the lake in general. The two questions and responses, and analysis of the general comment section are provided below in Table 4.

Responses from the lake community residents clearly indicated that the recreational experience at Candlewood Lake had declined and that user conflicts do exist.

In the RMP it states that the licensee (NGC at the time) prepared an assessment of public opinion of recreation conditions and needs specific to the Rocky River development (Candlewood Lake) with 81% of the respondents reporting that facilities are adequate for their needs.<sup>16</sup> There was no discussion in the RMP of how the poll was conducted or how many respondents there were. The public opinions rendered appeared to have been from those visiting facilities such as the Dike's Point Recreation Area that is owned and operated by the licensee or the public ramps. The National Park Service commented on the public opinion poll saying that "*the vast majority of those surveyed were NOT local residents, but rather transient users of public or commercial recreation sites.*"<sup>17</sup>

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<sup>15</sup> See DeLoughy, S.T. and L.J. Marsicano. 2001. Economic Evaluation of Candlewood Lake with Alternative Water Quality Categories.

<sup>16</sup> See Recreation Plan at p. 24

<sup>17</sup> See Recreation Plan at C-11

**Table 4. Responses to questions in the survey sent out to lake community members and reported on in *Economic Evaluation of Candlewood Lake with Alternative Water Quality Categories*.**

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***Question 23. Have you or members of your family reduced your recreational use of the Lake on weekends because of volume of boat traffic?***

A lot / great deal	50%
Some	30%
Only a little	8%
Not at all	8%
Does not apply – Do not use lake on weekends	3%

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***Question 24. Boat traffic on Candlewood Lake on a typical summer weekend has reached the point where it now detracts from the Lake's value as a recreational resource. Indicate the extent to which you agree or disagree with this statement.***

Strongly agree	50%
Generally agree	30%
Undecided	10%
Generally disagree	9%
Strongly disagree	1%

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***Top ten concerns cited by property owners based on general comments section of the survey***

<b>Concern</b>	<b>Frequency of Observation (%)</b>
Nuisance Weeds	4.9
Jet Skiers / Jet skis	8.0
Open Space Preservation	8.6
Not enough Lake Patrols	9.0
Fishing Tournaments	9.9
Noise Pollution	11.6
Day Users / Ramp fees / Out-of-staters	16.8
Decreasing Water Quality	17.6
Increasing Boat Size	18.3
Overcrowded Conditions	23.2

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The licensee responded to the NPS comments in the consultation record of the RMP by stating that thousands of surveys were collected at the primary public access sites for over a year. They also characterized the questions asked in the CLA's survey as incongruous with existing and perceived future conditions of the lake. In addition, they felt that the questions were somewhat leading. Ironically, the licensee felt that the CLA had not attended to the broad range of recreational experiences necessary to understand recreational issues on Candlewood Lake.<sup>18</sup> Similar to the NPS, the CLA felt that it was the licensee that did not and has not attended to the broad range of recreational issues at Candlewood.

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<sup>18</sup> See Recreation Plan at C-13

### **3. Future Increases in Recreational Use**

As detailed above, Candlewood Lake exhibits many signs of a lake that is already overcrowded. It is important to realize, however, that the problem has great potential to worsen because of historical legal agreements. By estimations provided below, boat docks or slips could increase by almost 2,000 or more. Also noted below, there are no measures in the FERC-mandated management plans to address current recreational pressures. There is one measure in the current draft Shoreline Management Plan that could theoretically double the lake's resident boat numbers given the possible substantial increase in docks or slips.

#### ***3.1. Deeded Right Docks***

There is critical data missing from both the Recreation Management Plan and the draft Shoreline Management Plan for Candlewood Lake that if provided, would aid in understanding how much worse the problem overcrowding problem can get. That data is the number of exercised and unexercised deeded right docks negotiated with the power company on Candlewood Lake. These data are critical because they determine the number of docks or slips legally allowed by the power company on project lands adjacent to private and community lands. The numbers of permitted docks greatly affects the numbers of vessels moored or docked on the lake.

Deeded right docks, as the name implies, are docks that have been or that can be legally placed along FLPR's shoreline by way of a negotiated right recorded on the deed of a particular project-abutting property. These rights were negotiated as a condition of sale by those buying lands abutting the project from the power company who originally bought the lands to create the lake. An unknown number of the original deeds of lands abutting the 440 foot elevation had written into them the right to pass and repass the power company's land (or cross below the 440) to access to the lake; and many had written into them the rights for a dock of simple construction and a seawall.

The history of the conveyance of those deeded rights is unclear, as is how those rights seem to have been conveyed from deeds of the original parcels to the deeds of the individual homes in the subdivisions that sprung up on those parcels around the lake. There have been several cases

where the number of slips at community docks has been argued in legal proceedings, including Prunick Estates community in New Milford.<sup>19, 20</sup> In this particular case, the developer and his legal representation argued that they had a legal right for a marina with number of slips that far exceeded the number of waterfront lots and homes in the subdivision at that time and was close to the number of lots in the subdivision. In addition, the developer had intended to rent slips to others living outside the subdivision.

More recently, a new proposed subdivision, Candlewood Pines, in Danbury, CT and its proposed community property along the shore of the lake was approved by the Danbury's Environmental Impact Commission. The plan for the lot along the shoreline included docking facilities for each of the twenty properties in the subdivision. From deed research conducted on these lands it was discovered that a right for a dock of simple construction was in the deed of just one of several large, original parcels that was merged together with other parcels. That original deeded right now appears to have been conveyed to all properties in the proposed subdivision by way of a proposed community docking facility that provides a slip for every home in the subdivision.<sup>21</sup>

The legality of the conveyance of deeded rights needs to be thoroughly examined for the following reason. If the deeded right of a large parcel can be "subdivided" and incorporated into the deeds of all properties in the subdivision developed there, then the recreational experience on the lake stands to greatly worsen. There are over 60 small to medium size communities around Candlewood Lake that in all likelihood started as small developments or subdivisions on large parcels, similar to Candlewood Pines. Most do not have facilities to provide a dock or slip for each home in the development. If the property owners/developers of Candlewood Pines can legally convey rights to a dock or slip to each home in the subdivision, then the many other communities around the lake may now argue that they have the right to do the same.

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<sup>19</sup> See Verbatim Transcripts of Public Hearing 8/17/88 Prunick Estates, Inc. Cease and Desist Order. 7 – 9 Arch Street Norwalks, CT on file with the New Milford Zoning Office, New Milford, CT.

<sup>20</sup> See Letter to Town of New Milford Zoning Board of Appeals from Lepofsky, Lepofsky and Lang, Attorneys-at-law dated August 17, 1988 on file with the New Milford Zoning Office, New Milford, CT. Therein, Attorney Lang states, "*Here, the use (a marina) is tied to the ownership of leasing of land within the subdivision... the use is limited to those connected to the subdivision.*"

<sup>21</sup> See Letter to Larry Marsicano of the Candlewood Lake Authority from Attorney Ted Backer of law firm Pinney Payne, P.C. dated January 17, 2008 on file with the Candlewood Lake Authority, Sherman, CT.

In an effort to estimate how many unexercised deeded right docks might exist around Candlewood Lake, twelve of the over 60 lake associations or tax districts were examined and surveyed for the following: the total number of properties in the community; the total lakefront properties (presumably with a dock); and the total number of community dock slips (see Table 5). The twelve communities were reportedly comprised of over 1,700 individual homes with just under half of those having either a private dock (i.e. was a private property abutting the 440) or a community slip (based on current slip availability at the community properties abutting the 440). If all the homeowners in just these twelve lake communities had legal rights to a dock or slip, as assumed in the Candlewood Pines proposal, then approximately 900 more docks or slips, and presumably boats, would be allowed on the lake.

**Table 5. Homes and dock data for twelve lakeside communities on Candlewood Lake.**

Community	Town	No. of Homes	No. of Lakefront homes	No. Community Slips
Candlewood Shores	Brookfield	450	110	24 <sup>†</sup>
Candlewood Lake Club	Brookfield	167	30	60
Aqua Vista	Danbury	96	10	24
Snug Harbor	Danbury	34	5	9 <sup>†</sup>
Candlewood Knolls	New Fairfield	250	41	94
Candlewood Isle	New Fairfield	350	125	46 *
Ferris Estates	New Milford	34	16	8
Millstone Ridge	New Milford	100	12	36
Candlewood Springs	New Milford	41	24	12
Candlewood Trails	New Milford	75	26	0
Atchison Cove	Sherman	55	10	36
Deer Run Shores	Sherman	85	30	45
Totals		1737	439	394

(\* 36 slips + 10 moorings; <sup>†</sup> all moorings)

Based on this estimation, just under half of the homes in communities around the lake currently have a place within their community to keep a boat for the season. An estimate of the homes in lake communities around the lake is 3,700 residences. Using that figure and the premise that all homeowners had a legal right to a dock or slip, over 1,900 more boats could be added to the total

resident number, if only one vessel was added to the lake per deeded right. The draft SMP limits vessels at private docks to two registered vessels and two personal watercrafts (Jetskis, Skidoos, etc.) meaning that each deeded right dock could have as many as four vessels.

