MEMORANDUM

TO: FEDERAL AGENCIES

FROM: FRIENDS OF THE DAM

RE: FATE OF THE MONTICELLO MAQUOKETA RIVER DAM

DATE: AUGUST 21, 2017

This memorandum will address the options facing the Jones County Conservation Board (JCCB) with respect to the Monticello Maquoketa River Dam. We believe the project alternatives, developed by the JCCB, calling for destruction of a large portion of the Dam, have completely failed to take into account the historic, aesthetic and environmental value of the dam. We believe that the alleged safety, navigational, and environmental benefits of those project alternatives are either exaggerated or nonexistent.

We wish to preserve our beautiful and historic dam. We also wish to avoid the waste of $1.5 million or more of the taxpayers' money. The available evidence indicates that an overwhelming majority of the public in Jones County is for saving the dam. Unfortunately, the majority has not yet prevailed. To the JCCB's credit, it has twice delayed a vote in the face of public opposition to removing the dam. Nonetheless, we are concerned we may face a process where Abraham Lincoln's precept that ours is a "government of the people, by the people and for the people" is being replaced by "government of the people, by the government, and for the government." This is demonstrated by consecutive announcements, either on the county's website or by the Board's Conservation Director, at public meetings, that, of the seven options available, including saving the dam, (a) the Jones County Conservation Board preferred two options, both of which required destroying the dam, and (b) that the JCCB now prefers only one of those two options. This was followed by a Board of Supervisors vote endorsing the JCCB's choice to destroy the dam. All of this has occurred prior to the completion of public input on the dam to the JCCB and prior to the forthcoming final vote of the JCCB at an open meeting on this matter on August 24th! We hope for a vote based on a public input and a rational assessment of the facts, not a pre-determined decision.

PUBLIC SUPPORT FOR THE DAM

Why do we believe that the public supports the dam and opposes those alternatives calling for destruction of a large portion of the dam?

First, there was a survey in July on public sentiment toward modification or destruction of the dam by the Jones County Historic Preservation Commission. 405 of the 436 respondents to the survey wanted to "keep the dam" in preference to all other named alternatives. Ninety-three percent of respondents wanted to save the dam! The survey states, "If it is assumed that survey is representative, the Jones County results can be generalized (with 99 percent certainty) to all county residents, with a margin of error of (plus or minus) 3.3 percent."

The survey asks for the assumption that the survey is representative. Why would this survey not be representative of the entire county? It was based on survey forms handed out to people in Monticello during the Fourth of July activities. It is no secret that people from throughout the county attend these activities. Although this may have resulted in a higher percentage of persons living in and near Monticello being respondents to the survey, the worst that can be said is that persons who were likely to be familiar with and knowledgeable of the dam were more likely to be respondents.

For the sake of argument, let us assume that the survey overstates the numbers opposing the destruction of the dam by a whopping 20 percent. This would mean that 73 percent of the county residents oppose the destruction of the dam.

According to the Express, the JCCB relied on a past survey, showing support for the Board's proposal, which had the majority of respondents from Monticello. So an overrepresentation of Monticello residents was not a problem then. That survey had a severe overrepresentation of high school students and could not accurately reflect the wishes of the taxpayers and voters in the county.

Second, over 3,000 people have signed the petition to save the dam during a short three week period. This is equivalent to a whopping fifteen per cent of the population of Jones County. and twenty-two percent of the registered voters. That is a phenomenal result showing widespread support for saving the dam, given that there will be many people who have not had the opportunity to sign the petition.

Third, the majority of the public attending meetings on this issue have been in favor of saving the dam! According to articles in the Express and KCRG-TV9, a majority of the public was opposed to the dam's destruction at the May 18 and July 17 meetings of the JCCB. This was also the case at the July 25th and August 8th Board of Supervisors' meetings,

Fourth, in the July and August (through August 16th) editions of the Express, 13 out of 17 letters were against the destruction of the dam, with one writer declaring himself neutral on the issue. One of the three letters supporting the proposal was from a Cedar Rapids resident who did not say he had ever been a resident of the county. These three letters are the only ones we have seen supporting the project in the Express.

Fifth, the members of the Board of Supervisors were asked to give a breakdown of emails they had received. Only one responded. Supervisor Manternach indicated that all of his emails and conversations from the public were for saving the dam and none for destroying it. According to the Monticello Express, Supervisor Eaken said, at the August 8th meeting, that a majority of the persons he had spoken with supported saving the dam.

Sixth, the conclusion that the majority of Jones County residents wish to save the dam is consistent with a 2009 Iowa State University survey seeking input on Iowa's rivers. The DNR publication "The 2010 Dam Survey" stated: "In the CARD river usage survey (Figure 2-g), a randomized sampling of Iowans responded with general preference toward stream sections where there is no need to get around obstructions." This weak "general preference" received a score of 3.4 where "3" was neutral, 1 was the most negative and 5 was the most positive score for a stated value.

The dam survey publication also stated that:

> One canoe, kayak, and livery owner mentioned dam safety being of concern in a 2009 survey, and others have mentioned the importance of reducing navigation hazards at livery trainings held annually. Of the 327 paddlers who responded to the internet stakeholder survey, 61 percent favored a balanced approach to mitigation methods, 11 percent believed portages around dams should be emphasized over physical modifications, and 10 percent thought that all dams should be removed. **Among these groups, it is clear a plan with a strong bias toward dam removal would face limited support among key stakeholders.** (emphasis added).

