

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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September 7, 2006

William Coleman, Administrative Law Judge  
Division of Hearings and Appeals  
819 North 6<sup>th</sup> Street, Room 92  
Milwaukee, WI 53203-1685

Re: In the Matter of the Review of the Water Level Decision for  
Lake Koshkonong- Docket Number 3-SC-2003-28-3100LR

Dear Judge Coleman:

Attached please find the Department's Reply Brief in the above referenced matter.

I am providing a copy electronically and via mail to all parties of record.

Sincerely,

Michael J. Cain  
Attorney at Law

Cc: Mailing List  
Ken Johnson-SCR  
Sue Josheff-SCR  
Mary Ellen Vollbrecht



**Before The  
State Of Wisconsin  
DIVISION OF HEARINGS AND APPEALS**

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In the Matter of the Review of the Water Level  
Decision for Lake Koshkonong and the Indianford  
Dam on the Rock River in Rock County,  
Wisconsin

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Case No. 3-SC-2003-28-3100LR

**REPLY BRIEF OF THE DEPARTMENT OF NATURAL RESOURCES**

**Introduction**

The Department has reviewed the Joint Petitioner's Post Hearing Brief in this matter and will provide here a brief Reply.

The Joint Petitioner's have provided, in their brief, vigorous advocacy for the position of their client and creative legal arguments to attempt to support their position. We need not address all of the technical and legal arguments here, but some of them warrant response.

There are a number of fundamental issues that must be kept in mind as you review the evidence in this case and the briefs of the parties:

1. Lake Koshkonong, while a very large lake (10,460 acres), is now and always has been, shallow (maximum depth of 7 feet and mean depth of 5 feet). The morphology of the basin is now, and always has been, gently sloping, so that near shore areas are very shallow. See Exhibits DNR 90, and page 3 of the 2005 EA, Exhibit DNR 7.
2. The Department pointed out, on page 2 of its Closing Brief, that the evidence provided by the Joint Petitioner's experts concluded "that the navigable surface area increase on this 10,460 acre lake would be 44 acres at their proposed "Target level" and an additional 19 acres at their proposed "Maximum level". They have not disputed this in their Brief. The evidence shows that this modest increase in navigable surface area would cause significant adverse impacts on riparian property and natural resources.
3. While the Joint Petitioner's Brief provides some recognition of the history of water level disputes and resolutions over the past 24 years on pages 1-5 of their brief, their approach in the original submission of their petition (requesting a 7.2 inch increase in water levels), their evidence at hearing, and their brief strive to downplay or eliminate that history as a relevant consideration in the review of the Department's revised order. This strongly indicates an attempt to ignore the fundamental conflicts and

- balancing that has gone on throughout the history of Lake Koshkonong water level reviews. The record is clear that the State of Wisconsin has reviewed the full spectrum of water level issues and impacts since it embarked on the review of water levels in the early 1980's. The balancing that occurred throughout the period from 1980 – 2006 in assessing the competing interests here, including navigation, are a necessary part of the Department's review of this matter. If the Department were to accept the Petitioner's approach, i.e., that we only look at the impacts of a current water level proposal (their 7.2 inches) on navigation and ignore all of the past balancing and compromise, the Department would be potentially faced with biannual petitions seeking a new assessment of whether a 7.2 inch rise in water levels would improve navigation.
4. The Joint Petitioner's witnesses relied, for their opinions, on modeling that was completed by their expert, Robert Montgomery. In their Post Hearing Brief, at p. 33, they state, "A reasonable assessment of the impacts of the District's requested water level must begin with an accurate projection of actual water levels under the proposed summer maximum." The Department agrees with that statement, but the record is clear that an "accurate projection of water levels" was not produced through the modeling that was conducted by Petitioner's experts (see pages 3-6 of the Department's Closing Brief). The Joint Petitioner's did not challenge the Department's analysis in their testimony, and they do not challenge it in their brief. Despite clear evidence that the modeling assumptions and results are seriously flawed (See Mr. Johnson and Ms. Josheff's testimony and Exhibit 835) they reiterate these modeling results on pages 33-35 of their brief as the foundation for their expert's conclusions. Their conclusion that the water level increase would only be "0.2 to 0.3 feet higher than historical conditions" (Joint Petitioner's Post Hearing Brief) results in conclusions by their experts which minimize the adverse ecological impacts and property damage that would occur if the Department had adopted their proposed water levels.
  5. The issues concerning boating impacts, swimming impacts and public access impacts were fully explored and considered by the Department since it began its review of Lake Koshkonong water levels in 1980. The record (including the lake bathymetry and the testimony of the Department's boating experts) is clear that whether you add 0.2 to 0.3 feet (2.4 to 3.6 inches of water- the Petitioner's modeling results) or 7.2 inches of water, the impacts on navigation, swimming and public safety are very modest. This is due to the fundamental fact that Lake Koshkonong lies in a gradually sloped basin. Since the basin slope is similar in the area to be flowed, raising water levels further will move the same problems further landward, with a concomitant loss of drainage, riparian property, wetlands, and habitat.
  6. The scope of economic considerations suggested by the Joint Petitioner's is not supported by the law or the facts in this case. We will discuss these issues in more detail below. Rather than focusing on the direct physical impacts which may be caused by the raising or lowering of water levels, they attempt to expand the issues to "loss of wealth" (page 62 of Joint Petitioner's Brief) and "impact on the economic activity in adjoining communities" (page 65 of the Petitioner's Brief). These arguments, while creative, suffer from fundamental legal and factual flaws and do not serve as relevant evidence to support their position.