This projection is based on existing communities and homes around Candlewood Lake. Opportunities for new subdivisions like Candlewood Pines are not common, albeit there are areas along the shoreline that may see developmental pressures in the future. One large undeveloped area under the ownership of Connecticut Light & Power is the Vaughn's Neck peninsula. CL&P owns approximately 710 contiguous acres on that peninsula, and while there is no immediate threat, the possibility of development in the future does exist and with it, the potential for more docks and boats. In the deed for the CL&P property it clearly states:

*The above parcels numbered 5, 6, 7, 8, 9, 10, and 11 (#7 is Vaughn's Neck) are excepted and reserved together with the following permanent rights and easements in favor of the Grantor and its successors and assigns:*

- i. To pass and repass over and across the land conveyed herein for the purpose of gaining access to the water or Candlewood Lake (the "Lake");*
- ii. To construct and maintain protective construction such as sea walls or riprap substantially along the shore line of the Lake at the limits of high water as the same may be from time to time;*
- iii. To construct and maintain docks of simple construction on the shore of the Lake and floats in the waters of the Lake within a reasonable distance from the shore to be used only for the sheltering or mooring of boats and for bathing purposes;*
- iv. To use, in common with other, the waters of the Lake as they may exist from time to time and at their then level, for fishing, bathing and boating.<sup>22</sup>*

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<sup>22</sup> See Town of New Milford Land Records at Volume 631, Page 51

## 4. Jurisdictions

Candlewood Lake is subject to several layers of jurisdiction as it pertains to public safety and recreation on Candlewood Lake. Until recently, it was commonly assumed that the State of Connecticut and surrounding municipalities shared the responsibility. But the jurisdictional responsibilities have become confused and dangerously unclear. Clarification and resolution of overlapping responsibilities is urgently needed. With the emergence of another layer that may possibly supersede the others, there are now three levels which are all based or created legislatively: one is federal; one is state; and one is local or municipal. These are described below.

### ***4.1. Federal Role at Candlewood Lake***

FERC'S Role – Until about ten years ago, few in the Candlewood area knew that FERC and its agent/licensee, the power company, did bear some of the responsibility of protecting the recreational values associated with the lake and providing for the safety of those recreating on it. This responsibility has its origins in the Federal Power Act of 1935 that created a regulatory mandate for FERC including establishing specific requirements for protecting non-power resources, including fish and wildlife habitat, irrigation, water supply, recreation, flood control, and water quality. In addition, Section 4(e) of the FPA, as amended by the Electric Consumers Protection Act of 1986, requires that FERC, when issuing a license, give *"equal consideration to the purposes of energy conservation, the protection, mitigation of, damage to, and enhancement of, fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of other aspects of environmental quality."*<sup>23</sup>

Guidelines for Public Safety at Hydropower Projects – To carry out part of its mandate, FERC provides Guidelines for Public Safety at Hydropower Projects that states that hazards created by natural conditions in project waters and at recreational sites are equally important to FERC as are hazards created by project structures and operations. FERC also says that as a practical matter,

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<sup>23</sup> See Guidance for Shoreline Management Planning. FERC. April 2001 ([www.ferc.gov/industries/hydropower/gen-info/guidelines/smpbook.pdf](http://www.ferc.gov/industries/hydropower/gen-info/guidelines/smpbook.pdf)) at P 1-1

the implementation of safety measures to minimize accidents that are not associated with project structures or operations are usually the responsibility of local entities and law enforcement agencies.<sup>24</sup>

FERC's Expectations for the Licensee and Candlewood Lake – Interveners, stakeholders, and others involved in the recent license renewal process for the Housatonic Hydroelectric facility were all provided opportunity to review a series of documents that made known the expectation of the licensee by FERC as it pertains to recreational pressures, overcrowding, and user conflict. Several excerpts from these FERC documents are provided below in chronological order that clearly indicate these expectations. Additional language is found in Appendix 4.

#### **May 2004 – Final Environmental Impact Statement**

*Candlewood Lake would continue to experience periodic congestion in specific areas during peak use. We recommend that NGC address issues of protecting specific parcels, growth, and increasing lake access on Candlewood Lake as part of its proposed SMP as described in section 3.3.6, Land Use and Aesthetic Resources.*<sup>25</sup>

*Given its prominence as a recreation asset in a heavily populated region, Candlewood Lake would continue to experience development pressures and rising levels of recreation activity. In addition to the SMP for the Rocky River development as described in section 3.3.6.2, we recommend that NGC develop and implement a lake management plan for Candlewood Lake. The lake management plan should include:*<sup>26</sup>  
(See Appendix 4)

#### **June 2004 – FERC Order Issuing New License**

*Article 408. Recreation Plan. Within twelve months of license issuance, the licensee shall file with the Commission, for approval, a Recreation Plan for the project that includes the provisions set forth below:*

- *Discussion of existing crowding problems and potential recreational use conflicts and measures to reduce such conflicts during peak-use periods and special events such as fishing tournaments and whitewater competitions.*<sup>27</sup>

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<sup>24</sup> See Guidelines for Public Safety at Hydropower Projects. FERC. 1992.  
([www.ferc.gov/industries/hydropower/safety/guidelines/public-safety.pdf](http://www.ferc.gov/industries/hydropower/safety/guidelines/public-safety.pdf)) at P 2

<sup>25</sup> See Final Environmental Impact Statement for Housatonic River Project – 2576. May 2004. (FERC issuance no. 20040521-0377, May 21, 2004) (“Environmental Impact Statement”) at P 3-177

<sup>26</sup> See Final Environmental Impact Statement at P 3-178

<sup>27</sup> See FERC Order Issuing New License, Project Nos. 2576-022 and 2597-019 (FERC issuance no. 20040623-3052, June 23, 2004) (“New License”) at P 40



### **September 2006 – FERC Order to Modify and Approve the RMP**

*According to the minutes from NGC's March 25, 2005, planning meeting,<sup>28</sup> where members of the CLA and CTDEP were present, there was agreement between the parties in attendance that most of the capacity-related management controls would be discussed and recommended in the SMP. While the licensee is responsible for ensuring recreational quality and safety on Candlewood Lake, these conflicts are centrally focused on boating activity and would be more appropriately discussed in the SMP.<sup>29</sup>*

### **July 2007 – FERC Order Modifying and Approving SMP**

*Candlewood Lake is the most developed lake at the project and suffers from overcrowding and user conflicts. Undeveloped shoreline is quite scarce on Candlewood Lake due to the proliferation of commercial and residential properties adjacent to the project boundary. The licensee's policy prohibiting the installation of additional docks or boat slips (except as provided by deeded rights) would help to ensure that crowding issues do not intensify.<sup>30</sup>*

### **April 30, 2008 – FERC Additional Information Request**

*Overcrowding due to boating activities appears to be a pertinent issue on Candlewood Lake. Please provide an estimate of the number of residential docks, community docks, and associated watercraft accommodated by these facilities, currently on Candlewood Lake.*

*Please clarify the extent to which boat-traffic congestion and overcrowding are problems on Candlewood Lake, any known causes, and how the proposed SMP attempts to address this issue. Have you, or any other entity, conducted a boating capacity study for this lake? How many boats are out on the lake during the height of boating season (i.e., worst-case estimate) based on the number of residential boats docked, and access by the general public via boat ramps?<sup>31</sup>*

Measures were provided in the FERC-approved RMP that have proved useful in quantifying the recreational use on Candlewood Lake. In particular was the establishment of a program to conduct a total of six (6) aerial watercraft counts on Candlewood Lake from May through Labor Day every six years of the new license.<sup>32</sup> The first set of aerials photographs were taken during the summer of 2008 and interpreted. A portion of that data was analyzed and discussed above in

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<sup>28</sup> See Recreation Plan at Exhibit B

<sup>29</sup> See Order Modifying and Approving Recreation Plan under Article 408 re Northeast Generation Services' Housatonic River Hydroelectric Project under P-2576 (FERC issuance no. 20060920-3019, September 20, 2006) ("Order Modifying and Approving RMP") at P 10

<sup>30</sup> See Order Modifying and Approving the Shoreline Management Plan Pursuant to Article 407 (FERC issuance no. 20070703-3064, July 3, 2007) ("Order Modifying and Approving SMP") at P 17

<sup>31</sup> See Letter requesting FirstLight Hydro Generating Company to submit within 60 days, additional information etc re the Housatonic River Project under P-2576 (FERC issuance no. 20080507-0179, April 30, 2008) ("FERC Additional Information Request") at P 5

<sup>32</sup> See Recreation Plan at P 4

Section 2.3. **However, it is important to note that NO measures were proposed in the RMP that mitigated current or future impacts caused by overcrowding or recreational user conflict.** As noted above in their Order to Modify and Approve the RMP, FERC believed that resolution of these issues was better achieved in the SMP.