The 2010 River Dam Survey (Iowa Department of Natural Resources).

OUR HISTORIC DAM

Prior to construction of the present dam, a previous dam provided power for a saw mill, which was constructed in 1853 by D.S. Dewey. This was later rebuilt, after a fire, as a grist, flour and saw mill in 1858. H.J. Lang founded the Monticello Electric Light Company in 1891. By 1910, the H.J. Lang and Son Electric Power Plant, powered by coal steam and water, lit 3000 lights in Monticello.

The present Monticello Maquoketa River dam was constructed between 1913 and 1914. According to the DNR's "2010 River Dam Survey", the Monticello Dam meets the definition of a "low head dam", "A river-wide dam that is normally overtopped by the entire river's flow; gates may or may not be present to reduce upstream flooding effects. Height is less than 30 feet." The survey states the dam is only 10 feet high and 441 feet long. It has flood gates. It is the only low head dam in the state to have an apron structure at its base.

An additional turbine house was installed in 1921 providing electrification for Monticello and the surrounding rural area. Diesel generators were also used to provide power when water power alone was not sufficient. An icehouse was added in 1935. In the early 1960, electric power generation at the dam ceased. The generators were later removed and shipped to Pakistan as part of foreign aid. The dam and 63 acres of land were ultimately transferred by Iowa Electric to county ownership in the 1960s.

For the last 57 years, the dam has served the purpose of a community recreational area; where generations of Jones county families have learned to swim, catch fish, and create lasting lifelong memories.

In the words of the criteria for eligibility for the National Register of Historic Places, the dam "is associated with [an] event that ha[s] made a significant contribution to the broad patterns of our history". (36 C.F.R. 60.4(a)). That event is the electrification of our small towns and rural areas. This event dramatically improved the lives of millions of Americans. One need only reflect on the catastrophic impact of the failure of our electrical system, if it were to occur, to understand the significance of this event.

The dam also "embod[ies] the distinctive characteristics of a type, period, or method of construction [and] . . . represent[s] a significant and distinguishable entity whose components may lack individual distinction" (36 C.F.R. 60.4(c)) as it is the only lowhead dam in the state that has an apron structure at its base.

We would argue that anyone who views the dam, especially at low or normal water flows when the apron is visible, would agree that the builders created a structure "that possess[es] high artistic values." (36 C.F.R. 60.4(c)).

Because the dam is a structure with the "quality of significance in American history, architecture [and] . . . engineering, and . . . possess[es] integrity of location, design, setting, materials, workmanship, feeling, and association," (36 C.F.R. 60.4), and in light of the facts cited above, the dam meets the requirements of eligibility for inclusion on the National Register of Historic Places. (36 C.F.R. 60.4).

THE DAM AND THE NATIONAL HISTORIC PRESERVATION ACT

Because the dam meets the above criteria of eligibility for inclusion on the National Register for Historic Places, the federal agencies providing funding for the dam are required, under section 106 of the National Historic Preservation Act, to:

> (a) . . . take into account the effects of their undertakings on historic properties and afford the Council a reasonable opportunity to comment on such undertakings. . . . The section 106 process seeks to accommodate historic preservation concerns with the needs of Federal undertakings through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties . . . . The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties.

36 C.F.R. 800.1(a).

> Adverse effects on historic properties include, but are not limited to:
>
> (i) Physical destruction of or damage to all or part of the property;
>
> (ii) Alteration of a property . . . that is not consistent with the Secretary's standards for the treatment of historic properties , (36 CFR part 68) and applicable guidelines;

36 C.F.R. 800.5(a)(2).

We submit that, in light of the detrimental effects of destroying a large portion of the dam, and the slight or nonexistent beneficial effects and actual detrimental effects of replacing the dam with the only alternative option now preferred by the JCCB (or even one of the two options it earlier indicated it preferred), the best way to "avoid, minimize or mitigate any adverse effect", 36 C.F.R. 800.1(a), on the dam would be to defund the proposed destructive projects and save the dam!

We will note some alternatives to the projects which do not involve destroying the dam. The safety concerns would be met by posting new signs warning of possible dangers of swimming close to the dam. This would be in addition to the warning sign already posted warning boaters coming from upstream of the dam and the availability of the boat ramp. The hypothetical concern that upstream flooding is caused by the dam could be met by opening the flood gates at the time of flooding. The concern about allowing increased navigation by fish could possibly be met by removing or modifying the flood gates.

THE JCCB'S OPTIONS AND COSTS FOR THE DAM

The JCCB issued a document, entitled "Maquoketa River Mon/Maq Dam Project" describing seven options for the dam. Maquoketa River Mon/Maq Dam Project at http://www.jonescountyiowa.org/current-projects-and-news. This document overstates the number of options actually available in light of the available grant funding of $2,031,287.and the JCCB's own stated preferences. Brooks, Kim, "Residents Question Mon Maq Dam Project". Monticello Express (August 2, 2017).

The costs of Options C, D, E, and G vary from $2.9 million to $5.5 million, all in excess of available grant monies. Options D and E also refer to "whitewater" development, which the public has been informed is now not a viable option. Also, while navigation without portaging is mentioned as one of the project goals, if you examine the illustrative photo for option C, the rock arch rapids, it is clear that neither motorboats nor canoes nor tubes could safely navigate such a structure.