At the end of the Joint Petitioner’s Brief, they seek to invoke the classic quotation from Justice Holmes that “a river is more than an amenity, it is a treasure. It offers a necessity of life that must be rationed...”.(Joint Petitioner’s Brief at page 69). We agree with the Petitioner’s that this quotation applies to the current situation, but we believe it is their position which seeks to treat the “treasure” which is Lake Koshkonong solely as an “amenity” for their preferred uses without appropriate consideration of the full spectrum of issues and users. In their brief, they criticize the Department because we “solicited input and information from LKWA and other private wetland owners, including the Jefferson County Drainage District.” (Joint Petitioner’s Brief at p. 19). It is, of course, the Department’s responsibility to solicit the input of all interested parties and property owners.

The record in this case demonstrates that we have carried out these responsibilities fully, and have assessed the potential impacts and balanced the competing interests, as required under Section 31.02, Stats.

## **I. Consideration of Public Rights issues, including navigation, access and wetlands**

The Joint Petitioner’s discuss the “public rights” component of the balancing provisions of Section 31.02 on pages 6 through 9 of their brief. They concede on page 8 that “The parties agree that the phrase “public rights in navigable waters” embraces the protection of fish and wildlife, wetland habitat, and aesthetic concerns.” They then make a statement that “the Department must also give due consideration to: (1) the impacts of the water level order on navigation, (2) the impacts of the water level order on public access to navigable water, and (3) the economic and commercial impacts of the water level order.” As is discussed below, there is no support for the third element cited in this statement.

### **Commercial and Economic Interests**

The Department agrees that part of the public rights test includes impacts on navigation, including public access. The Joint Petitioner’s suggest, on page 9 of their brief, that the fact that some of the cases referring to navigation include references to “navigation for commercial purposes” supports their attempt to include the consideration of broad commercial interests under the term “public rights”. The record is clear that the Department’s review of this project and the revised order properly consider and accommodate navigation. The cases cited do not support the vague contention that this implicates the sort of broad economic concerns the Joint Petitioner’s suggest (“loss of wealth”(p. 62) and “economic activity in adjoining communities.”(p. 65)). We will discuss this more below.

The Department also does not agree with the statement that the public rights component of the test includes “the economic and commercial aspects of the water level order.” There is no citation to support this statement. The Joint Petitioner’s make a creative argument on page 10, citing State v. Village of Lake Delton, 93 Wis

2d 78 (Ct. of App.1979), starting with the phrase “[a]lso among the public rights factors to be considered in establishing a water level order is the resulting economic benefit or detriment to the community.” The Lake Delton case does not support that proposition. That case dealt with a local ordinance adopted to allow the Tommy Bartlett water show to operate for limited hours on the public waters of Lake Delton pursuant to a local ordinance. Local fishermen objected to the local ordinance and asserted, through the Attorney General, that it was violative of the public trust doctrine. The Court of Appeals interpreted Sections 61.34 and 30.77 of the statutes relating to the adoption of local ordinances, and noted that the language in Section 30.77, Stats., provides that a village “may, in the interest of public health, safety or welfare, adopt local [ordinances]....”. The Court held that “...the ordinance serves the interest of public safety and welfare, within the meaning of sec. 30.77, Stats..”

The Lake Delton case does not stand for the proposition that the “potential economic benefit or detriment of a particular regulatory action is one of several public rights that must be weighed under the public trust doctrine.”, as asserted by Joint Petitioner’s on page 11 of their brief. There are, not surprisingly, no cases which stand for the proposition that “potential economic benefit” is a “public right” to be protected under the public trust doctrine.

The Department discussed these issues in its Closing Brief at pages 20-21. We need not repeat those arguments here, but will reiterate that the Wisconsin Supreme Court has held that the “public trust in navigable waters” is not to be expanded and diluted to cover secondary socioeconomic issues, citing Wisconsin’s Environmental Decade v. DNR, 115 Wis 2d 381 (1983). Joint Petitioner’s assert on p. 12 of their brief that “The Department’s reliance on Decade is misplaced, because the Court did not review the public interest standard under sec. 31.02(1).” The argument they make here (and on page 27 relating to the Department’s reliance on Just v. Marinette) implies that there is a divergence of jurisprudence distinguishing the terms “public rights” and “public interest” in cases under Chapter 31, Stats, from those interpreting Chapter 30, Stats. A review of the case law makes it clear that is not correct. One of the seminal public trust cases, which contains lengthy discussions by the Wisconsin Supreme Court relative to the term “public rights” as used in Chapter 31, Stats., is Muench v. PSC, 261 Wis. 492(1951). In that case, the Court traces the history of the development of public rights under Wisconsin’s Constitution and Chapters 30 and 31, Stats. The interpretation of the terms “public rights” and public interest” has been consistent for Chapters 30, 31, and other statutes which deal with the terms “public rights” and “public interest” under the public trust doctrine.

### **Consideration of Navigation and Access Issues**

The record is clear that the Department, in this matter, fully considered the potential impacts on navigation and its incidents (including fishing, hunting, and active and passive recreational activities) in rendering its decision. These issues were partially discussed on pages 15- 18 of the Department’s Closing Brief. As noted on page 16 of

the Department's brief and in Exhibit 818, there are 15 facilities around the lake and in the Rock River that provide public access to Lake Koshkonong.

