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General Comments

I have reviewed the Draft EIS for the proposed Kohler Golf Course in Sheboygan County at the request of the Friends of the Black River. In general, I find little new information in the DEIS compared to the scoping documents initially supplied by Kohler, and I see few questions that were raised by the public either answered or at times even acknowledged. Like the initial document, this DEIS focusses on minutia and largely ignores the larger issue that this proposal will completely transform the existing, largely intact and functional, dune, swale and forest ecosystem that developed here over millennia into a human-dominated, northern European analog. There is no reason to expect that the leftover fragments of the prior system are likely to survive the new and altered hydrologic, trophic and disturbance regimes. There is every reason to expect that the fragments will turn into weed patches dominated by exotic and/or invasive species.

I began my academic career in 1987 studying the restoration effort associated with the South Beltline in Madison. Looking back at that effort nearly thirty years later, the best I can say is that some areas where fill was removed are now low-quality wetlands. The hope, however, that seeding and using salvaged marsh surface would turn those areas into high-quality wetlands such as are found in the nearby undisturbed areas has faded. In the beltline case, which started with highly degraded areas, there was at least a chance of improvement; in the Kohler case, since we are starting with little-disturbed, largely intact, “high to exceptionally high” quality systems (see p. 30-33 of DEIS) composed of mainly conservative species, the only point of discussion is how much degradation will result if the project is permitted and how quickly it will happen.

Specific Comments

3.1 - Utilities – “Testing has been completed that confirms conventional septic field systems could be used to treat domestic wastewater.” Is DNR accepting this report at face value? Does this report address the specific context here, i.e., rare oligotrophic species down flow? Given the sandy soils, I find this statement hard to believe, especially since later leaching into the rare, oligotrophic wetlands has been identified as a likely problem. If you wish to see just how well these systems work in sandy soils, take a boat ride up the coast to a small housing development overlooking the lake off of Highway L a bit north of the Sheboygan County line. Look west 10 to 20 feet below the top of the bluffs and you will see a thin green line running parallel to the top. There are seeps where the sandy till intersects a lacustrine silt/clay layer associated with one of the retreats of the recent glaciation. The thin green line is populated by a variety of interesting native plants, especially sedges, common to soft-water seeps. As the tops of a houses come into view you will notice larger and much darker green patches of vegetation, often spilling down the bluff face. These patches are populated by large cattails, reed canary grass and phragmites, all invasive species which are feeding off the sewage leachate of the fairly new and properly permitted conventional septic field systems. This observation was documented and published in the 1998 UW-Madison Water Resources Management Report prepared for Manitowoc County

and sponsored by a Coastal Zone Management Grant. A copy of this report was also provided to Sheboygan County Planning and Zoning and all other coastal counties.

3.3.2 Large Events – My brother-in-law is an avid golfer and has worked at several PGA tournaments. My sister and he attended the PGA at Whistling Straits last summer. They had full passes but only stayed one day because they felt so crowded and could see very little of the play. Whistling Straits does not have rare wetlands right next to visitors. How will Kohler handle large events and issues such as trampling, sewage and traffic with greens closely parallel to the rare wetlands that are supposed to be preserved.

3.3.3 - Land Management - Kohler proposes to minimize the risk of pesticides and fertilizers leaching to the aquifer through IPM and BMPs. The work “minimize” is misleading here. Using IMP and BMPs diminishes the amount of damage from pesticides and fertilizer leaching compared to wanton use. The magnitude of that diminishment depends on many factors. A major factor is soil type, and sandy soils with low organic matter like those found at the proposed site are the worst possible. Thus, the estimate in Barton 2006 that with best practices on average only about 5 per cent of chemicals may leach through is likely low for this site. In addition to the Kovach 1992 reference, regulators should read the critique thereof found at:

Jonathan Dushoff, Brian Caldwell, Charles L. Mohler

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Regulators should also note that the optimistic findings in the Swancar citation apply to a comparison of using wastewater vs. groundwater for irrigation. In addition, given the very different climate and soils found in Florida, the relevance of this article is questionable here.