In this document, the JCCB states it prefers options A and B. In the August 2nd issue of the Monticello Express, the JCCB Conservation Director is quoted as saying that the JCCB now prefers Option A.

The only remaining real options are Options A, B and F.

The JCCB's document describes Options A and B as follows: "Option A. Remove a large portion of the dam and add arching boulders across the channel" at a cost of $1.7 million. "Option B. Remove a large portion of the dam and install fish habitat components" at a cost of $1.5 million." These are the only two dam replacement options for which the JCCB indicates "grant funding has been acquired." Please note that the now favored Option A is 28% more than the $1,218,000 cost estimate given for modification of the dam in March 2016. Request for Transportation Alternatives Program Funds (TAP)(March 30, 2016) at 19. Will costs continue to increase?

According the JCCB's document, there is also "**Option F.** Leave dam in place. Everything would remain as it currently is. The current historical aspects of the site would not change." While speculating about "ongoing maintenance cost" and "potential dam failure with required cleanup", no cost estimate was ever calculated or provided for either eventuality. Nor was any legal authority cited for the proposition that clean up would be "required". According to the 2010 River Dam Survey, there were seven breached low-head dams in existence, with six breached before 2010, one of which was owned by the DNR and three by other government entities. How can they exist if clean-up is "required"?

Jones County has never a spent a dime on maintenance of the dam. Nor is there any known evidence of maintenance by the prior owner. In 2010, 96 years after the dam was created, the dam survey listed the dam's condition as "Good". There is no evidence of noticeable deterioration since 2010. This tells us three things. First, since dams do not repair themselves, the dam's condition has been at least "Good" since 1914. This is true despite floods which have completely submerged the dam. Second, while all things deteriorate, the dam's rate of deterioration is very slow. Third, given this slow rate of deterioration, we can anticipate that maintenance costs for the dam will, for the foreseeable future, mirror those of the past, which is to say little or none.

Another factor that has been raised is county liability for damage which would supposedly be caused by breakdown of the dam. Again, there is no known analysis whatsoever of this issue by the county. What damage to private property could possibly be caused by breakdown of the dam? " Unlike the dam at Delhi, this dam is a low head dam which does not hold back a large reservoir of water. It is most likely that a portion of the dam, not the dam in its entirety, may someday breakdown. The effect, insofar as increased water flow is concerned, may be similar to that of Option A. Based on the drawing and the illustrative photo on Option A in the JCCB's document (photo reproduced in "SAFETY" below), the "arching boulders" will, in effect, create a new dam, composed of boulders instead of concrete, with a big hole to allow passage of boats. Option A also has "rock riffle" on the north side, which would also increase water flow. Any threat of liability from such a "breakdown" causing a hole in the dam would be no greater than that from implementing Option A.

As previously noted, the dam has, at times, been completely submerged by floods. This means that any release of water from the dam would cover an area smaller than the current flood plain. Where are the buildings existing well within the flood plain downstream of the dam? If you construct in a flood plain, you assume the risk of flooding. Not only that, but any catastrophic failure of the dam would probably be caused by a flood which submerged it. Once the water recedes, we would see the dam is gone. Can anyone seriously argue that any hypothetical damage of hypothetical buildings was caused by dam failure and not by the flood which caused the dam to fail?

Finally, Supervisor Joe Oswald suggested another hypothetical cost of retaining the dam is that, if the JCCB were to apply for funding for another dam project in the future, its application would be denied because it had declined the funding available now. Decisions on grant applications are supposed to be made based on legal standards set forth by the legislature and the granting agency. Where is the statute or rule saying that a past decision to refuse a prior grant, based on good judgment and the desire to save the taxpayers' money, will be a factor in the granting agency's decision on a new application? We are not compelled to waste the taxpayer's money merely because it is available. The decision on the dam should be made on the same basis as it would be if the county had to raise a bond or taxes in order to fund it. The grants are not "free", they are taxpayers' dollars.

A rational assessment compels the conclusion that the cost of retaining the dam is far less than the $1.5 million to $1.7 million to be wasted on Options A or B. The JCCB states that one of its goals is to "[d]evelop and design budget-friendly alternatives for the construction project". JCCB, Maquoketa River Mon/Maq Dam Project" at 1. The most "budget-friendly" alternative by far is to save the dam!

SAFETY

The JCCB's "Maquoketa River Mon/Maq Dam Project" lists, as the first goal of the dam project: "Eliminate dangerous hydraulics at all flow ranges." It also avers that:

> Low head dams like the Mon/Maq are prone to dangerous hydraulics as water flows over their surface and recirculates in the pool below causing safety and liability issues. Known as a drowning machine, this recirculation causes anything caught within it to be trapped near the dam.

JCCB, Maquoketa River Mon/Maq Dam Project" at 1. The allegation that there are dangerous "drowning machine" hydraulics at the Mon/Maq dam is based on the assumption that the Mon/Maq dam is like every other low head dam in Iowa. It is also a necessary allegation in order to meet the Iowa Department of Natural Resources rule definition of "low head dam" and to obtain grants under the low-head dam public hazard program. Under the DNR rules, *"Low-head dam"* means a uniform structure across a river or stream that causes an impoundment upstream, **with a recirculating current downstream**." 571 IAC 30.51 (emphasis added). The rules also provide:

> *Low-head dam public hazard program.* **The department will provide funds to dam owners, including counties . . . , within Iowa to undertake projects** that warn the general public about drowning hazards related to low-head dams or **that remove or otherwise modify low-head dams to create a safer experience on Iowa's navigable waters**. Low-head dam removal and modification projects, when possible, shall enhance or restore ecological and recreational functions of rivers, including but not limited to fish passage, aquatic habitat, and navigation.