A Shoreline Management Plan was filed in July of 2006 with FERC and included several measures to address overcrowding and user conflict. First, the licensee proposed to limit at private docks the number of registered boats to two and personal watercraft to two.<sup>33</sup> Secondly, they proposed to implement a moratorium on new dock construction with the exception of those provided by way of deed right.<sup>34</sup> However, given the severity of overcrowding and user conflict on Candlewood Lake and the missing deed right information (see Section 3.1), the CLA felt these measures fell well short of adequately addressing the problems.

In July of 2007 FERC issued an Order Modifying and Approving Shoreline Management Plan Pursuant Article 407.<sup>35</sup> In October of 2007, that order was rescinded<sup>36</sup> and FERC issued several requests for additional information that included information on overcrowding and user conflict. Work went into a new draft SMP, which was submitted to FERC on June 30, 2009. However, even fewer measures were proposed in the revised draft to mitigate current and future overcrowding and user conflict than the prior version which was deemed insufficient in scope. Like the original version, the new draft provides a limit of not more than two registered boats and two registered personal watercraft at residential docks.<sup>37</sup> This is the only concrete measure provided in either the SMP or RMP to mitigate current and future overcrowding and user conflict. Again, given the severity of overcrowding and user conflict on Candlewood Lake, this one measure falls well short of adequately addressing the overcrowding, user conflict, and public safety problems on Candlewood Lake.

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<sup>33</sup> See Northeast Generation Co's Shoreline Management Plan for the Housatonic River (FERC submittal no. 20060727-4011, July 27, 2007) ("Shoreline Management Plan") at P 3-3

<sup>34</sup> See Shoreline Management Plan at P 3-3

<sup>35</sup> See Order Modifying and Approving the SMP

<sup>36</sup> See Order Rescinding Order on Shoreline Management Plan and Dismissing Requests for Rehearing (FERC issuance no. 20071029-3003, October 29, 2007)

<sup>37</sup> See Shoreline Management Plan Discussion Draft 3-05-09. FirstLight Power Resources at P 6 (<http://www.firstlightpower.com/generation/documents/Proposed-Shoreline-Management-Plan-030509.pdf>)

## ***4.2. State Role at Candlewood Lake***

In addition to federal mandates, there is State of Connecticut law that applies to recreation on inland water resources of the State. The Connecticut General Statutes clearly identifies the Connecticut Department of Environmental Protection (CTDEP) as an entity with jurisdiction on the waters of the State as noted below.

*Unless otherwise provided in this chapter, the Commissioner of Environmental Protection shall administer the provisions of this chapter and for such purpose shall have exclusive jurisdiction of all waters of the state, subject to the authority of the United States in respect to the navigable waters of the United States. (Connecticut General Statutes Sec. 15-121(a))*

The CTDEP provides for the safety of those recreating on the State's inland waters in a variety of ways including creating regulations, providing educational programs, and providing an Environmental Conservation (EnCon) Police Department. The EnCon Police are responsible for patrolling all waters within the State and Long Island Sound for recreational boating safety enforcement and for enforcing state boating laws and regulations to ensure a safe boating experience for the many recreational boaters on State waters.<sup>38</sup>

Additionally, the CTDEP maintain public ramps on many inland waters of the State; permit and schedule events on those waters such as prize fishing tournaments and boating regattas; and are responsible for permitting regulatory and hazard buoys on state waters. As discussed in sections above, the CTDEP maintains two launch sites on Candlewood Lake, permits and schedules events on the lake, permit the buoys deployed on the lake, and schedule their EnCon Police to patrol on Candlewood Lake.

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<sup>38</sup> See Connecticut Environmental Conservation Police Officers – What we do – Boating at [www.ct.gov/dep/cwp/view.asp?a=2695&q=322624&depNav\\_GID=1649#Boating](http://www.ct.gov/dep/cwp/view.asp?a=2695&q=322624&depNav_GID=1649#Boating)

### ***4.3. Local Role at Candlewood Lake***

Municipalities can also play a role in providing for the safety of the recreating public on lakes in Connecticut. Section 7-151a of the Connecticut General Statutes discusses the establishment of a lake authority. There it states:

*As used in this section, "state waters" means all waters within the territorial limits of the state except navigable waters of the United States. Any two or more towns which have within their territorial limits a body of state water may establish by ordinance a lake authority. Said authority shall act as agent for the member towns in cooperating with the Commissioner of Environmental Protection in the enforcement of the boating laws on such water.*

The municipalities surrounding Candlewood Lake formed a Lake Authority in 1972 with one of its original functions being the provision of a Marine Patrol. Candlewood Lake Authority Marine Patrol (CLAMP) officers are appointed by the Commissioner of the CTDEP, as described in CGS 7-151b, to enforce the State's boating laws. The CTDEP's EnCon Police are responsible for overseeing the CLAMP. The CLAMP works under the supervision of an EnCon Police Sergeant who coordinates their patrols and training activities. Each lake patrol officer must successfully complete a 60-hour training course that provides comprehensive training in boating laws, vessel-boarding procedures, officer safety and first aid.<sup>39</sup>

The CLA was created by local ordinance in each of the five municipalities surrounding the lake (Brookfield, Danbury, New Fairfield, New Milford, and Sherman). The municipalities provide an equal portion of the Authority's budget. The power company over the years has provided a voluntary contribution equal to that of each municipality.

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<sup>39</sup> See Connecticut Environmental Conservation Police Officers – What we do – Boating at [www.ct.gov/dep/cwp/view.asp?a=2695&q=322624&depNav\\_GID=1649#Boating](http://www.ct.gov/dep/cwp/view.asp?a=2695&q=322624&depNav_GID=1649#Boating)

## 5. Conclusions

This report provides multiple lines of evidence confirming that Candlewood Lake suffers from boating overcrowding and user conflict. As such, the recreational experience and safety on the waters of the lake are, at times, compromised. Much, if not all of the of the overcrowding and user conflict are artifacts of the nature and use of the shoreline of the lake. Yet very little of the information provided here can be found in the Recreation Plan, in reports of the Lake Advisory Committee other than what the CLA provides,<sup>40</sup> or in the revised Shoreline Management Plan submitted to FERC by FirstLight Power.

It is particularly alarming that discussions of deeded right docks, those rights exercised as well as those not yet exercised, are missing from the SMP relative to their importance to the current and future number of vessels on the lake. ***The precedents resulting from Candlewood Pines' requests for a marina to provide dockage for each home in the proposed subdivision, and the results of the dock access survey for twelve lake communities indicate that a minimum of 1,900 more vessels may be seasonally docked on the lake in the future. The resulting exacerbation of overcrowding and user conflict will have devastating and ruinous impacts on recreational opportunity and safety on Candlewood Lake.***

FERC stated that the licensee is responsible for ensuring recreational quality and safety on Candlewood Lake.<sup>41</sup> The Connecticut State Statutes state that the CTDEP has exclusive jurisdiction over all the waters of the State.<sup>42</sup> ***Yet despite the need for measures to mitigate the current and future overcrowding on the lake demonstrated above, no solutions, commensurate with the severity of the problem, have been developed.*** As a practical matter, the municipalities of Brookfield, Danbury, New Fairfield, New Milford and Sherman, through the Candlewood Lake Authority are the entities that largely implement measures to address public safety issues caused by the overcrowding and user conflict on the lake. The CLA does this on behalf of the municipalities through, for example, its Marine Patrol who put out a majority of the boating law

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<sup>40</sup> See Housatonic Project P-2576 Second Annual Report of Lake Advisory Meeting with comments (FERC submittal no. 20090508-5096, May 8, 2009)

<sup>41</sup> See Order Modifying and Approving RMP at P 10

<sup>42</sup> See Connecticut General Statutes Sec. 15-121(a)

enforcement on the waters of the lake and by deploying and maintaining over 60 hazard and regulatory marker buoys on the waters of the lake.