The survey that was conducted by RKLD, while of limited value due to the low response rate, does provide useful insight on this issue. See Exhibit RKLD-122b, question 9. The survey question asked was "Do you feel Lake Koshkonong has adequate public access? The responses were 227 "Yes, 54 "No", and 24 "No response".

### **Consideration of Wetland Issues**

On page 21 of the Joint Petitioner's Brief, they reiterated their argument that the "DNR erred in applying Chapter NR 103 and Section NR 1.95 of the Administrative Code in its Analysis of Wetland Impacts." As they note, the Department conceded that its references to NR 103 were not appropriate in light of Section 281.92, Stats.

If does not follow from that conclusion, however, that review of wetland impacts is not an important consideration in assessing impacts on public rights and protection of life, health and property. The Department has explicitly provided in Chapter 130 of its Handbook (Exhibit RKLD 139, pages 3 and 4) that Section NR 1.95 wetland policies need to be reviewed when dealing with water levels and flows. As outlined in Pat Trochlell's memo, Exhibit 850, the issues to be considered under the Natural Resources Board Policy contained in NR 1.95, Wis. Adm. Code are broad, and articulate that "it is in the public interest that department decisions which lead to alteration of or effects on wetlands under its jurisdiction or control are based on the intent to preserve, protect, restore and manage them....".

Contrary to the assertion of the Joint Petitioners, the Department's consideration of wetland impacts is a necessary part of the review of water level decisions on Lake Koshkonong under Section 31.02, Stats. See Exhibit 343, which shows that 12.4 miles of the shoreline (46%) of Lake Koshkonong is wetland.

## **II. Consideration of Property and Economic Issues**

In addition to the arguments above that the "public rights" component of the Section 31.02, Stats., balancing test requires the Department to consider "the economic and commercial aspects of the water level order.", the Joint petitioners also assert that the clause "protect life, health and property" subsumes broad economic considerations. As we indicated in our Closing Brief, we agree that this clause does include "direct physical impacts to real or personal property which may be caused by the changing of water levels. Such direct impacts include potential flooding, potential erosion, potential desiccation of shoreline areas, impacts on piers and their use, and potential impacts to shoreline structures." (Closing Brief at p. 21).

The Joint Petitioner's assert that the range of economic issues is essentially unlimited, including potential impacts to "loss of wealth"(p. 62) and "impacts on economic

activity in adjoining communities.”(p. 65). They cite the Department’s Handbook and a number of Court cases to try to support this broad scope of potential property interests to be reviewed.

To further analyze this issue, we must start with the plain language of the statute, which directs the Department to “protect life, health and property.”(Emphasis added) As pointed out in our Closing Brief, where the Legislature anticipated a requirement to assess potential “improvement” of economic value, they directly articulated that standard. See the Department’s Closing Brief at pp. 20 – 23. That is not the standard here.

There is no basis to assert that any riparian owner has the right to try to build “wealth” by seeking the manipulation of public water levels for their personal gain. These are public waters, which is why the State of Wisconsin is given the power to control the levels “in the interest of public rights...or to ...protect life, health and property.” Section 31.02, Stats., (emphasis added).

The Joint Petitioner’s cite language in Chapter 130 of the Department’s Handbook as supporting their contention that we should review a broad range of economic considerations. The language in the Handbook provides that, under the “protect life, health and property” standard, “the Department may regulate and control water level and flow to” among other listed items, “Minimize economic losses resulting from too much or too little water”. This phrase does not support the broad scope of economic inquiry suggested by the Joint Petitioners. If you look further in the Chapter 130 of the Handbook, there is a discussion of the “Process” that staff are to utilize in their “Field Investigations”. It provides:

2. To protect life, health and property, evaluations should consider:

- a. Existing sewage systems;
- b. Pollution sources;
- c. Ice and water erosion potential;
- d. Flooding potential and easement requirements;
- e. Flow requirements to maintain water quality;
- f. Off-shore slopes;
- g. Dam structural and hydraulic capacity if levels are raised; and
- h. Agricultural or irrigation diversions and other downstream beneficial uses of water.

This litany of issues which Department staff “should consider” in evaluating protection of life health and property are the types of direct physical impacts that are reasonably contemplated under the statute and which have been used to administer the statute. They do not include considerations of gain or loss “of wealth” or “impacts on economic activity in adjoining communities”.

On pages 23-25 of the Joint Petitioner's brief, they cite a number of Wisconsin Supreme Court decisions which they assert support their statements:

-on page 23- "Thus, Wisconsin Supreme Court (sic) upheld the construction of the "promote safety and protect life health and property" clause of sec. 31.02 to include impacts to riparian property values as well as impacts to the local economy."

-on page 24- As noted above, the State's interest in regulating the level and flow of navigable water under sec. 31.02 is more directly connected to property values and local economies."

