

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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December 27, 2005

Mr. Thomas A. Day, Chairman  
Eagle Spring Lake Management District  
P. O. Box 196  
Eagle, WI 53119-0196

Dear Mr. Day:

Pursuant to your letter request dated December 14, 2005, the Commission staff are pleased to provide to you herein a response to the issue of managing high speed recreational boating activity on Eagle Spring Lake.

This response, set forth in the SEWRPC staff memorandum entitled, "Eagle Spring Lake, Waukesha County, Wisconsin: Recreational Boating Plan Review" appended hereto, reviews the applicable documentation, including both the documents provided with your letter request and documents contained within the Commission's files compiled as a result of previous assistance provided by this Commission to the Eagle Spring Lake Management District. Based upon this review, SEWRPC staff recommend that the District consider adoption of the alternative identified by the Eagle Spring Lake Management District Board of Commissions as Map #2, with the exception that the central track through the middle of the Lake is not recommended.

We trust that the foregoing is fully responsive to your letter request. However, should you have any questions or require further clarification of any of the points set forth above, please do not hesitate to contact Dr. Jeffrey A. Thornton of the Commission staff directly.

Sincerely,

~\!~~

Philip C. Evenson  
Executive Director

PCE/jat/lw  
#114466 VI - EAGLE SPRING LAKE BOATING  
PLAN

Enclosure: DOCS# 114540

cc: Heidi Bunk, WDNR-South East Region  
Scott Thompson, The Nature Conservancy

## SEWRPC Staff Memorandum

### EAGLE SPRING LAKE, W AUKESHA COUNTY, WISCONSIN: RECREATIONAL BOATING PLAN REVIEW December 27, 2005

#### BACKGROUND

The Commission staff have provided assistance to the Eagle Spring Lake Management District, specifically in terms of the preparation of SEWRPC Community Assistance Planning Report No. 226, *A Lake Management Plan for Eagle Spring Lake, Waukesha County, Wisconsin*, which was published during October 1997, and subsequently in terms of participation on various task teams that were established by the Lake Management District to assist in implementing this management plan. To this end, we have assisted the Eagle Spring Lake Management District in the conduct of a dredging feasibility study and recreational user questionnaire survey, reported to the Lake Management District in a staff memorandum dated February 17, 1999 and a letter report dated November 7, 2000, respectively. A further SEWRPC staff memorandum dated May 16, 2001 addressed lake level concerns that were raised by the Lake Management District. This staff memorandum responds to a letter request from the Eagle Spring Lake Management District for an evaluation of alternatives being considered by the Board of Commissioners for managing recreational boating use of the Lake.

#### RECOMMENDED LAKE MANAGEMENT PLAN

The recommended lake management plan for Eagle Spring Lake, as set forth in SEWRPC Community Assistance Planning Report No. 226, suggested that recreational boating traffic be directed within an approximately ovoid pattern within the main basin of the Lake, as shown on Map 24 of the aforementioned plan. This recommendation was predicated upon consideration of the aquatic plant communities, nature of and demand for recreational boating, and current recreational boating regulations applicable to various classes of watercraft. The latter regulations restrict operation of motorized watercraft to slow-no-wake speeds within 100 feet of piers and docks, and of personal watercraft (PWCs or "jetskis"®) to slow-no-wake speeds within 200 feet of the shoreline, which effectively limits operation of both classes of watercraft to slow-no-wake speeds within the western portions of the Lake delimited by the western shoreline of the Lake and the western edge of the nearshore island. Consequently, the plan alternatives included the suggestion that 'jet skiing and water skiing should be restricted to the perimeter of the main basin of Eagle Spring Lake, and boating traffic through the Mukwonago River between Eagle Spring Lake and Lulu Lake could be restricted to slow-no-wake speeds, as part of zoning recreational use" (page 109).