The CLA has also worked with the elected leaders around the lake in recent years to find legislative measures to address these issues. During the 2008 Legislative session, a boat sticker program bill was raised. The intent of the program, developed by the CLA, was to create a revenue source that would provide enough funding to substantially increase and support the presence of the Candlewood Lake Authority Marine Patrol on the lake. The reasoning behind this measure was that there are few, if any, fair ways to limit access to the lake. Without the ability to limit access, the only alternative to improving safety was to increase the public safety presence. The boat sticker program was modeled after other successful programs like that implemented at Lake George, NY. As discussed earlier, the CTDEP submitted testimony on the bill, albeit in opposition (see Appendix 5); FirstLight Power Resources did not submit testimony. Although other testimony was provided during a public hearing of the Legislature's Environment Committee, the bill was never acted on afterwards.

In a recent attempt to improve the language in the Overcrowding and User Conflict Section of the SMP draft, First Selectman Andrea O'Connor of the Town of Sherman offered the following language to FirstLight for consideration:

*“This SMP acknowledges the licensee’s obligation to ensure recreational quality and safety on Candlewood Lake. The licensee recognizes that the unknown numbers of unexercised deeded rights to docks coupled with its lack of control over the number of boats entering the Lake via State and private launch facilities make it virtually impossible to control boat overcrowding. This SMP seeks, instead, to administer this overcrowding as the more appropriate means to meet the licensee’s obligations with respect to recreational quality and safety.”*

*“Within one (1) year of the acceptance of the SMP by FERC, the licensee will institute a boat sticker program in order to fund the services of the Candlewood Lake Marine Patrol (CLAMP) and will work with the Candlewood Lake Authority and the CT Department of Environmental Protection to provide operating guidelines for the deployment of the Marine Patrol to ensure that there is adequate coverage during peak use periods on the Lake. The licensee recognizes that the deployment of CLAMP officers must be coordinated with the CT DEP and that certain enforcement activities are the sole jurisdiction of that agency.”*

or

*“Immediately upon the acceptance of the SMP by FERC, the licensee will obligate itself and its successors to annually fund the Candlewood Lake Authority’s operating budget at a level equivalent to that paid by member towns, with the understanding that these funds will be used to deploy the Candlewood Lake Marine Patrol.”*

This draft language was rejected by the representatives of FirstLight Power. It is important to note that the licensee has never been obligated to fund public safety measures on the lake. Their contributions to the CLA are solely voluntary.

Overcrowding and user conflict on Candlewood Lake have been identified as serious concerns by FERC at least as far back as the issuance of the Environmental Impact Statement in 2004. FERC stated in their Order Modifying and Approving the Recreation Plan that these issues would be best addressed in the Shoreline Management Plan. The issue of deeded rights has also been part of the discourse on the Shoreline Management Plan development for several years, but only as it pertains to the legality of the collection of administrative fees from those abutting the project and using project lands. However, the deeded rights are an important contributing factor to the current and future overcrowding and user conflict issues on the lake.

There is currently little discussion on overcrowding, user conflict, and how deeded rights contribute to these problems at Candlewood in the proposed Shoreline Management Plan. The CLA has demonstrated that levels of overcrowding on the lake do and will continue to have deleterious affects on recreation and safety on Candlewood Lake. This is a management problem which FERC is responsible for to correct. We call on FERC to take a more pronounced role in addressing these issues and ask FERC how resolving this problem will be funded. FERC itself may have to investigate the recreational issues at Candlewood Lake and directly assist in developing measures that are commensurate with the magnitude of the problem. Otherwise FERC will not have fulfilled its mandate to protect the recreational opportunity provided here at Candlewood, or the ecological values the lake and shoreline provide.





**Appendix 1. May 2009 CT DEP Press Release on Safe Boating Week**



STATE OF CONNECTICUT  
DEPARTMENT OF  
ENVIRONMENTAL PROTECTION

Further Information Contact:

Cyndy Chanaca  
(860) 424-4100  
May 21, 2009

## P R E S S      R E L E A S E

### **Connecticut DEP Announces Safe Boating Week**

The official start of the boating season is finally here! Gas prices are lower this season and the number of registered boats are already back up to over 112,000 boats from last year's drop to about 100,000 boats.

*Governor M. Jodi Rell wants to kick off the Memorial Day Weekend on the water safely. The Week of May 16-22, 2009 has been proclaimed as National Safe Boating Week in Connecticut and is Governor Rell is officially urging boaters to wear their life jackets in support of the Department of Environmental Protection's (DEP's) new life jacket wear campaign: "Get It On Connecticut – Wear It" and the North American Safe Boating Campaign to promote safe boating habits.*

The Governor recognized the US Coast Guard, US Coast Guard Auxiliary and the US Power Squadrons as important partners with the DEP in helping boaters to make safe and responsible boating choices while on the water.

Deputy Commissioner Susan Frechette says, "Boaters and their families should dress for the water temperature and not for the air temperature especially if operating in small open boats. Stability issues such as falling out of the boat and capsizing are responsible for more than 70% of the fatal accidents in Connecticut. Most victims were not wearing life jackets. The DEP recommends that boaters always wear their life jackets to make their boating experience more pleasurable. Choose to be safe while on Connecticut waters."

Boaters should move cautiously about their boats and ensure they have three points of contact with the boat. Falling out of the boat into cold water without a life jacket increases the odds of tragic consequences.

All boaters operating a registered boat must possess a Boating Safety Certificate or Certificate of Personal Watercraft Operation. Check the DEP website for classes near you.

All the partners provide Vessel Safety Checks free of charge. Stickers are provided to those boats that have all the required federal safety equipment. The DEP provides these checks at many state boat launches.

For your convenience appointments for trailered boats can be made by contacting the DEP at 860 434-8638. The USPS and USCG Auxiliary conduct Vessel Safety Checks on all size recreational vessels. You can find local squadrons and flotillas on the DEP website at [www.ct.gov/dep/boating](http://www.ct.gov/dep/boating).



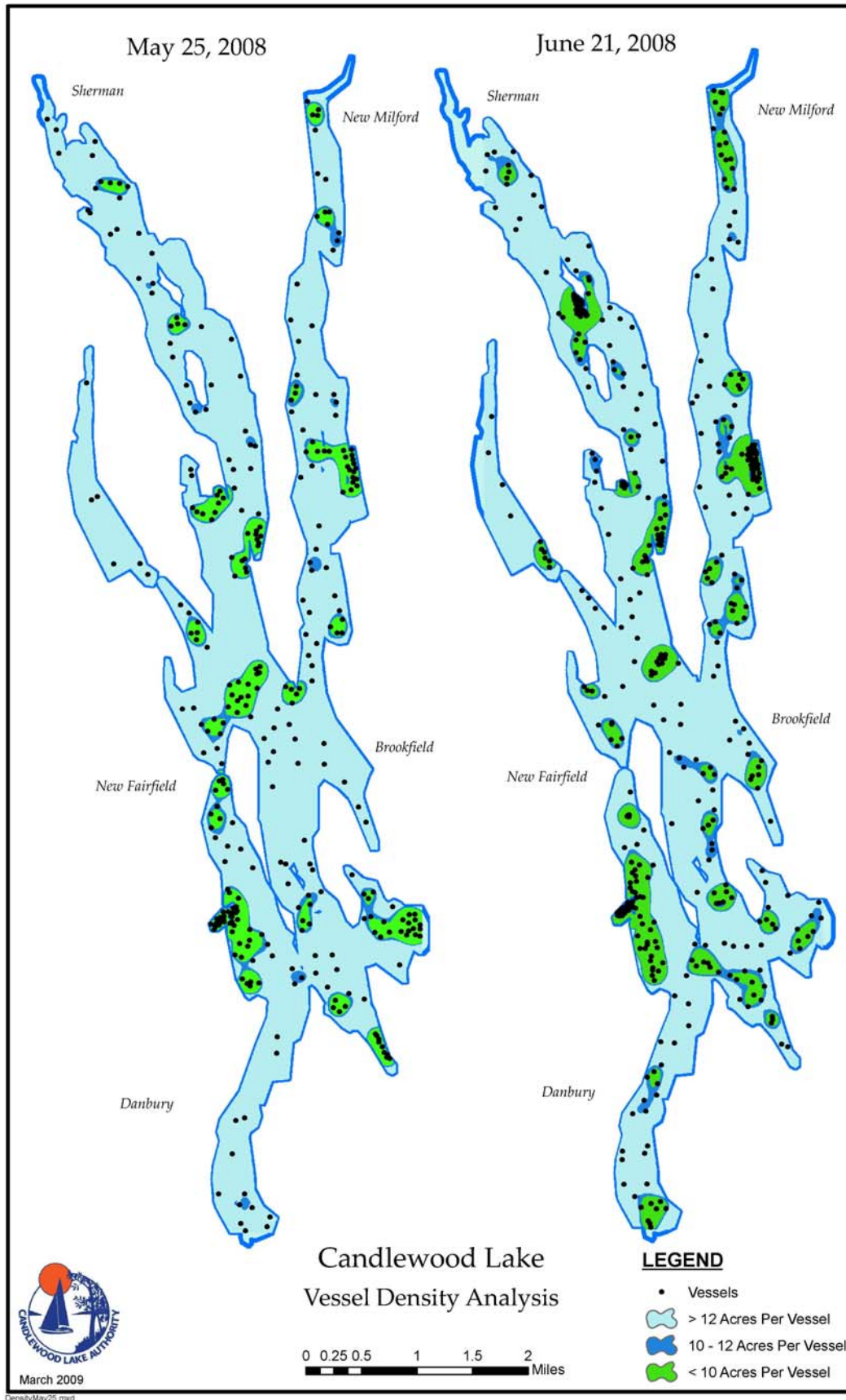
## **Appendix 2. Analyses of in-use vessel density on Candlewood Lake during the 2008 summer season**