4.3 - “The views of the dunes, grasses, forest and Lake Michigan which contribute to the proposed golf course’s unique design, worldwide interest, and economic development potential would be difficult to replicate at another location. There may be siting and environmental issues at any site.”

The above statement is classic “double-speak” unworthy of inclusion in a DNR document unless in quotes and attributed to Kohler’s publicity agent. A truthful description would include the fact that many of the former dunes will be altered and covered with imported soil upon which non-native European grasses will be planted and that half the forest will be cleared and the rest left as fragments with occasional view corridors of Lake Michigan. The statement that, “there may be siting and environmental issues at any site” is both true and misleading. A truthful statement is that this site has extraordinary siting and environmental issues, and both the applicant and DNR are well aware of the unusual situation here.

The rest of the alternatives analysis seems also be wasted paper featuring much worse proposals that are supposed to make the desired proposal look better.

5.1 Soils – In paragraph 3, Kohler proposes to use biofiltration to treat runoff water. This will require importing more topsoil, which itself will be a source of nutrients in this situation. Given that the subsoils are basically sand and that only a few feet separate the “bioremediation basins”

and groundwater, the probability of contaminants reaching the groundwater at 585' is certainly very high (see Toxin Fairways excerpt below), and the elevation of some of the rarest wetlands is at this same 585'. This seems to be another example of wishful thinking on the part of the applicant. Has DNR actually investigated the efficacy of the proposed biofiltration basins in a context similar to the proposed site?

P.22, last paragraph

“The OHWM within and adjacent to the Project boundary could be flagged by the department at the request of the Kohler to ensure that applicable setbacks, wave run-up floodplain, and clear cutting provisions are met.”

I am puzzled why DNR is doing a DEIS but waiting for a “request” from Kohler to delineate the property boundary. Surely that would be in the interest of both parties. I am also surprised that there appears to be no acknowledgement of the issues raised by my “additional comments” of 19 Oct 15 and likely others on this matter. I will append them in case they were inadvertently missed.

P. 23

Under the Stormwater Management heading, we learn that infiltration rates were measured on-site as from 26 to 52 inches per hour. In other words, a full year's worth of rainfall at the site could infiltrate in one hour. On Figure 7 we see the locations of the wetlands on the property, and on Figure 10 we see the layout of the golf course. Putting these all together it is easy to see that the remaining wetlands will be squeezed between the altered portions of the parcel and any leakage of contaminants (including fertilizer or sewage) with either travel down the steep slopes into the rare wetlands (e.g., when the surface is frozen) or infiltrate immediately and quickly end up the same place. These rare wetlands are described as oligotrophic (accustomed to receiving few nutrient inputs). They are there because other, more aggressive species need more nutrients to win the competition for space and light. Even small additions of nutrients can easily shift the balance toward the competitors and these will quickly alter the whole community type wiping out the rare species. I see nothing but platitudes and acronyms provided to address this obvious problem. I presume that DNR will take a closer look.

5.1.7 - Wetlands

The DEIS provides an excellent description of the wetlands on the property including the ones considered rare and of exceptional quality. There is much information in Table 10 but the text is so vague and misleading that the reader would think there were only minor problems likely. It is as though the writer has not even looked at the Table 10 or the detailed analysis thereof I provided in my comments a year ago.

“Several globally rare wetlands within the Project Area on Kohler Property are proposed to be directly impacted by filling for the construction of various holes and the associated grading and construction of tee boxes, greens, fairways, and tree clearing.” “Several” should read, “Most of the many.”

“Secondary impacts from things such as changes in hydrology, irrigation, and application of fertilizer may impact rare wetland communities.” “May” should read “will,” since only the

magnitude of impacts is in question here. If there were no impacts expected, there would not be pages of discussions about IPM, BMPs etc. included in the DEIS. I see no mention of the many other factors that will affect the wetlands. The rare wetlands are currently surrounded by compatible neighboring vegetation types. After the locale is drastically altered and much of the neighboring vegetation changed, how will the rare wetlands fare. Where is the discussion of this issue?