571 IAC 30.53(2)(emphasis added).

The most important fact about safety at the Monticello Maquoketa River Dam is that there has never been a drowning at the dam. Due to the design of the dam, especially its apron structure, it is doubtful that there are any recirculating currents or drowning machine hydraulics at the dam at normal or low water levels.

This is best demonstrated by comparing the two diagrams below, explaining the drowning machine phenomenon, to a photo of the normal condition of the dam. The first and easiest to understand, is from the Pennsylvania state police. According to Diagram # 1 "The water above the dam picks up speed as it squeezes over the structure." The downstream side of the dam plunges in a straight line at an 80 degree angle to the bottom of the river. Three quarters of the dam on that side is below water. The water plunges down that side to the bottom of the river. The diagram notes: "Fast moving water plunges to the bottom of the dam, forcing the water already there to the surface. Water is then forced back down to the bottom by the water falling over the dam, and the cycle repeats itself".

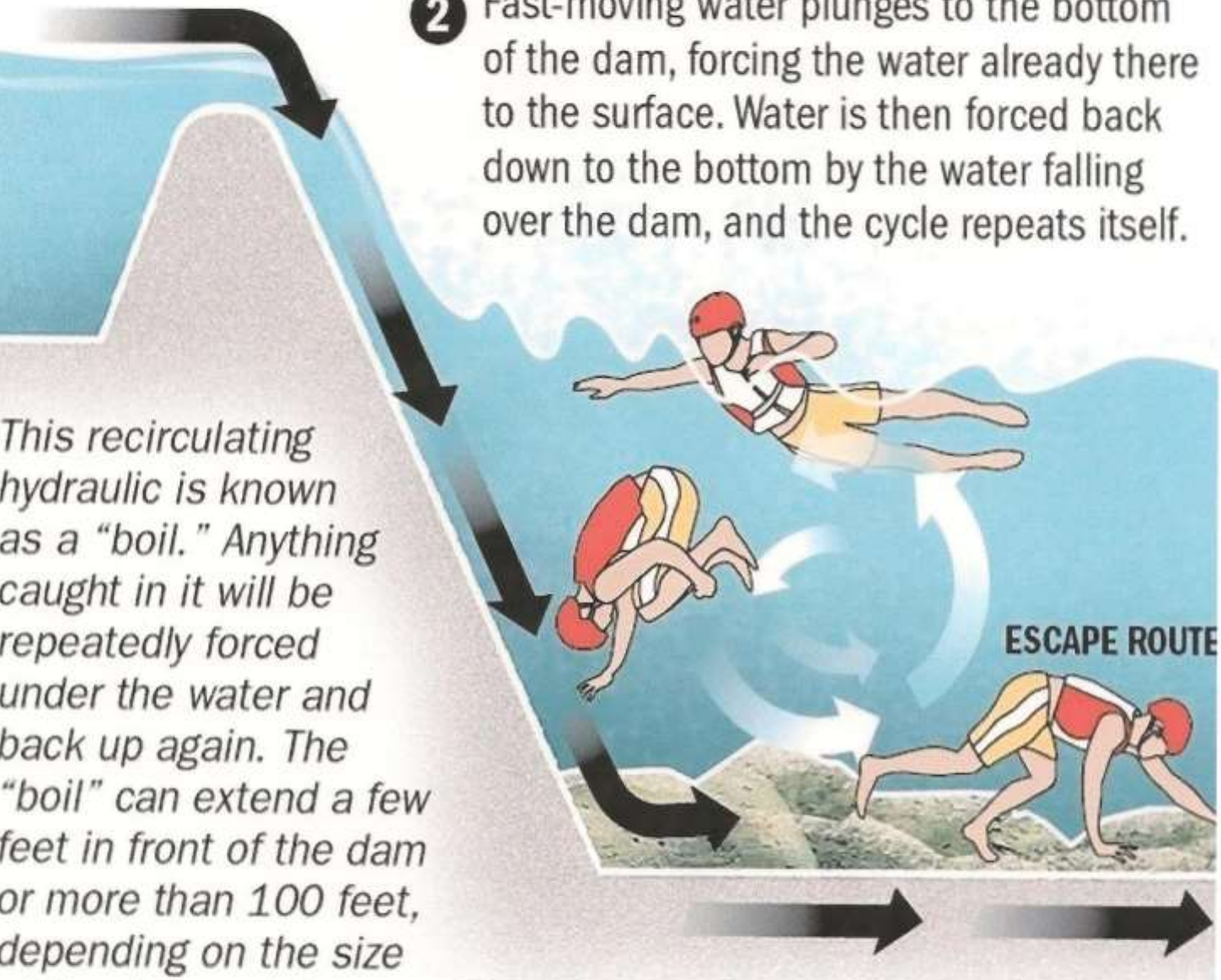
Diagram # 2 is similar. Both diagrams demonstrate an unimpeded plunge of water down the downstream side to the bottom of the river. The downstream water level is near the top of the dam. There is no apron above the water level on the downstream side.