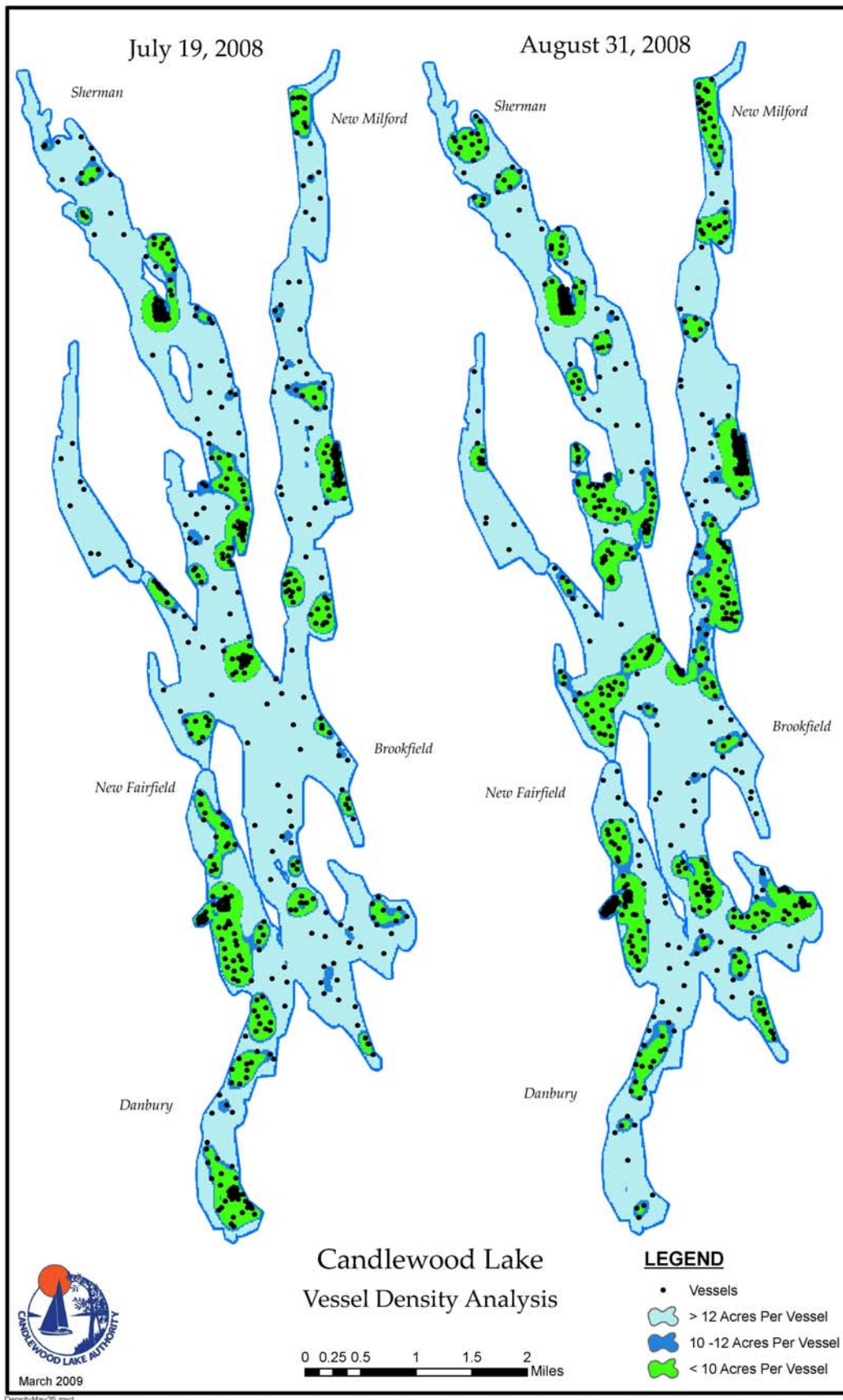
The first figure below provides an example of our GIS interpretation of location of in-use vessels based on the interpretation provided by the consultant to FirstLight Power Resources. The following two figures provide density analyses for in-use vessels observed on May 25<sup>th</sup>, June 21<sup>st</sup>, July 19<sup>th</sup> and August 31<sup>st</sup>. Methods are provided below.

It is important to recognize that analysis of density is based on in-use vessel location which was interpreted from aerial flyover photography and in-use vessel counts by James Cordes (2008; see Fig. 2). Aerial photos were taken at peak density, done on weekends between 1 PM to 2 PM. Methods for the density analyses included:

1. Using ESRI's ArcGIS Desktop 9.2, the PDF's of in-use vessel maps provided by FirstLight Power Resources Inc. were georeferenced using ArcGIS Georeferencing Tool-bar.
2. The shape of the lake and points indicating in-use vessels were then digitized.
3. The density analysis was performed using ESRI's Spatial Analyst Extension for ArcGIS. The following settings were applied:
  - Analysis mask: Candlewood Lake
  - Extent: union of inputs
  - Cell size: 20
  - Density type: Kernal
  - Search radius: 1000
  - Area units: Acres

As discussed in Section 2.4 above, densities of 10 to 12 acres per operating vessel are the standards in the literature and in the Recreation Management Plan as density thresholds for the in-use vessels. In areas where there is only 10 acres or less per operating vessel, recreational boating opportunity and safety can be compromised.









### **Appendix 3. Data and Documentation on Boating Accidents on Candlewood and in Connecticut from the US Coast Guard**

## Accident Reporting Overview

The requirement to report an accident is on the owner and/or operator of the vessel involved in an accident. He/she is supposed to fill out a form (called a Boating Accident Report form or BAR form for short) and submit it to a state reporting authority. The state reporting authority is then supposed to determine the cause of the accident and forward the BAR form to the Boating Safety Division at the Coast Guard within 30 days of receipt of the initial BAR form.

Accident Reporting as Required by Federal Law Under federal regulations (33 CFR Part 173; Subpart C – Casualty and Accident Reporting) the operator of any numbered vessel that was not required to be inspected or a vessel that was used for recreational purposes is required to file a Boating Accident Report (BAR) when, as a result of an occurrence that involves the vessel or its equipment:

1. A person dies; or
  2. A person disappears from the vessel under circumstances that indicate death or injury;
- or
3. A person is injured and requires medical treatment beyond first aid; or
  4. Damage to vessels and other property totals \$2,000 or more; or
  5. There is a complete loss of any vessel.

If the above conditions are met, the federal regulations state that the operator or owner must report their accident to a reporting authority. The reporting authority can be either in the state where the accident occurred, the state in which the vessel was numbered, or, if the vessel does not have a number, the state where the vessel was principally used. The owner must submit the report if the operator is deceased or unable to make the report.

The regulations also state the acceptable length of time in which the accident report must be submitted to the reporting authority. Vessel operators or owners must submit:

1. Accident reports within 48 hours of an occurrence if:
  - a. A person dies within 24 hours of the occurrence; or
  - b. A person requires medical treatment beyond first aid; or
  - c. A person disappears from the vessel.
2. Accident reports within 10 days of an occurrence if there is damage to the vessel/property only.

The minimum reporting requirements are set by Federal regulation, but states are allowed to have stricter requirements. For example, some states have a lower threshold for reporting damage to vessels and other property.

Federal Regulations (33 CFR 174.121) require accident report data to be forwarded to Coast Guard Headquarters within 30 days of receipt by a reporting authority.