The DEIS simply repeats the misleading statement from the scoping document that Kohler proposes to take only a tiny percentage of the wetlands on the property but neglects to point out that about 116 out of the 124 total acres of wetland (94%) are in the Black River Riparian zone, which is certainly not suitable for development. Here, indeed, only a tiny bit on the eastern edge will be affected; but, even here, the best of these wetlands (floodplain fringe seeps) are expected to be strongly affected by tees and greens (see p.34 DEIS). As pointed out in my previous remarks, the proposed alterations disproportionately affect the higher quality wetlands (swales and seeps) filling most and leaving the rest subject to secondary threats.

5.1.8 – Compensatory Wetland Mitigation

Again, it appears that the writers of the DEIS have not read my previous comments nor have they done any serious investigation of the potential to replace the wetlands here. They state that the property is within the service area of a mitigation bank, but that bank, to my knowledge, has no comparable wetlands.

6.4 - Significance of Precedent

“Department decisions on this proposal would not set precedent.” This appears to be another “head in the sand” statement ignoring reality – if this project, which has just about every negative issue you could imagine against it can be permitted, there remains little left of Wisconsin’s long heritage of protecting rare natural resources. A further insult is that this proposal is likely only feasible if the State grants an access easement over LAWCOM lands in a State Park. While there is precedent to alter such lands, I suspect there are few to no previous examples where such lands were turned over to a private party when doing so made possible the destruction of rare habitat for that this conservation program prides itself on protecting.

References and supplemental materials:

Jonathan Dushoff, Brian Caldwell, Charles L. Mohler

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Abstract

The environmental impact quotient (EIQ) developed by Kovach et al. (1. Kovach, C. Petzoldt, J. Degni & J. Tette. 1992. A method to measure the environmental effect of pesticides. N.Y. Food Life Sci. Bull. No. 139.) is an effort to fill an important gap: the need to provide growers and others with easy-to-use information about the adverse effects of pesticides. However, flaws in

both the formula and its conceptual underpinnings serve to make the information provided misleading. Although Kovach et al. provides a great deal of information and many interesting ideas, we recommend that EIQ presented there not be used as a tool to evaluate field applications of pesticides. Further, current understanding of pesticides and their effects is not sufficient to allow the environmental effects of a pesticide to be captured by a single number. We discuss alternate ways to provide growers and policymakers with usable information about pesticides.

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From Toxic Fairways article:

The Attorney General's office decided to examine pesticide use on Long Island golf courses because pesticides pose special risks on the Island. Long Island's nearly three million people depend on groundwater as their only source of drinking water. This irreplaceable resource is vulnerable to contamination by surface-applied pesticides. Large areas of the island's groundwater lie beneath a sandy, porous surface soil layer with little organic matter to adsorb pesticides. This type of soil provides little if any barrier against contaminants reaching the groundwater.

Comments of 19 Oct 15 on EIR

In the Waterways section comments 1 and 2, Stantec says that the OHWM at the site is 582.7 ft. per Sheboygan Co Zoning Dept. Interesting, but the OHWM in my understanding is a field-based value at any particular site because it depends on a number of factors that vary per site. That is why the guidance from Sheboygan Co. is qualified with "for zoning purposes only." I also note that in response to comment #8 in the next section, Stantec responds that the wave run up is 588.1 ft. per FEMA guidance. From the topo map provided in the EIR, that looks very close to the tops of some of the dunes, and there is a 588 ft. benchmark just south of the property that is well inland. As we are informed in the runoff section, this area is rather flat. This is another "two-edged sword" concerning which Stantec uses one side but neglects to acknowledge the other when it does not help their effort. If the beach gradient is low, the wave run up is long.

Another danger that I see here that if a golf course is allowed this close to the lake, very quickly DNR will receive a request to armor the lakeside to protect it. These are active dunes in a dynamic area of the lakeshore. The detrimental effects of armoring on adjacent shorelines are well-documented. The neighbors of this shoreline are the residents to the north and the State Natural Area and Park to the south.