There is no support in the cases cited by the Joint Petitioner's for these statements. On the contrary, a close look at the decision in Chippewa & Flambeau Improvement Company v. Railroad Commission, 164 Wis. 105(1916) shows that the issues dealt with in that case were very similar to those in the instant case. While there was some discussion of the fact that "Large sums of money have been invested by resort owners in resorts along the shores of the lakes..." and that "There are many private homes built along the shores", (at p. 114) the focus of the Railroad Commission's inquiry was related to the physical impacts that water levels were having on these shorelines and properties. See the discussion on pages 114 to 116, where it was stated, in the case summary leading up to the Court's decision:

The effects of this great variation in water level are plainly visible throughout these lakes. Strenuous efforts have been made by the owners of the shore property to in some way protect their shores....The shore is not only being gradually taken away, but in places the erosion caused by the variation in level is sufficient to cause the receding of the shoreline several feet at a time. During the year the water level has been maintained as high as ten feet. At this level there is no shoreline, and the disastrous effects upon shore property are only too plainly visible. Where the banks give away, large trees fall into the water. In one instance, thirty large green timber trees were counted lying in the lake where the shore had been taken away this year.

The great damage done to the property owners along the lakes is through the variation in levels and the action of ice and frost....

In consideration of these facts, property owners vigorously protest that the Commission should fix levels which will in a measure protect their property...

The Commission concluded that they were authorized and required, in fixing levels, to take into consideration the rights of riparian property owners on the lakes, the damage done to such property, and the injury to fishing, and that the interests of public welfare and the protection of property required that the levels be maintained at the dam be limited as before indicated.

In the decision of the WI Supreme Court in Chippewa & Flambeau, which starts on page 116, and which is the first review of the language that currently comprises Section 31.02, Stats., the Court stated:

The first question which naturally presents itself in the case is whether ch. 640 authorizes the Commission to consult the property interests of riparian owners upon the reservoir lakes, and make an order fixing levels at a height which will arbitrarily reduce the reservoir capacity simply for the purpose of preventing injury to said riparian property.

The Court, in its holding on page 118, stated:

Here the legislature has performed the legislative function by declaring that water may not be maintained in any dam in navigable waters at a level which is injurious to the public rights in such waters, or which threatens safety or imperils life, health or property.

There is nothing in this decision, or in subsequent decisions of the Supreme Court, which support the Joint Petitioner's contention that the "Wisconsin Supreme Court upheld the construction of "promote safety and protect life, health and property" clause of s. 31.02 to include impacts to riparian property values as well as impacts to the local economy" (Emphasis added, at p. 24 of Joint Petitioner's brief). The issues assessed by the Railroad Commission, which was the predecessor agency to the PSC and DNR in administration of this statute, were the direct physical impacts to the riparian property along the shore and the associated navigation, resource and public rights issues. The description of the impacts of high water on the lakes involved in that case are remarkably similar to the issues we are grappling with in response to the proposal for higher water levels on Lake Koshkonong.

The law and administrative practice on these issues is clear. The scope of the inquiry when proceeding under Section 31.02 to "protect life, health and property" is limited to the protection of existing physical property and assessing the direct physical impacts caused by the lowering or raising of water levels in the lake or river.

### **Flaws in the Joint Petitioner's Expert Opinions**

The Department discussed this issue on pages 22 & 23 of its Closing Brief in this matter. As was pointed out there and in this brief, the first serious problem with the opinions of the two "economic experts" is that their assumptions are based on the flawed modeling results of Mr. Montgomery.

Even more significantly, Mr. Stockham's testimony reflected his personal opinions concerning the desires of lakefront property owners, but did not provide any basis for his conclusions concerning the values he based his opinions on. He testified that he did not use the survey information contained in Exhibit RKLD 122b. He also testified that he did not conduct any other survey to determine the preferences of lakeshore owners. It is clear from the record in this case that many of the lakeshore owners of the 12.4 miles of wetland shoreline would disagree with his assumptions concerning shoreline preferences.

Dr Kashian's testimony similarly suffers from a lack of empirical basis for his assumptions. The Joint Petitioner's, on page 61 of their brief, state that: "Accepted economic theory indicates that a reduction in water level of a lake will have several effects that result in negative impacts to property values at the lake." There is no explanation in their brief, or in Dr. Kashian's testimony, of the support for this sweeping conclusion.

In an attempt to establish some empirical basis for Dr. Kashian's conclusions, he compared the appreciation of property values at Lake Koshkonong and at Beaver Dam Lake for the period 1997-2005. Dr. Kashian noted that, during the time period he tracked, the "value of a foot of shoreline at Lake Koshkonong rose by 35% while the value of a foot of shoreline on Beaver Dam Lake rose by 71%."

There was no discussion in Dr. Kashian's testimony or in his narrative of the water level issues that were occurring on Beaver Dam Lake during the period he was reviewing property values. On cross examination, the Department presented Dr. Kashian with the water level order from 1958, which established a maximum water level of 88.50 feet (Exhibit 856) and the water level order adopted for Beaver Dam Lake in May, 2004(Exhibit 857).

As indicated in Exhibit 857, the Department of Natural Resources received a petition in April, 2001, from property owners who were concerned about high water levels on Beaver Dam Lake and the impacts these water levels were having on riparian property and resources. They requested that the maximum water level be lowered two and a half feet on the lake. After much public debate and controversy, the matter was resolved through negotiation. The revised water level issued by the Department for Beaver Dam Lake resulted in a lowering of the maximum water level on the lake 0.20 feet, to elevation 88.30.

There is no evidence that this lowering of water levels at Beaver Dam Lake was taken into account in Dr. Kashian's analysis. These facts refute Dr. Kashian's conclusions and his primary hypothesis, that "A reduction in water level...will result in a lowering of the property value." The evidence submitted by the Joint Petitioner's does not support their position that adopting the Department's water level would result in a loss of property values and a "loss of wealth".