This was further elaborated in terms of "the principal recreational use zoning actions required include the imposition of 'Slow-No-Wake' restrictions on those portions of the Lake bordering sensitive areas such as habitat zones, and where boating activities can be expected to come into conflict with other uses such as angling in the fishing zones" (page 126). Table 29 identified four management zones within the Lake, including recreational boating access and navigational lanes, angling areas, and habitat areas. The navigational lanes, identified as the buff-colored "Boating" area on Map 24 and as the "Boating Zone" in Table 29, were recommended to be "approximately 50 feet in width, parallel to the shoreline of the main lake basin to allow boating in the main lake basin area and avoid disturbance of the native flora in the central area of the Lake." This was estimated to provide about 187 acres of boatable lake surface, or to encompass about 60 percent of the Lake surface.

These recommendations are similar to the proposed recreational boating traffic pattern indicated on the Exhibit appended as Map #2 to the December 14, 2005 letter from Mr. Thomas A. Day to Mr. Philip C. Evenson, with the exception that the central track passing to the north of the smaller islands within the main lake basin shown on Map #2 is not recommended in the lake management plan. Indeed, this central track is in potential conflict with the plan that recommends that "disturbance of the native flora in the central area of the Lake" be avoided.

## **DREDGING**

Subsequent to the publication of the lake management plan for Eagle Spring Lake, the Commission staff were requested by the District to further elaborate on alternatives to increase the boatable area of the Lake so as to enhance the boatable, swimmable, and fishable character of the waterbody. These objectives and the actions necessary to achieve an optimal lake depth to accommodate all three objectives were documented in the SEWRPC Staff Memorandum entitled, "Notes on the Feasibility of Dredging of Eagle Spring Lake, Waukesha County, Wisconsin, Compiled from Facilitated Discussions Convened by the Eagle Spring Lake Management District," and dated February 17, 1999. In this memorandum, approximate water depths to accommodate high speed boating-between eight and 12 feet of depth, swimming-between six and 12 feet of depth, and fishing-a variety of water depths-were determined and documented. In addition, to promote safe boating, boating lanes of approximately 150 feet minimum width were recommended. The locations of these boating lanes were consistent with the recommended boating management zone identified in SEWRPC Community Assistance Planning Report No. 226. Notwithstanding, navigational connections between the embayments to the north [west] and south of the main Lake basin and the main Lake basin were indicated. However, it also was recognized that a portion of this additional area was adjacent to the extensive wetland complex that forms the western shores of Eagle Spring Lake, and that some protection of this natural shoreline was required. As a result, portions of this area were indicated as fishing and habitat zones wherein high speed boating activities would be restricted to slow-no-wake speeds.

## **SURVEY OF LAKE MANAGEMENT DISTRICT ELECTORS**

During the summer of 1999, the Commission staff, at the request of the Eagle Spring Lake Management District, conducted a questionnaire-based survey of property owners and electors of the District for the purpose of identifying issues of concern to said property owners and electors. Based on an approximately 30 percent return, three major issues emerged; namely, (1) general water quality, identified by over 90 percent of respondents; (2) sedimentation and loss of lake depth, identified by over 60 percent of respondents; and, (3) decline of the lake fishery, identified by over 30 percent of respondents. In relation to the first two of these issues of concern, three-quarters of respondents indicated that sediment removal was a preferred means of managing aquatic plant and algal growths as well as of increasing lake depth. About one-quarter of respondents owned and operated high speed watercraft on the Lake; watercraft operation occurred on an average of about 40 days per year, swimming on an average of about 30 days per year, and angling on an average of between 15 days-for ice fishing-and 40 days per year. About two-thirds of respondents from the Eagle Spring Lake community indicated a willingness to pay more for lake management activities, such as dredging, which would accomplish these objectives.