Our website is [uscgboating.org](http://uscgboating.org). We put out an annual statistics report that can be found at [http://uscgboating.org/statistics/accident\\_stats.htm](http://uscgboating.org/statistics/accident_stats.htm). At the back of it is the aforementioned BAR form.

### **Explanation of Data**

The table on the next page has eight rows of data that represent four topics: the number of accidents, deaths, injuries, and damages to property (vessel and non-vessel) that occurred on Candlewood Lake in Connecticut from 1995-2008.

As you'll notice, there are two different colors in the chart below. The colors represent two different data sets. The numbers in the rows that are white represent all data that was submitted by the state of Connecticut to the Coast Guard in preparation for the Coast Guard's Annual Statistics publication. The numbers in the rows that are yellow represent the data that was used by the Coast Guard in the Annual Statistics publication.

There are a couple of reasons why data that was submitted from the state to the Coast Guard was not used. First, the accident may not have met the federal reporting requirements which are outlined on the previous page. For instance, a boating incident that involved a collision of a boat with a dock that yields only \$800 worth of damages would not be included in the data that was used for the Coast Guard's report because it did not meet the \$2000 or more baseline in federal reporting requirements. Second, the incident may not fall under Coast Guard policy. The Coast Guard excludes certain types of incidents from its publication including suicides, vandalism, and commercial accidents. The reason for the exclusion of this information is that the Recreational Boating Safety Program of the Coast Guard focuses on preventable recreational accidents.

**Candlewood Lake**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
# Accidents Reported	6	3	3	11	3	6	3	6	7	16	5	5	4	7
# Accidents that met Federal Reporting Requirements	6	3	3	9	3	6	3	4	4	11	4	4	3	5
Amount of Damages Reported (\$)	8,500	550	16,330	14,180	8,849	8,698	5,200	45,400	5,000	18,111.39	8,042.65	18,000	3,000	36,331
Amount of Damages in Accidents that met Federal Reporting Requirements (\$)	8,500	550	16,330	14,180	8,849	8,698	5,200	44,900	2,500	15,656.39	6,600	18,000	2,500	34,500
# of Deaths Reported	0	0	0	0	0	0	0	0	0	0	1	0	0	2
# of Deaths that occurred in Accidents that met Federal Reporting Requirements	0	0	0	0	0	0	0	0	0	0	1	0	0	2
# of Injuries Reported	6	2	0	9	1	10	3	6	3	9	6	3	4	4
# of Injuries that occurred in Accidents that met Federal Reporting Requirements	6	2	0	8	1	10	3	6	3	9	4	3	4	4

# Accidents that met Federal Reporting Requirements														
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Bantam Lake	1	2	1	1	4	0	0	0	2	0	1	0	4	
Candlewood Lake	6	3	3	9	3	6	3	4	4	11	4	4	3	5
Housatonic	1													
Lake Housatonic			1						1		1	2	1	
Lake Lillinonah			1	1	2	1		1	2		2	1		
Lake Zoar	3	4	3	3			2			2				
Total	11	9	9	14	9	7	5	5	9	13	8	7	8	5

Amount of Damages to Vessels in Accidents that met Federal Reporting Requirements (\$)														
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Bantam Lake	1095	0	16200	0	14500	0	0	0	0	0	0	0	12574	
Candlewood Lake	8500	550	16330	14180	8849	8698	5200	44900	2500	15656.39	6600	18000	2500	34500
Housatonic	5000													
Lake Housatonic			545						0		3711.95	24280	3600	
Lake Lillinonah			0	0	10000	0		0	4000		0	10000		
Lake Zoar	800	550	1000	11200			500			0				
Grand Total	15395	1100	34075	25380	33349	8698	5700	44900	6500	15656.39	10311.95	52280	18674	34500

Amount of Damages to Non-Vessel Property in Accidents that met Federal Reporting Requirements (\$)														
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Bantam Lake									50					

# of Deaths Reported in Accidents that met Federal Reporting Requirements					
	1998	1999	2000	2005	2008
Bantam Lake	1	1			
Candlewood Lake				1	2
Lake Lillinonah			1		
Lake Zoar	1				
Grand Total	2	1	1	1	2

# of Injuries Reported in Accidents that met Federal Reporting Requirements														
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Bantam Lake		1		1					3		1		4	
Candlewood Lake	6	2		8	1	10	3	6	3	9	4	3	4	5
Housatonic	5													
Lake Housatonic									1			2		
Lake Lillinonah			1	1				1	1		3	1		
Lake Zoar	2	2	5	1			2			2				
Total	13	5	6	11	1	10	5	7	8	11	8	6	8	5

**# of Accidents Reported**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Bantam Lake	1	2	1	1	4	0	0	0	2	0	1	0	4	
Candlewood Lake	6	3	3	11	3	6	3	6	7	16	5	5	4	7
Housatonic	1													
Lake Housatonic			1						1		1	2	1	1
Lake Lillinonah			1	1	2	1		1	2		2	1		
Lake Zoar	3	4	3	3			2			2				
Total	11	9	9	16	9	7	5	7	12	18	9	8	9	8

**Amount of Damages to Vessels Reported (\$)**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Bantam Lake	1095	0	16200	0	14500	0	0	0	0	0	0	0	12574	
Candlewood Lake	8500	550	16330	14180	8849	8698	5200	45400	5000	18111.39	8042.65	18000	3000	36331
Housatonic	5000													
Lake Housatonic			545						0		3711.95	24280	3600	
Lake Lillinonah			0	0	10000	0		0	4000		0	10000		
Lake Zoar	800	550	1000	11200			500			0				350
Grand Total	15395	1100	34075	25380	33349	8698	5700	45400	9000	18111.39	11754.6	52280	19174	36681

**Amount of Non-Vessel Damages Reported (\$)**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Bantam Lake								50						

**# of Deaths Reported**

	1998	1999	2000	2005	2008
Bantam Lake	1	1			
Candlewood Lake				1	2
Lake Lillinonah			1		
Lake Zoar	1				
Grand Total	2	1	1	1	2

**# of Injuries Reported**

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Bantam Lake		1		1					3		1		4	
Candlewood Lake	6	2		9	1	10	3	6	3	9	6	3	4	5
Housatonic	5													
Lake Housatonic									1			2		
Lake Lillinonah			1	1				1	1		3	1		
Lake Zoar	2	2	5	1			2			2				1
Total	13	5	6	12	1	10	5	7	8	11	10	6	8	6



## Appendix 4. FERC language on overcrowding in documents from the Housatonic Hydroelectric licensing renewal process

Licensee's role in overcrowding, user conflict, and public safety in chronological order

Document / Date	Descriptions and excerpts (in italics)
2004 Final Environmental Impact Statement for the Housatonic Hydro Project	<p>Developed by FERC staff, the document described the recreational pressures on the lake and made important recommendations with language, including:</p> <p><i>Boating attracts more than 209,000 users with more than 127,000 motor boaters and 82,000 boat anglers visiting the lake between December 1997 and November 1998. Trails associated with the development are also popular, drawing approximately 50,000 people. Other private uses occur on the lake, such as jet skiing, sailing, water skiing, canoeing, and kayaking.</i></p> <p><i>Assessments indicate that Candlewood Lake operates at 48 percent of its capacity on weekends and 67 percent during holidays. However, there are areas within the lake that experience use in excess of available capacity. These "hotspots," which are near state and town park boat launch facilities, include parts of the lake near Dike Point Park, Sherman Town Park, Squantz Pond State Park, Mellen Marina, Lattins Cove Boat Launch, and Lynn Deming Park.</i></p> <p><i>Candlewood Lake would continue to experience periodic congestion in specific areas during peak use. We recommend that NGC address issues of protecting specific parcels, growth, and increasing lake access on Candlewood Lake as part of its proposed SMP as described in section 3.3.6, Land Use and Aesthetic Resources.<sup>43</sup></i></p> <p><i>Given its prominence as a recreation asset in a heavily populated region, Candlewood Lake would continue to experience development pressures and rising levels of recreation activity. In addition to the SMP for the Rocky River development as described in section 3.3.6.2, we recommend that NGC develop and implement a lake management plan for Candlewood Lake. The lake management plan should include:</i></p> <ul style="list-style-type: none"> <li><i>• a description of current recreation facilities;</i></li> <li><i>• a description of current and future recreation use;</i></li> <li><i>• a description of any crowding problems in specific areas of the lake;</i></li> <li><i>• a description and assessment of the number of fishing tournaments permitted annually;</i></li> <li><i>• an assessment of the effect of fishing tournaments on boating safety and private property; and</i></li> <li><i>• management recommendations to address any negative effects identified.<sup>44</sup></i></li> </ul>
2004 FERC Order Issuing New License	<p>Issued by FERC after a long, public process, a number of license articles required management plans addressing recreation, overcrowding, user conflict, and shoreline use. Language to that end included:</p> <p><i>Article 407. Shoreline Management Plan. Within eighteen months of license issuance, the licensee shall file for Commission approval a comprehensive plan for managing reservoir shorelines and riverfront lands within the project boundary at each of the project developments.</i></p>