### **Prescriptive Rights, Regulatory Taking and Equity Arguments**

The Joint Petitioner's assert a novel theory on pages 27 through 31 of their Post Hearing Brief relating to their claim of "flowage rights acquired by deed and prescription." They declare that they have obtained certain flowage rights by deed, and further contend, on page 30, that:

Taken as a whole, the record supports the view that RKLD has established additional prescriptive flowage rights as a consequence of the pattern of dam operation over the last three decades. Under Wis. Stat. Section 31.02, the

Department was required to establish a water level order that considers these property interests, as well as the interests of riparian property owners, including wetland and upland shore owners. (Emphasis added)

There are number of problems with their assertions. First, there is no record developed here which supports any conclusion that flowage rights have been established to any certain elevations through either prescription or deed. We do not dispute that there are probably some flowage rights that have been acquired by deed, but the Joint Petitioner's presented no information to the Department and created no record at the hearing to establish what those rights are or at what elevation they might be.

The law is clear that, even if the Joint Petitioner's established that they do have flowage easements or prescriptive rights which would authorize them to flow the property of others, this does not control the establishment of water levels under Section 31.02, Stats. If a water level were established below the levels for which they have purchased or otherwise obtained flowage easements, it would not constitute a taking of their property.

This issue was reviewed and discussed at some length in 1938 Opinion of the Attorney General 424 (1938), where a similar assertion had been made before the Public Service Commission relating to water levels on an impoundment which was subject to the Commission's authority under Section 31.02, Stats. (The DNR is the successor to the PSC's regulatory responsibility under this statute.)

In that situation, the Chippewa and Flambeau Improvement Company contended that, once minimum and maximum water levels had been set, the "Commission is without power to change them; and that the order changing the minimum level will deprive the company of their property without due process of law."

The Attorney General opined:

There is ample authority for the proposition, in the absence of congressional action, the state has plenary power over navigable waters of the state. The right of individuals to the flow of the stream is subject to control and reasonable regulation by the state in the public interest....

The water levels set by the commission are not fixed and immutable....

It is the duty of the commission to change them whenever they become injurious to the public interest or threaten safety or imperil life, health or property...

We think the legislature intended that the commission should change its order whenever it is shown to be contrary to the public interest. Otherwise, a level erroneously established could not be corrected when discovered and the very purpose of the law would be defeated.

On the issue of takings, the Attorney General stated, at p. 428:

It cannot be maintained that reasonable regulation deprives the Improvement Company of its property without due process of law. In the first place, we have the unquestioned rule of law that a riparian owner can acquire no prescriptive rights to the continued use of navigable waters, the courts saying that a navigable stream is like a public highway in that no private rights can be acquired therein. *Milwaukee Western Fuel Company v. City of Milwaukee* (1913). Consequently, the mere user of these waters for reservoir purposes for twenty years did not give rise to a prescriptive right to their continued use which the state is powerless to control or extinguish.

Our conclusion is that the commission is empowered to change [the water levels]...and the Improvement Company has no vested interest which can interfere with a reasonable order of the commission changing the minimum level of the water.

It is clear, under Wisconsin law, that the Joint Petitioner's are not in a position to assert deprivation of property rights based on the revision of a water level order under Section 31.02, Stats. Similarly, any assertion that "DNR is barred by equity" from adopting a water level order is without merit.

### **III. Issues Relating to Dam Construction and Operation, including Modeling**

The Joint Petitioner's have addressed a number of issues related to their modeling of the dam operation and water levels. We will briefly address a number of those issues here.

#### **Flashboards**

In their petition to the Department, the Joint Petitioner's did not request the installation of flashboards on the dam. They spent time at the hearing, primarily through Mr. Dresen's testimony, discussing this issue. They also addressed it on pages 32 & 33 of their brief. They noted that "the 1982 order included express findings that flashboards were necessary to maintain levels during periods of low stream flow." They further noted that Mr. Dresen disagreed with that portion of the settlement in 1991 "because he concluded that such a compromise did not properly protect navigational issues."

Flashboards were not part of the Joint Petitioner's 2005 proposed water levels, nor were they part of the Department's revised order in this matter. Based on the record in this case, and on the operational experience that has been gained since 1991, the Department believes it is clear that flashboards are not necessary to control water levels or to maintain levels for navigation in Lake Koshkonong. The mechanism that was agreed to by all parties in 1991 was to establish a gauge at the lake, so that dam operation would be controlled by water levels on the lake, thus assuring better water level management at the lake and protecting navigation.

The April 25, 1991 Order (Exhibit DNR-3) required Rock County, the dam owner, to install, operate and maintain the lake stage telemetry station and specified that the lake

levels referred to in that order should be measured at the lake stage gage. The lake telemetry station was installed by Rock County and remains operational today.

Mr. Johnson testified that, during the development of the 1982 order, there was considerable discussion of the hydraulic impacts of flashboards. Johnson testified that the flashboards were to be placed in anticipation of power generation. At this point in time there is no power generation at the dam and none is anticipated.

Johnson testified that during the hearing for the 1982 order there was much concern over the fact that flashboards created a slightly higher pool elevation during flooding. While the same hydraulic analysis did suggest that flashboards could slightly improve low flow levels, such improvement came at a cost of slightly higher flood levels. Ultimately, and at the displeasure of Mr. Dresen, the parties to the 1991 agreement eliminated the flashboards.