## LAKE SURFACE ELEVATIONS

Ongoing concerns over Lake depth, related in part to the recreational uses and limitations identified in the aforementioned lake management plan and in the questionnaire survey of lake management district electors, resulted in a further request to the Regional Planning Commission to address issues related to lake levels in Eagle Spring Lake. In the SEWRPC staff memorandum entitled, "Summary Notes on Water Level Issues Relating to Eagle Spring Lake-Wambold Dam, Waukesha County, Wisconsin," dated May 16, 2001, the Commission staff reviewed and documented the ongoing concerns of the Wisconsin Department of Natural Resources and Eagle Spring Lake Management District regarding lake levels. These concerns included the discrepancy in the operating level of the impoundment as a result of changes of about 2.65 feet in the benchmarks utilized to gauge lake elevation, a recommended modification of the permitted operating levels of the impoundment, and the potential hydrological and ecological consequences of changes in lake level.

In terms of these issues, the Commission staff confirmed recommendations set forth in the aforementioned lake management plan for Eagle Spring Lake that the lake levels stipulated in the operating permit for the dam be adjusted to account for the actual elevation of the benchmark identified in the permit-which, by itself, would increase the lake surface elevation by about 2.65 feet-and that the actual operating level of the impoundment be confirmed by amendment of the operating permit Wisconsin Public Service Commission order number 2-WP-997 dated October 14, 1954-to reflect the actual and historic operating levels maintained within the impoundment that are approximately 0.6 feet higher than the permitted levels. These recommendations were consistent with the maintenance of hydrological conditions within the upstream Lulu Lake, an outstanding resource water of the State pursuant to Chapter NR 102 of the *Wisconsin Administrative Code*, and with the maintenance of a diverse shoreland wetland flora within and adjacent to the western shoreline of the Eagle Spring Lake basin. This diverse and linked wetland and aquatic ecosystem provides the natural resource base for wildlife, fish, waterfowl and bird communities utilizing the Lake and its environs and contributes to the aesthetic value of the resource to the human community.

## SYNTHESIS,

State regulations governing recreational boating access to public inland waters are set forth in Chapter NR 1 of the *Wisconsin Administrative Code*. These regulations define lake surface area requirements as a basis for establishing maximum and minimum recreational boating access standards. Eagle Spring Lake, with a surface area of about 311 acres, falls into the 100 acre to 499 acre category. The minimum access standards for lakes of this surface area range, set forth in Section NR 1.94(4)(d)1., are one parking space per 30 acres of lake "open water" surface area, with a maximum standard, set forth in Section NR 1.94(5)(b), of one parking space per 15 acres of lake surface area. "Open water acres" are defined in Section NR 1.91(2)(e) of the *Wisconsin Administrative Code* as "water body surface which appears as water predominantly devoid of emergent vegetation on recent aerial photographs representative of the navigation season," which determination is made by the Wisconsin Department of Natural Resources (WDNR). This determination is frequently, but not invariably, made on the basis of the lake surface area reported in WDNR Publication No. PUB-FH-800, *Wisconsin Lakes*, the latest edition of which is dated 2005. Using this surface area, and assuming that each parking space results in one watercraft being launched, Eagle Spring Lake would accommodate between 10 and 20 watercraft.

The recreational boating guidelines set forth in the adopted regional park and open space plan-SEWRPC Planning Report No. 27, *A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000*, published in November 1977 and refined in subsequent regional land use plans, the most recent being

SEWRPC Planning Report No. 45, *A Regional Land Use Plan for Southeastern Wisconsin: 2020*, published in December 1997-recommend an area of 40 acres per boat be considered to be a minimum area for safe waterskiing and fast boating activities. Using the same lake surface area as above, Eagle Spring Lake could accommodate about eight watercraft, based upon this somewhat more conservative areal allocation.