The first photograph of the Monticello Maquoketa dam at normal water levels is markedly different from the situation portrayed in Diagrams #1 and #2. Water does not plunge over the side of the dam to the bottom of the river. It is intercepted by the apron. The apron is above the downstream water level. The apron is at least as wide as the 10 foot height of the dam. This totally eliminates any "drowning machine" action caused by water plunging over a dam straight to the bottom of a river. The water continues to the edge of the apron and falls a short distance, perhaps 2 feet, into the river downstream.

DIAGRAM # 1

1 The water above the dam picks up speed as it is squeezed over the top of the structure.

2 Fast-moving water plunges to the bottom of the dam, forcing the water already there to the surface. Water is then forced back down to the bottom by the water falling over the dam, and the cycle repeats itself.



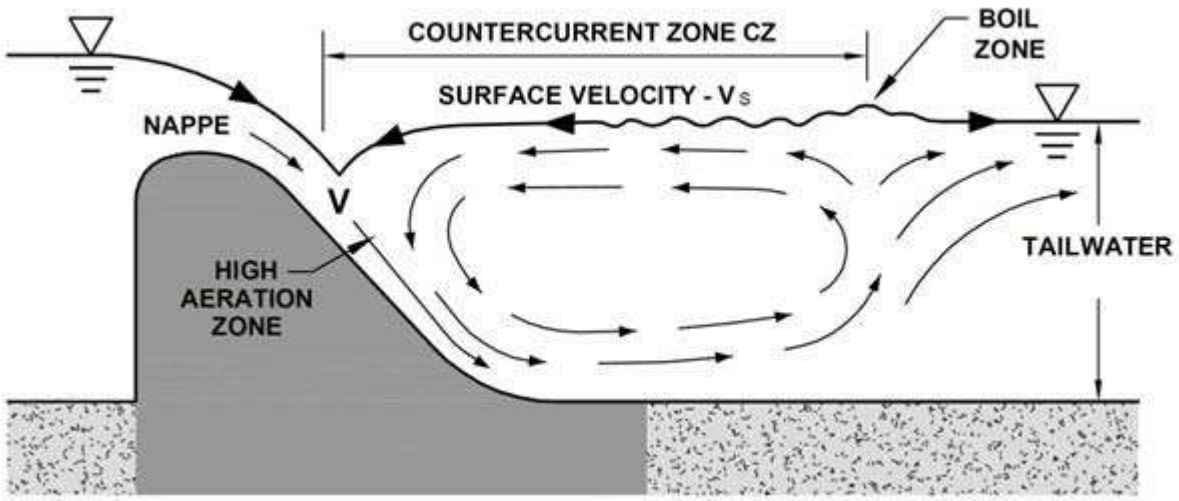
This recirculating hydraulic is known as a "boil." Anything caught in it will be repeatedly forced under the water and back up again. The "boil" can extend a few feet in front of the dam or more than 100 feet, depending on the size of the river and the depth of the water.

3 To escape the this action, curl up, dive to the bottom, and swim or crawl downstream

Sources: Pennsylvania State Police community awareness bulletin, Popular Mechanics

Post-Gazett

DIAGRAM # 2



Tschantz, Bruce, "What We Know (and Don't Know) About Low Head Dams," 12 The Journal of Dam Safety No. 4, 38 (2014).

PHOTO OF THE MONTICELLO MAQUOKETA DAM AT NORMAL WATER LEVELS

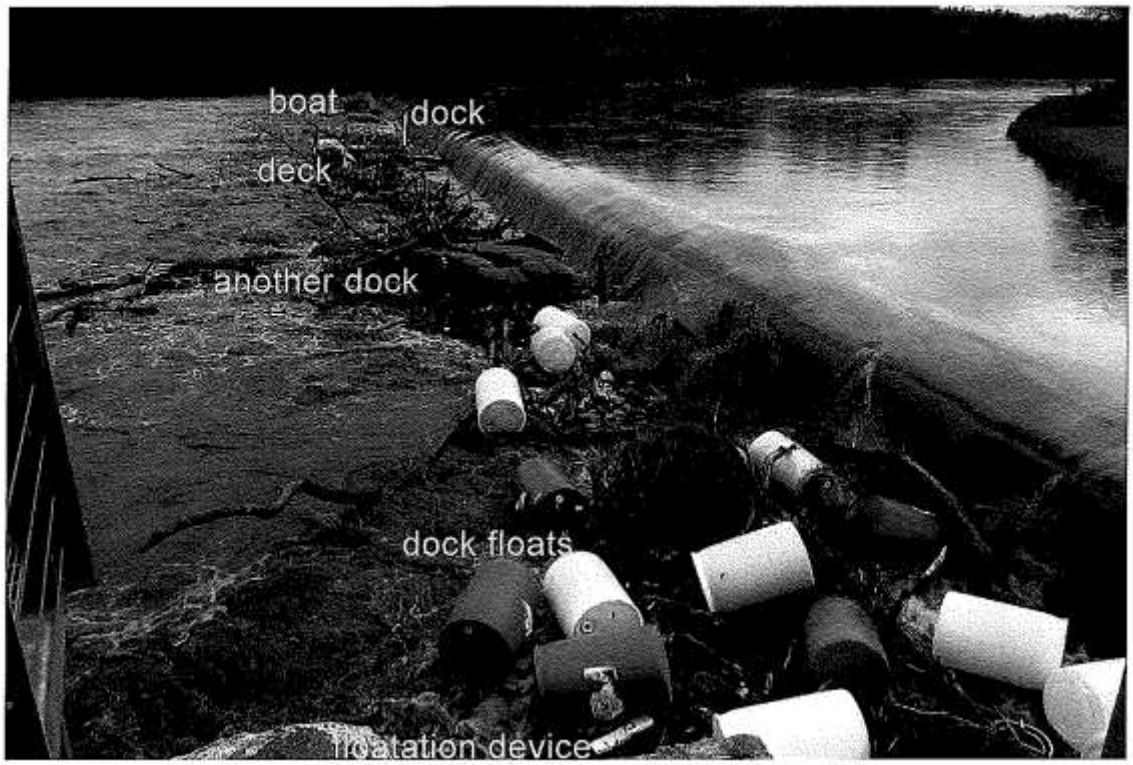
JCCB, "Maquoketa River Mon/Maq Dam Project" at 10.