Ms. Josheff reviewed the water levels during the summer of 2005, which was a period that experienced low flows on the Rock River. She testified that the water level at the dam very rarely dropped below 775.73, so flashboards would have very rarely been placed on the dam. She noted that the water level at the dam dropped below 775.73 in June for three days (not all consecutive), no days in July or August, and two (nonconsecutive) days in September. See Exhibit 833 and the testimony of Ms. Josheff.

In the Department's opinion, the record is clear that the issues concerning flashboards do not need to be considered in this order.

### **Ordinary High Water Mark**

There was substantial testimony concerning the issue of the ordinary high water mark on Lake Koshkonong and the potential impacts of adopting a water level higher than that contained in the Department's order. The Joint Petitioner's discuss this issue on pages 13-15 of their brief.

The Joint Petitioners argue that the OHWM will not be affected by implementing their suggested order. However, there is nothing in the record that would affirm that the OHWM would be unaffected by the District's coveted 7.2 inch rise in water levels. The District started out using a model to make the strained argument that the OWHM would not be affected by rising water levels. Both Josheff and Johnson testified at length concerning the flaws with Montgomery's analysis and both Johnson and Josheff concluded that a rise of 7 to 8 inches in summer water levels would likely affect the OHWM. Montgomery's OHWM analysis on rebuttal relied on a simplistic analysis of the OHWM, that did not consider site specific conditions or physical modeling.

The Joint Petitioner's witness on this issue, Mr. Dresen, was part of the process which established the OHWM in 1979. While the Petitioner's spent an inordinate amount of time trying to discredit the surveying that was done to establish that elevation, the record

is clear, after the rebuttal testimony of Mr. Johnson that the survey was conducted properly and the elevation of 776.7 feet msl was the OHWM in 1979. See Exhibit 831.

All parties agree that the OHWM has risen approximately 1.4 feet since 1979. This appears to be due to the improper operation of the dam and has resulted in the loss of significant shoreline resources. The Department made numerous efforts to enforce the operation of the dam to avoid these increasing water levels and their associated impacts. See Exhibit 834 and testimony of Ms. Josheff relative to the Department's efforts.

A simple review of the historical water levels running up to 2001 demonstrates that raising water levels will affect the OHWM. The record and the EA clearly show that water levels were higher between 1979 and 2001 than they were for the 20 years prior to 1979. The historical record clearly shows that if we experience higher water levels the OHWM will rise. The 1.4 feet rise in the OHWM was a function of higher water levels. While no one can precisely predict where a new OHWM would develop if the Joint Petitioner's proposed water level were adopted (See the testimony of Johnson and Montgomery) the relationship is clear- higher normal water levels will result in a higher OHWM.

There was some testimony at the hearing that failure to operate or maintain the wicket gates could have influenced higher water levels and the OHWM. All parties seem to agree that wicket gate operation is important to maintaining water levels. Were the Wicket gates operational over the last 30 or 40 years and were they operated appropriately according to the order? The only thing that is clear from the testimony at the hearing is that no one knows precisely when the wicket gates were operational and when they were not. The records from 1960 to 1980 or 1980 to 2001 do not allow us to determine with any precision whether or not the wicket gates were functioning. Clearly, the USGS rating records (Exhibit 809) shows that some of the time the wicket gates were in operation. See Johnson's testimony.

The Joint Petitioner's, in an effort to support their higher water level request, have asserted that there will be no impacts on the OHWM, and thus no "taking" of shoreline properties, if their order were to be adopted. As part of their effort to support this, they provided testimony from Mr. Dresen comparing water level orders at two small impoundments in the Dane County area. However, each water body and impoundment creates its own individual OHWM at any given location based on the watershed characteristics that cause the varying frequency of flows. Varying water levels, lake orientation(which affects wind generated waves), dam storage and spillway capacity all affect the formation of the OHWM (Josheff testimony).

The examples cited by Mr. Dresen were hydraulically and morphologically completely different than Lake Koshkonong. Mr. Dresen inappropriately compared the Lake Koshkonong OHWM and target water level with those at the Stoughton and Dunkirk impoundments. He failed to understand the extent of the hydraulic factors that must be taken into consideration. The Stoughton and Dunkirk Dams can pass huge floods (more than the 100-year flood), without raising the impoundment level. The impoundments at

these two dams are very small, and are unaffected by wind fetch and setup. The Indianford Dam does not have large flood flow capacity and fluctuates greatly (as much as 8 feet) to pass the 100-year flood— See Exhibit 832, and the testimony of Ms. Josheff.

Regarding the issue of “setup” due to wind, there is a good discussion of the impact of setup in the Department’s EA (Exhibit DNR-7, page 28.), where it is stated:

There is no known relationship between recurrence interval (the presence and action of water) and the OHWM. While we do not know how often water has to be present to influence the OHWM we do know the presence of water on the shoreline is a function of three elements: 1) still water level, 2) wave action generated from wind or boats, and 3) shoreline configuration. The river hydraulics, including the presences of a dam, controls the still water levels. Wind-induced (wind-driven) water level rises along the shore consist of two elements: 1) wind set up (a temporary rise in the water level at the downwind edges of the lake), and 2) wave run-up (the vertical elevation of water rising on the shore as a wave breaks and “runs up the shore). Ultimately, still water plus, wind set-up plus wave run-up result in an elevation at which the water reaches on the shore land.