<sup>43</sup> See Final Environmental Impact Statement: Housatonic River Project. May 2004. P 3-150

<sup>44</sup> See Final Environmental Impact Statement: Housatonic River Project. May 2004. P 3-178

	<p><i>The Shoreline Management Plan (SMP) shall provide for: (1) safe public access to shoreline and riverfront lands and waters for informal recreational and navigational use; (2) the conservation of important resource and environmental qualities surrounding the project's shorelines and riverfront lands; and (3) the development of shoreline and riverfront areas and facilities that are consistent with both project and non-project needs and demands.</i><sup>45</sup></p> <p><i>Article 408. Recreation Plan. Within twelve months of license issuance, the licensee shall file with the Commission, for approval, a Recreation Plan for the project that includes the provisions set forth below:</i></p> <ul style="list-style-type: none"> <li><i>discussion of existing crowding problems and potential recreational use conflicts and measures to reduce such conflicts during peak-use periods and special events such as fishing tournaments and whitewater competitions.</i><sup>46</sup></li> </ul>
Draft Recreation Management Plan (RMP) submitted to FERC in June of 2005 and the 2006 FERC Order to Modify and Approve the RMP	<p>Developed on behalf of Northeast Generation Company, the draft RMP included a consultation record where comments of stakeholders were listed and addressed. In the FERC Order, the Commission summarized many of differences of opinion between stakeholders and the licensee. Specific language included:</p> <p><i>The NPS (National Park Service) has several concerns about the licensee's user conflict and capacity assessment, which was conducted by its contractor in 1999. Since the assessment was done, NPS contends that flat water boating on Candlewood Lake has greatly increased. NPS believes that the licensee's user opinion survey of recreational experience at this development was conducted in a way that surveyed mostly transient users, leaving the local residents an inadequate opportunity to comment. The CLA states that the data and conclusions presented by the licensee do not specify recommendations for addressing crowding and user conflict on Candlewood Lake, and requests that additional information be incorporated into the current planning effort.</i></p> <p><i>Both agencies (NPS and CLA) cite a study that was conducted by the CLA in 2001, which showed that overcrowding was a primary concern of local and shoreline residents. A second study was mentioned that is currently being conducted by the CTDEP to test a method for estimating the carrying capacity of Candlewood Lake. The NPS and CLA believe that the 12-acres-per-boat density standard calculated by the licensee is regularly surpassed.<sup>47</sup> The CLA asserts that if only 10% of the resident registered boat population was on the lake, 600 boats would be on the water, and the density standard would be exceeded. The NPS notes that the licensee is required to develop methods to reduce overcrowding and user conflicts, and should not imply that little conflict exists. The CLA concurs, and suggests that more data from its 2001 study of economic values should be presented in the RMP. According to the CLA, models for evaluating and addressing these issues should be evaluated in terms of applicability to the plan and mechanisms for implementation.</i><sup>48,49</sup></p> <p><i>Both the CTDEP and CLA disliked the way in which the licensee detailed the crowding and user conflict issues on Candlewood Lake. Based on the information presented by the licensee and the stakeholders, it appears that there are crowding issues and/or user conflicts on at least some portions of Candlewood Lake. Yet, the</i></p>

<sup>45</sup> See New License at P 38

<sup>46</sup> See New License at P 40

<sup>47</sup> Based on this standard, boating capacity at Candlewood Lake would be limited to 452 boats.

<sup>48</sup> These techniques are presented in a CLA report that was filed with the Commission on March 31, 2005.

<sup>49</sup> See Order to Modify and Approve the Recreation Management Plan. FERC. 2006. at P 6

	<p><i>extent of the problem has not been thoroughly explored. We believe that the development of the SMP, along with annual LAC meetings, will provide an appropriate forum to examine the scope of these problems and provide an opportunity for management measures to be developed collectively. According to the minutes from NGC's March 25, 2005, planning meeting,<sup>50</sup> where members of the CLA and CTDEP were present, there was agreement between the parties in attendance that most of the capacity-related management controls would be discussed and recommended in the SMP. While the licensee is responsible for ensuring recreational quality and safety on Candlewood Lake, these conflicts are centrally focused on boating activity and would be more appropriately discussed in the SMP.<sup>51</sup></i></p>
<p>Draft Shoreline Management Plan submitted in July of 2006 and July 2007 FERC Order Modifying and Approving Shoreline Management</p>	<p>Developed on behalf of NGC, the draft SMP included several measures to address overcrowding and user conflict. First, the licensee proposed to limit at private docks the number of registered boats to two of and personal watercraft to two. Secondly, they proposed to implement a moratorium on new dock construction with the exception of those provided by way of deed right.<sup>52</sup> The FERC Order also discussed overcrowding and summarized the Licensee's measures with the following language:</p> <p><i>Candlewood Lake is the most developed lake at the project and suffers from overcrowding and user conflicts. Undeveloped shoreline is quite scarce on Candlewood Lake due to the proliferation of commercial and residential properties adjacent to the project boundary. The licensee's policy prohibiting the installation of additional docks or boat slips (except as provided by deeded rights) would help to ensure that crowding issues do not intensify.<sup>53</sup></i></p> <p><i>While we understand the concern of lakefront residents the general public has a right to enjoy the natural resources and recreational opportunities of the project and must be afforded the opportunity to do so. The licensee, however, is responsible for ensuring that such access would not endanger life, health, and property.</i></p> <p><i>On Candlewood Lake where boat congestion and crowding issues have become a concern of many residents, several respondents suggested that a boat sticker program be created to spread the fees more evenly among residents and day users of the lakes. ...The CTDEP notes, however, that any fees must be reasonable. It continues that boat sticker fees should not be used to limit lake access and should instead go toward the enhancement of existing patrols and not to reduce taxpayer burdens.<sup>54</sup></i></p> <p><i>With regard to a "sticker program", the licensee notes that boating activities are regulated by the State. The licensee has endorsed a proposal to create legislation that would provide such a program to assess fees for day boaters<sup>55</sup>.</i></p> <p><i>The licensee may endorse a "sticker program" for day use boaters to the extent that it does not unduly restrict public access to project waters. The licensee should note, however, that any fees collected from the use of project recreational facilities can only be used to maintain that particular facility. These funds may not be used to offset costs of the licensee's permitting program or lake boating patrols.<sup>56</sup></i></p>

<sup>50</sup> Located in Exhibit B of the plan.

<sup>51</sup> See Order to Modify and Approve the RMP at P 10

<sup>52</sup> See Housatonic River Project Shoreline Management Plan (FERC submittal no. 20060727-5032, July 27, 2006) at P 3-3

<sup>53</sup> See Order Modifying and Approving Shoreline Management Plan Pursuant Article 407 (FERC issuance no. 20070703-3064, July 3, 2007) ("Order Modifying and Approving SMP") at P 17