Compare the above photo of the Monticello Maquoketa Dam at normal water levels with the photo below of an actual “drowning machine” low head dam in Tennessee. Compare the extensive “boil” and water turbulence downstream of that dam, which has no apron, with the lack of such turbulence at the Monticello Dam .

Tschantz, Bruce, “What We Know (and Don’t Know) About Low Head Dams,” 12 The Journal of Dam Safety No. 4, 37 (2014).

In an application for an Iowa Department of Transportation TAP (Transportation Alternatives Program) grant, the JCCB submitted the following claim and photograph:

Dangerous hydraulics around the Mon/Maq Dam pose a serious hazard to all visitors on the water trail. The same hydraulics that hold this debris against the face of the dam creates a drowning pool for those that draw too near. By modifying the dam this hazard can be significantly minimized.



Request for Transportation Alternatives Program Funds (TAP)(March 30, 2016) at 23.

The text accompanying the photo makes no mention of the real hazard here. This is not a photograph of the Maquoketa River at normal water levels. This is a photograph of the river at a high flood stage. Ninety percent of the normally visible dam is submerged in this photo. The river is a "serious hazard for visitors to the water trail" at flood stage, regardless of whether there is a dam or not or whether Options A, B, C, D, E, or G replace the dam. To imply, based on this flood stage photo, that the dam presents "dangerous hydraulics" or a "drowning pool" at normal or low water levels is grossly misleading.

There is already a warning sign in place notifying upstream travelers of the presence of the dam and the boat ramp. Additional warning signs cautioning about swimming close to the dam, either upstream or downstream, could be put in place, if such action is actually necessary. Funding for such signs is available from the DNR at a cost undoubtedly far less than $1.7 million. 571 IAC 30.53(2).

How safe is the current "preferred option" of the JCCB, Option A? The JCCB's "Maquoketa River Mon/Maq Dam Project" provides the following photo and comment on Option A:

*** Picture is of Elkader's Whitewater drop. The actual rock structure in Option A's design will be slightly different than this picture. In particular, the preliminary design has a more gradual slope and at least 2 arching rows of rock. The goal is to allow safe paddler/tubing passage in addition to shallow water boat traffic at most flows while creating a scour hole for fish attraction and angler success.

JCCB, "Maquoketa River Mon/Maq Dam Project" at 3. Please note that the goal is to provide "safe paddler/tuber passage . . . **at most flows** (emphasis added)." At what flows will paddler/tuber passage be unsafe? Well, of course, flood stage flow will be unsafe. A paddler or tuber may, for example, hit submerged or visible boulders or other debris which they cannot evade due to the rapid flood currents.

But, what about normal flows after a flood? A canoeist or tuber relying on this "safe" passage at normal flows may discover, at the last second, that a recent flood has deposited a submerged or visible tree in the passage. If the canoeist or paddler is knocked unconscious or otherwise injured before being swept to the deep scour hole, this may be the last river trip the tuber or paddler ever takes. Water pressure jamming the canoe against the tree also creates a dangerous situation. The dam area may have its first drowning with Option A.

While the accompanying map indicates the boat passage will be a minimum of two feet deep, what if there is a drought or very low river flows and a canoe hangs up in the passage? JCCB, "Maquoketa River Mon/Maq Dam Project" at 2. Now, if a canoe hangs up in a slow moving, shallow, level river, it is no big deal. The canoeists get out into the river, move the canoe to slightly deeper water, and get back in. But here, the canoe is hung up at a downward angle, on a slippery surface, with faster water being funneled to the passage, and a deep scour hole at the end. It would not be so easy to reenter a tippy canoe before getting into water that is too deep for re-entry. There is a real risk of injury or death.

There will always be a risk in swimming, boating, tubing, or canoeing, no matter what option the JCCB selects. Rock climbing and hiking are, for example, allowed at Pictured Rocks despite the risk. No place can be made perfectly safe and the JCCB has no duty to do so. Nonetheless, the previously cited facts and reasoning demonstrate that the dam is already safe. There is no reason to spend taxpayer's dollars for a bogus safety benefit.

NAVIGATION

The JCCB's "Maquoketa River Mon/Maq Dam Project" lists "Enhance river navigation" as one of the project's goals. The document further claims:

> Navigation within the Maquoketa River was reduced with the construction of manmade dams. Motor boats are no longer able to travel between the upstream and downstream stretches. Paddlers and tubers are required to portage around the dam. This impediment is of major concern to recreationists with reduced mobility.