The record in this matter is clear that wind setup does occur on Lake Koshkonong and that the higher normal water level requested by the Joint Petitioners would result further increases in the height of the OHWM on Lake Koshkonong.

## **Modeling**

Montgomery extensively remodeled Lake Koshkonong subsequent to the EIR and EA. As Johnson and Josheff testified, the original model was severely flawed and inaccurate. While Montgomery’s initial modeling, submitted with the EIR, included winter months in his frequency wave analysis, none of Montgomery’s corrected modeling addressed the months from November to April. November, most of December and March and April are open water months. This failure to model winter months is particularly important since the District proposes to not only eliminate the winter draw down but raise the water levels during this time.

The Joint Petitioner’s experts based their conclusions on the hydraulic model that predicts lake levels designed by Montgomery Associates. Montgomery underestimated the difference between the proposed water levels and the existing order’s water levels by unrealistically manipulating the gate operation assumptions in the model for the Joint Petitioner’s proposed order. Montgomery modeled the existing DNR Order’s water levels with aggressive dam operation to lower and maintain the lake level at the target of 776.20, but did not use the same aggressive gate operation when modeling the Joint Petitioner’s proposal.

Examples of the different assumptions were pointed out by Ms. Josheff in Exhibit 835. Montgomery’s proposed condition model (Joint Petitioner’s proposal) ignores the District's proposed water level target of 776.8. At this target water level, with the water

levels dropping in the lake, the model assumes the dam operator will continue to have all six lift gates and one wicket gate open, continuing to draw down the lake level. In contrast, Montgomery's analysis of the Department's order, at target level 776.2, assumes that only 3 lift gates are open and that both wicket gates are closed. These different gate assumptions at target levels have the result of minimizing the difference between the Department's order and the District's proposal. This "apples to oranges" analysis minimizes the differences between the two proposals. As pointed out in Mr. Johnson's and Ms. Josheff's testimony, the bottom line is that the District intends to raise the water level at least 7.2 inches as often as possible (up to 80% of the open water season) and will attain that difference for much of the growing season.

As stated at the hearing by Ms. Josheff, the department concurs that Montgomery's second attempt at modeling was a better physical model, but it still suffered serious flaws due to the operational assumptions. Mr. Montgomery's failure to address winter conditions is an additional serious defect.

These modeling flaws affect the opinions and conclusions of all of the Joint Petitioner's experts, who based their testimony, in large part, on the modeling results of Mr. Montgomery.

In the Joint Petitioner's Post Hearing brief, they make no attempt address or explain these glaring deficiencies in their modeling. Amazingly, on page 35 of their brief, they suggest the ALJ, in an amended order "can include specific directives for gate operations, including the set points for gate operations assumed in the Montgomery hydrologic analysis."

As is evidenced by Ms. Josheff's testimony and Exhibit 835, this would produce an unenforceable order and an absurd result. As an example, if you look at Exhibit 835, in right hand column of the first page, it shows the gate settings used by Mr. Montgomery in his model. At the Joint Petitioner's "Target" elevation of 776.80, with water levels dropping, they assumed, for purposes of obtaining their model results, that they would have "6 lift and 1 wicket gates open", and that they would continue to hold "6 lift gates open" while the water levels dropped to 776.65. Their model assumptions then continue to hold 3 lift gates open until the water level falls below their minimum. They assumed they would close the gates at 776.39.

If the Department, or the ALJ, were to issue such an order and then try to enforce it, we would be quickly thrown out of court. It would make no sense to establish a high "Target" elevation at 776.80 and to then require the dam operator to keep large numbers of gates open when water levels are dropping past that "Target" elevation. This suggestion on the part of the Joint Petitioner's seems a desperate attempt to put some veneer of legitimacy on the model assumptions.

#### **IV. Consideration of Prior Actions Concerning Water levels**

We discussed above the importance of consideration of historic water level activities relating to Lake Koshkonong. The Joint Petitioner's give some recognition to this history in their Closing Brief, but their efforts throughout this process have been to avoid acknowledgement of the effort that all parties had made in exploring the hydrology of Lake Koshkonong and the impacts of water levels from 1979 to 2006.

Many of the individuals who are represented by the Joint Petitioner's were active participants in the lengthy discussions and negotiations that led to the balancing that occurred in the 1991 order. See Mr. Johnson's testimony and Exhibits 801 and 802. During those negotiations, there were lengthy technical and legal discussions to determine the "damage threshold" above which some property owners would not agree to a water level and a "target level of 776.20 m.s.l. [which] represents a water level which each side should be able to tolerate during the navigation season." The attorney representing the boating interests in those negotiations wrote on June 7, 1990, "the members of my client find that their goals for adequate recreational use of the lake begin to be frustrated at levels below 776.20." See Exhibit 802.

While the Department understands that the establishment of a water level at a given point in time does not preclude parties from petitioning the State for subsequent changes in water level, it is also clear that all parties must understand that the Department will consider the knowledge that has been gained in past proceedings in its consideration of any new petition.