<sup>54</sup> Ibid at P 50

<sup>55</sup> Ibid at P 16

<sup>56</sup> Ibid at P 17

<p>FERC Additional Information Request dated April 30, 2008 and FLPR's June 27, 2008 response</p>	<p>In October of 2007, the FERC Order to Modify and Approve the SMP was rescinded and FERC issued several requests for additional information. FERC asked several questions regarding boating activities, including:</p> <p><i>(2) Overcrowding due to boating activities appears to be a pertinent issue on Candlewood Lake. Please provide an estimate of the number of residential docks, community docks, and associated watercraft accommodated by these facilities, currently on Candlewood Lake.</i></p> <p><i>(3) Please clarify the extent to which boat-traffic congestion and overcrowding are problems on Candlewood Lake, any known causes, and how the proposed SMP attempts to address this issue. Have you, or any other entity, conducted a boating capacity study for this lake? How many boats are out on the lake during the height of boating season (i.e., worst-case estimate) based on the number of residential boats docked, and access by the general public via boat ramps?</i><sup>57</sup></p> <p>In their response to FERC, FLPR answered question (2) with:</p> <p><i>The Candlewood Lake Authority (CLA) has been conducting a yearly boat count on Candlewood since 1981. It estimates that the number of watercraft housed on Candlewood Lake has increased from 3,156 In 1982, to 5,813 In 2007. FLPR does not have a current count of the number of residential docks or associated watercraft.</i></p> <p><i>As a requirement of the Recreation Management Program (RMP), FLPR is required to conduct a flyover every six (5) years. FLPR did conduct a flyover of Candlewood Lake on Memorial Day 2008 from 1:30 through 2:30 p.m., and found 348 vessels on the Lake.</i><sup>58</sup></p> <p>To question (3) FLPR responded by saying:</p> <p><i>Candlewood Lake is open for the public's enjoyment and the State of Connecticut places no restrictions on the number of people allowed to recreate on it. in 1997, as part of the relicensing of the Housatonic River Project, a boating capacity study was conducted by the then Project Licensee; a study that led to the determination that Candlewood Lake was overcrowded on certain weekends during the recreation season. The study took into account the number of boats underway and the number of trailered boat launchings at various State and municipal boat ramps.</i></p> <p><i>As part of the FERC Recreation Management Plan, FLPR is conducting flyovers of both Candlewood Lake and Lake Lillinonah during peak weekends end holidays during the 2008 recreation season in an effort to update boating traffic information. Results of these flyovers will be submitted to the Lake Advisory Committee.</i></p> <p><i>FLPR addresses the crowding problem in the proposed SMP by proposing a moratorium on new docks and boat slips on Candlewood Lake "except as provided for by existing deeded rights end/or existing lease or license agreements." SMP Soc. 3.2.10.</i><sup>59</sup></p>
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<sup>57</sup> See Letter requesting FirstLight Hydro Generating Company to submit within 60 days, additional information etc re the Housatonic River Project under P-2576 (FERC issuance no. 20080507-0179, April 30, 2008) at P 5

<sup>58</sup> See FirstLight Power Resources responds to FERC's 4/30/08 request for additional information re Housatonic River Proj-2576 (FERC issuance no. 20080701-0139, June 27, 2008) at P 10

<sup>59</sup> Ibid at P 11

**Appendix 5. CTDEP Boating Accident Summary Report of  
February 26, 2008 and Testimony to the State Legislative  
Environment Committee of March 10, 2008**



# Reported Boating Accidents - Summary Report

U.S.C.G. Boating Accident Reporting Database  
Prepared by: Connecticut D.E.P. Boating Division

## Top Ten Connecticut Lakes and Ponds Ranked by Number of Accidents

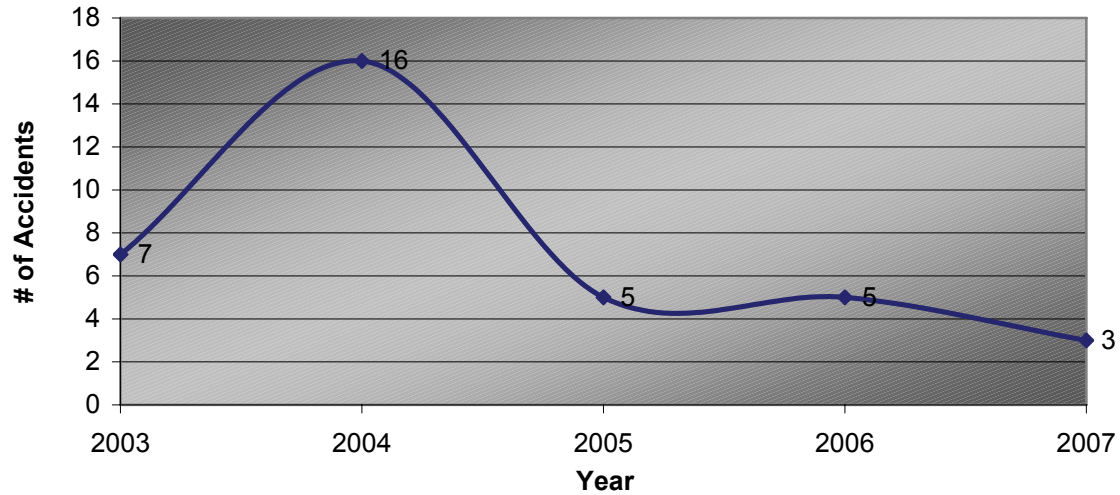
2003-2007					
Rank	Body of Water	# Accidents	# Fatalities	# Injuries	Property Damage
1	Candlewood Lake	37	1	25	\$52,154
2	Bantam Lake	7	0	8	\$12,624
3	Lake Housatonic	6	0	4	\$31,592
4	Lake Lillinonah	5	0	5	\$14,000
5	Pachaug Pond	4	0	2	\$8,500
6	Lake Pocotopaug	3	1	4	\$16,021
7	Gardner Lake	2	0	2	\$3,200
8	Hatch Pond	2	1	3	\$250
9	Highland Lake	2	0	1	\$10,500
10	Lake Zoar	2	0	2	\$0
<b>Total:</b>		<b>70</b>	<b>3</b>	<b>56</b>	<b>\$148,841</b>
	Connecticut River	73	5	27	\$745,698
	Other Rivers	53	2	20	\$547,427
	<b>Total:</b>	<b>126</b>	<b>7</b>	<b>47</b>	<b>\$1,293,125</b>
	Long Island Sound	89	7	35	\$1,795,997
1998-2002					
Rank	Body of Water	# Accidents	# Fatalities	# Injuries	Property Damage
1	Candlewood Lake	30	0	29	\$66,727
2	Bantam Lake	5	2	5	\$14,500
3	Lake Lillinonah	5	1	4	\$10,000
4	Lake Zoar	5	1	5	\$11,700
5	Gardner Lake	3	0	2	\$1,650
6	Highland Lake	3	0	3	\$12,900
7	Beach Pond	2	0	2	\$0
8	East Twin Lake	2	0	2	\$0
9	Lake Pocotopaug	2	0	1	\$800
10	Pachaug Pond	2	0	2	\$7,760
<b>Total:</b>		<b>59</b>	<b>4</b>	<b>55</b>	<b>\$126,037</b>
	Connecticut River	69	7	40	\$293,327
	Other Rivers	75	4	34	\$215,609
	<b>Total:</b>	<b>144</b>	<b>11</b>	<b>74</b>	<b>\$508,936</b>
	Long Island Sound	92	5	43	\$1,822,111



## ***Boating Accident Summary Report***

*U.S.C.G. Boating Accident Reporting Database*  
*Prepared by: Connecticut D.E.P. Boating Division*

**Candlewood Lake Boating Accidents**



Public Hearing – March 10, 2008  
Environment Committee

Testimony Submitted by Commissioner Gina McCarthy  
Department of Environmental Protection

**Raised House Bill No. 5828 - AN ACT CONCERNING CANDLEWOOD LAKE BOAT USE PERMITS**

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Thank you for the opportunity to present testimony regarding Raised House Bill No. 5828 - AN ACT CONCERNING CANDLEWOOD LAKE BOAT USE PERMITS. The Department does not support the bill as written and does not believe it is necessary given the increase in DEP patrol hours and steps taken to reduce congestion at the state boat launch, initiatives that have been implemented since 2003 when the concept of a boat sticker program was first discussed.

The concept of a boat use fee was raised in 2003 in discussions with the DEP Fisheries Advisory Council, the CT BASS Federation, Trout Unlimited, the Coalition of CT Sportsmen, and the Candlewood Lake Authority (CLA) as a mechanism to provide funding for more law enforcement patrols on the lake. There was a general consensus that additional patrols were needed given the high level of boating traffic and need to control weekend congestion at the Lattin's Cove launch. There are over 5,000 boats docked or moored on Candlewood Lake and 200 spaces at state launch facilities. Increased patrols were needed to improve compliance with boating regulations and thereby reduce accidents. In subsequent discussions, the DEP offered to provide the needed increase in patrol hours and to post a person at the launch on weekends to promote efficiency. In 2003, DEP ENCON Police provided 532 patrol hours, whereas they have ranged from 1,300 to 2,000 hours per year since. The boat launch has been staffed on weekends and holidays since 2004. A review of the boating accidents over the last five years shows a steady decrease in the number of accidents on the lake.

Year	# Accidents
2003	7
2004	16
2005	5
2006	5
2007	3

The Department has concerns with the bill as written, because several of the key components do not align with what was discussed in 2003. For example, the proposed fees are much higher and the Candlewood Lake Authority would be given authorization to unilaterally impose future fee increases. Additionally, responsibility for revenues has become more complex and uses for the fund have been expanded beyond the original intent.

Continued discussions are needed to fully understand the need for the program and to ensure that it is fair and equitable for all users. Thank you for the opportunity to present testimony on this proposal. If you should require any additional information, please contact Tom Tyler, Legislative Program Manager, at 424-3099 or Robert La France at 424-3401.