JCCB, "Maquoketa River Mon/Maq Dam Project" at 1. We seriously doubt that motor boats were EVER "able to travel between the upstream and downstream stretches" because there were predecessor dams to the present one, built in 1913. The Evinrude Motor Company, the first commercial company producing outboard motors, was not formed until 1909. https://en.wikipedia.org/wiki/Ole_Evinrude. In any event, the obvious solution would be to build a downstream boat ramp to match the upstream one, at a cost considerably less than $1.7 million for Option A.

We next address the portage question. If one goes to the dam on a summer weekend, one will see many people putting canoes, kayaks, and tubes, either their own or those of Monticello Canoe Rental, into the water well below the dam to make the float trip to Picture Rocks Park. In an application for DOT TAP funds, the JCCB stated: "On peak use weekends from Memorial Day through Labor Day, just below the dam approximately 300 canoes and kayaks are staged near the site each day. In addition, 100 to 115 people floating in tubes may stage near the site each day." Request for Transportation Alternatives Program Funds (TAP)(March 30, 2016) at 11.

One will also see motorized fishing boats at the boat ramp, either going to or returning from fishing trips upstream.

What one will probably not see is paddlers and tubers using the ramp to portage around the dam. Why is this?

The JCCB's TAP application indicates that removal of the dam will "reconnect 70 miles of water trail" from "Lake Delhi Dam – 20.38 river miles upstream and the Maquoketa Dam located approximately 49.69 miles downstream." In fact, this ignores the intervening upstream Hopkinton rock dam. So 20.38 miles is approximately twice the upstream connectivity provided by removal of the Monticello Maquoketa River Dam. Request for Transportation Alternatives Program Funds (TAP)(March 30, 2016) at 1, 11.

But even with the shorter distance, it is not surprising that we rarely, if ever, see portagers at the Monticello Dam. Canoeists from Hopkinton often rent canoes from Outback Canoe Rental. Their canoes are put in at the Hopkinton Dam and proceed for 8 miles downriver to their business location, miles upriver from the Monticello Dam. According to their website, the float takes 4 to 5 hours of floating time, which is combined with 3.5 hours to 5 hours of stops for picnics, sunbatheing, swimming

or play. By the time the canoeists have arrived at their destination, miles upstream from the dam, they have put in a full day. http://outbackcanoerental.com.

According to the Iowa Rivers Survey of 2010, 27% of typical river visitors will be on the river for only one day or less. 65% of river visitors will be on the river for one-half day or less. Only 8% will be on the river for 2 or more days. So, the demand for river travel is met by the current trip from the Hopkinton Dam long before canoeists or kayakers get to the Monticello Dam.

If a canoeist desires a longer trip, they can put in at the Monticello Dam and continue to Eby's Mill, Highway 136, Canton, or points further downriver.

While there is no or little demand for canoeing, kayaking or tubing from upstream to the Monticello Dam, the JCCB claims that the short portage around the dam is a "major concern to recreationists with reduced mobility". JCCB, "Maquoketa River Mon/Maq Dam Project" at 1. There is no data cited to support that there is any demand for navigation by this group through the Monticello Dam site. This demand seems unlikely in light of the increased hazard for those with "reduced mobility," who, like anyone else, might end up in the water if they were to proceed on the river in tubes, canoes, kayaks or even small fishing boats.

It must be noted that, navigation is a secondary concern under the DNR's rules governing the granting of funds under the Low Dam Hazard Project. 571 IAC 30.53(2). Funds must be granted to resolve safety problems, which do not exist at the Monticello Dam at normal or low water levels.

The navigation goal is simply not supported by the facts. The taxpayers' money should not be expended to meet this goal.

UPSTREAM FLOODING

The JCCB indicated that one goal of the dam project is to "Reduce upstream flooding" which is based on the proposition that "Increased flooding upstream can occur due to the presence of dams." JCCB, "Maquoketa River Mon/Maq Dam Project" at 1. Once again, a generalized proposition about dams or low head dams is being applied to the Monticello Dam without consideration of whether that assumption has been verified.

As previously noted, at times, the dam has been completely submerged by flooding. It stands to reason that any upstream flooding on those occasions was not "caused" by the dam anymore than it would be caused by any other submerged object. There are other supervening causes, such as rainfall or release of water from the Delhi Dam, which account for flooding.

Indeed, the construction of the new Delhi Dam, allowing for greater control of outflows from that dam, and the removal of homes and businesses from the flood plain on the east end of Monticello may have eliminated whatever problem existed.

If the upstream flooding problem is real, will the alternative Option A, now preferred by the Board, resolve the problem? In the August 2nd issue of the Express, Conservation Director Mormann restated the generalization that low-head dams like ours "increase upstream flooding". He also stated, however,

both that Option A would "raise the water slightly" upstream in comparison to the present dam, but also that the water level would decrease, by "mere inches" at the upstream Jellystone Campground. Whichever of those contradictory alternatives you pick, it seems unlikely that either raising the upstream water level "slightly" or lowering it "by mere inches" would have any significant positive impact on whatever upstream flooding was previously associated with the dam.