The Joint Petitioner's called, as one of their witnesses, Michael Dresen, who had been employed by the Department of Natural Resources during the period 1979 through 1991, when the previous Lake Koshkonong water level order had been reviewed. While Mr. Dresen expressed his disagreement with the elimination of the flashboards in the 1991 settlement, he did not articulate a basis for other disagreement with the order that was issued at that time. His criticism of the Department's revised order was again based primarily on the issues relating to flashboards, which in his opinion were necessary. As discussed above, the evidence shows that this is not an issue in this proceeding and, factually, there is no evidence that the flashboards would have any significant impact on navigation on Lake Koshkonong.

Mr. Dresen collaborated with other Department personnel on preparing the EA and the 1982 proposed order for Lake Koshkonong. He was the principal author of the Department's 1982 EA. The issues described in the Department's 1982 EA are, not surprisingly, identical to those involved in the current controversy.

Note that on page 2 of the "revised and updated" version of the EA dated August 25, 1982, (Exhibit 817), the EA states:

The present controversy involves two interests with goals that are generally mutually exclusive but which the project proposal can reconcile to some degree. One faction...consists of the owners of residential/recreational property and others who are concerned about the lake's poor water quality and the limits

imposed on recreational navigation by low water levels during periods of low flow....Lake Koshkonong is a shallow basin with a moderate flow and during periods of low water navigational access may be limited or impossible.

A second group...express concern over the accelerated loss of peripheral wetlands and aquatic vegetation in the lake and the resulting loss of fish and wildlife habitat. They are alarmed at the loss of their riparian property to erosion resulting from higher water levels which have occurred since power generation was abandoned at Indianford(1963)...The group generally consists of owners of low lying properties susceptible to flooding, members of the farm community concerned that an increase in surface water or ground water elevations may damage cropland, soil conservationists and wetlands preservation groups.

On the issues relating to wetlands, on page 8 of Exhibit 817, Mr. Dresen wrote:

The wetlands immediately adjoining the lake have suffered from accelerated erosion since generation of power at the Indianford Dam ...[was] abandoned....A review of aerial photography by Department staff documented the loss of approximately 52 acres of shoreland between 1950 and 1963. Photographs revealed that at least an additional 270 acres of wetland had disappeared between 1963 and 1975. This loss was attributed to higher water levels and attendant erosion by waves and ice action.

On the issue of navigation, on page 4 of the revised and updated EA, Mr. Dresen discussed the target elevations that the Department was proposing in 1982. The target elevations being considered at that time are contained on page 1 of the "revised and updated" portion of Exhibit 817. They are "11.9' to a maximum of 12.5' ,Wisconsin Railroad Commission datum". This maximum elevation is equivalent to 776.33, the maximum elevation in the 1982, 1991 and 2005 orders of the Department (See Exhibit 803). Mr. Dresen stated:

This target range was also supported by the conclusions of the Department's 1981 water level monitoring project. Resource and water management staff concluded that this range was minimally acceptable for recreational navigation for boats of reasonable draft and beyond this range there was some potential for shoreline erosion and damage to wetland wildlife habitat....

...any increase beyond that would constitute encroachment on private property....Since the owners of many riparian parcels indicate they would not be agreeable to such compensatory agreements, and because increased water levels would accelerate shoreline erosion, increase sediment transport and further degrade fish and wildlife habitat, it is unreasonable to raise water levels beyond this range....[The] inherent limitations of Lake Koshkonong and the Rock River system should not and legally cannot be overcome at the expense of private property and other valuable environmental features. (Emphasis added)

The Department, after completing review of all of these issues in 1982, issued an order establishing a maximum water level of 776.33. After 9 years of negotiations with all interested parties, a water level order was issued on April 25, 1991 (Exhibit DNR-3), with a maximum water level of 776.33.

This summary provides important historical background for these proceedings. With the Joint Petitioner's now requesting a normal water level 8 inches above the maximum elevation of 776.33, which was developed over 12 years of study and negotiation, it is understandable that they would prefer to downplay all of the information, public participation and effort that went into those water level orders.

The Department could not, and the Administrative Law Judge should not, ignore that history and the technical information contained in it. The Department has fully considered that historical information and all new information developed in this process. The inconvenient truth for the Joint Petitioner's is that the hydrology of the Rock River system, the morphology of the lake, and the property and natural resources interests remain essentially the same as those studied since 1979 and articulated by the Joint Petitioner's witness, Mr. Dresen.

## V. Summary

The record in this case demonstrates that there has been a full review of the competing interests concerning the use and management of the waters of Lake Koshkonong. The record shows that the Department has properly carried out its responsibilities under Section 31.02, Stats., "in the interest of public rights in navigable waters" and to "promote safety and protect life, health and property....".

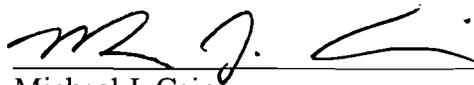
The Department recognizes its responsibility to weigh all competing interests and to balance those interests to meet the statutory standards under Section 31.02, Stats. This task is never easy, and once levels are set it is, in almost all cases, controversial.

We believe the record clearly shows that the Department's Order, dated April 14, 2005, achieves the goal of balancing the competing interests in this case and meets the standards in Section 31.02, Stats. (Exhibit DNR-8). We respectfully request that you affirm that Order.

Copies of this document have been provided to all persons on the attached Service List. It will also be sent electronically on the date indicated below to those persons on the electronic list for this docket.

Dated this 7th day of September, 2006

Wisconsin Department of Natural Resources



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