Implementation of the recreational boating traffic pattern recommended in the Eagle Spring Lake management plan would provide a boatable area of about 190 acres. This area would allow about five watercraft to be operated safely on Eagle Spring Lake based upon the SEWRPC guidelines, or between six and 12 watercraft to be operated on the Lake based upon the WDNR standards. At the time of drafting of the adopted lake management plan, observed usage of the Lake, during non-holiday or off-peak periods, suggested that "typical" usage by pleasure boaters, water-skiers, and PWC operators generally would exceed the SEWRPC guideline value, while all forms of recreational boating would approach or exceed the WDNR standards. This intensity of usage is consistent with the responses to the questionnaire survey from the electors of the Lake Management District summarized above. Consequently, maximizing the available boating area is not an unreasonable goal for the community.

Notwithstanding, in addition to ensuring adequate surface area for high speed boating activities, it is recommended that all boating activities be conducted in a safe manner. For this reason, operation of watercraft within and among the various islands present within the main basin of Eagle Spring Lake would be discouraged. The presence of the islands, particularly those in the northwestern portion of the Lake, obstructs views and creates a risk of collision between watercraft, especially those operating at high speed. It also increases the possibility of high speed and low speed watercraft conflicts in these confined waters. The confined waters also limit opportunities for corrective actions should such conflicts occur. Such a potentiality is not inconsistent with the intensity of usage of the Lake that meets or exceeds that envisioned in the State standards and Commission guidance.

With respect to other considerations relating to the passage of watercraft at speed through the channel created by the islands located within the northwestern quadrant of the Lake and the wetland fringe forming the lakeshore, the Commission staff note the speed restrictions applicable to motorized watercraft within 100 feet of a pier and to PWCs within 200 feet of the shoreline, summarized in WDNR Publication No. PUBL-LE-301, *Wisconsin Boating Regulations*, 2004 edition, and restate the concern identified in the adopted lake management plan with respect to width of the channel. The width of the channel is such that PWCs would be required to proceed at slow-no-wake speeds, while other motorized watercraft would proceed either at speed or at slow-no-wake speeds depending on the placement of piers within the waterway by riparian landowners. Such a situation serves to reemphasize the safety concerns noted above.

Finally, nonregulatory concerns identified by Commission staff relate to the effect of boat wakes on shorelands within Eagle Spring Lake. Shoreline erosion and loss of emergent aquatic and wetland plant communities have been reported from various areas of the Lake by the Eagle Spring Lake Management District Commissioners and electors. Such losses have been specifically identified in the northern portions of the Lake, where the areal extent of certain reed beds has been reported to have been greatly reduced. While recreational boating activities are unlikely to be solely responsible for such shoreland losses, recreational boating activities represent a controllable element in protecting these areas. Therefore, to the extent that recreational boating traffic can be directed away from these erosion-prone areas, shoreland and habitat losses can be moderated. Given that angling uses of Eagle Spring Lake were reported to occur at a similar frequency to boating uses during the questionnaire survey summarized above, protection of habitat should be a priority equal to that of provision of recreational boating area. Consequently, ecological concerns also would suggest limiting the extent of recreational boating to areas of the Lake less susceptible to disturbance. Maintenance of recreational

boating access lanes, especially between the main lake basin and the embayments locally known as Jack's Bay and Mary's Bay as identified on Map #2, would be indicated to facilitate desired recreational boating activities.

## **RECOMMENDATION**

The foregoing considerations suggest that the Eagle Spring Lake Management District Board of Commissioners reaffirm the recommendations set forth in SEWRPC Community Assistance Planning Report No. 226, *A Lake Management Plan for Eagle Spring Lake, Waukesha County, Wisconsin*, wherein high speed recreational boating activities were recommended to occur within the main lake basin. This recommendation is consistent with the alternative identified by the Board of Commissioners on Map #2 of the letter request, with the exception that the central track through the middle of the Lake is not recommended. This analysis is consistent with those provided by the Town of Eagle Lake Patrol officers in letters dated September 26, 2005, and October 3, 2005, copies of which were attached to your letter request. This recommendation would be applicable during the open water boating period.

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JAT

#114540 VI - EAGLE SPRING LAKE RECREATIONAL BOATING PLAN