The lack of effect of Option A or Option B on upstream flooding is best demonstrated in the application for the TAP grant which states that money will be allocated so that the "access road and adjacent parking lots will be hard surfaced . . . to improve their stability during and after flooding." Request for Transportation Alternatives Program Funds (TAP)(March 30, 2016) at 12, 18. The access road is above the level of the present dam. This is an admission that flooding will continue, above the level of the present dam, after it is replaced.

An obvious solution to any flooding contributed to by the Monticello Dam would be to open the Dam's floodgates at time of the flooding.

In light of the above facts, the "upstream flooding" rationale for the dam project is not supported by the evidence.

FISHING

Based on the generalized proposition that "[a]ngling success in pooled areas above low head dams is often reduced", the JCCB set a goal for the dam project of "improve angling opportunities near the dam vicinity and upstream in the impounded area " JCCB, "Maquoketa River Mon/Maq Dam Project" at 1.

It must be noted that improvement in "recreational functions" is a secondary concern under the DNR's rules governing the granting of funds under the Low Dam Hazard Project. 571 IAC 30.53(2). Funds must be granted to resolve safety problems, which do not exist at the Monticello Dam at normal or low water levels.

There is no data supporting the proposition that fishing needs improvement "in the dam vicinity and upstream in the impounded area." The public has made it clear at meetings of the JCCB that fishing immediately downstream of the dam is excellent. It is a matter of common knowledge that fisherman use the boat ramp to go fishing upstream. It makes no fiscal sense to spend $1.7 million to develop a scour hole downstream or to finance a marginal or imaginary improvement in fishing upstream.

FISH PASSAGE

The JCCB's goals for the dam project include, "Improve upstream passage of native fish at all flow ranges". JCCB, "Maquoketa River Mon/Maq Dam Project" at 1.

It must be noted that, "fish passage" is a secondary concern under the DNR's rules governing the granting of funds under the Low Dam Hazard Project. 571 IAC 30.53(2). Funds must be granted to

resolve safety problems, which do not exist at the Monticello Dam at normal or low water levels.

We will readily concede that any dam may impede upstream passage of fish, including invasive species which may, someday, be downstream of the dam. It has been suggested that the floodgates could be removed or modified to create a side channel allowing fish to move upstream. At one time, the floodgates were left open for months, creating such a side channel. So, such a project is not impossible. We believe that such a project could be undertaken for considerably less than $1.7 million without destroying the dam. Even without such a project, it makes no sense to spend $1.7 million dollars to achieve this goal. The cost is not consistent with the benefit.

OTHER GOALS:

The JCCB lists other goals for the dam project as: "Enhance natural aesthetics and native vegetation: and "Maintain historical interpretation of the site". Neither of these goals requires destruction of the dam.

OTHER ENVIRONMENTAL EFFECTS

The Monticello Maquoketa Dam aerates the water flowing over the dam. By adding oxygen to the water, it reduces any upstream pollution, such as that coming from legacy sewer systems upstream. While this may occur with Option A or B, the benefit is already there now, without the expenditure of $1.7 million.

As previously noted, the JCCB Conservation Director has posited that the new structure will either raise the water level upstream or lower it. This indicates uncertainty as to what the new structure will actually do. What effect will either of these outcomes have on upstream fish, wildlife and wetlands?

The TAP application indicates that the boat ramp will have to be extended because the channel will be narrowed and the water level will be lower. The application also indicates that the Kitty Creek water level will be lowered in response to the removal of the dam. The application admits that "some bed scouring will occur in the river channel requiring the addition of rock to minimize impact on the piers [of the Business Highway 151 bridge]". Thus, the TAP application indicates the water level will be lowered to such a degree that monies will have to be expended to resolve dangerous hydraulics created at Kitty Creek and to provide rock armoring to prevent damage to the bridge. Request for Transportation Alternatives Program Funds (TAP)(March 30, 2016) at 12.

The soil along the river is Type 315, which does not hold water. Is it unreasonable to expect that, when the dam is removed, and the river cuts a new channel, the water level will drop in all wetlands, sand point wells, and irrigation ponds along the river?

A recent episode of Iowa Outdoors noted that the Maquoketa River is part of a project to restore mussels to rivers in Iowa. Has any research been done to determine what effect the new structures will have on this endeavor? The TAP application indicates, "[t]he demolished portion of the dam will have all reinforcing material removed and will then be incorporated into the river bank. Sediment will be

removed from the pool directly above the dam and will cover the newly placed material on the river bank." Request for Transportation Alternatives Program Funds (TAP)(March 30, 2016) at 12.

Since the dam is to be demolished before the sediment is removed from the upstream pool, what will prevent a substantial portion of the sediment flowing downstream before its removal? Has the sediment been tested for pollutants? What effect will the sediment have on the river and wildlife downstream? Will it cause the downstream river fill in with sediment and become more difficult to navigate?

In 2013, a spill of bentonite, used as drilling mud, into the Mary's River in Oregon created a "smothering hazard" for invertebrates. Rimel, Anthony, "NW Natural to Remove Bentonite From Mary's River" Corvallis Gazette Times (Sept. 7, 2013). Could the release of sediment have a similar effect on mussels in the Maquoketa River?

CONCLUSION:

The financial, historic, aesthetic, and environmental costs of Options A and B far exceed any possible benefits from these projects. The safety, navigation, flood control, fishing, fish passage and other supposed benefits of the projects either are not supported by the facts, not worth the money, or do not require destruction of the dam. Fiscal responsibility, common sense, and rational analysis require that these projects be defunded and the dam preserved.