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VIA ELECTRONIC MAIL

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Coopers Mills Dam Repair Funding

Dear Laura:

At the request of the Sheepscot River Watershed Council (SRWC), I am providing a summary of our investigations into possible funding sources for dam repair. As you are aware, Kleinschmidt prepared an alternatives analysis for fish passage at the Coopers Mills dam on the Sheepscot River in Whitefield, Maine. The dam is in disrepair and requires substantial remedial work.

It is my understanding that the SRWC and other interested parties are researching funding available for fish passage alternatives such as dam removal. Therefore, we are only commenting on potential funding for the alternative of dam repair.

Potential Dam Repair Funding

State of Maine Funding

Although the State of Maine runs a dam safety program through the Maine Emergency Management Agency (MEMA), it does not have funding for dam repairs. The state dam inspector, Tony Fletcher, P.E., inspected the Coopers Mills dam on July 13, 2006 and was later quoted in an article in the Lincoln County News (July 19, 2006) saying that the best option for the dam is to “find the money and take it out...[t]here’s no option to repair it”. The article further stated that “as far as he knows, there are no government entities to tap for funding.”

I contacted Mr. Fletcher and specifically asked about the “Dam Repair and Construction Fund”, which is included in the Maine Revised Statutes, Title 37-B, Defense, Veterans and Emergency Management, Chapter 24 (Dam Safety). The purpose of the fund is to provide “low-interest loans to municipalities for engineering, legal and construction costs involved in acquiring title to, establishing a long-term maintenance plan for, repairs to, reconstruction of, breaching of or removal of a dam.” Mr. Fletcher informed me that no funds have even been

allocated by the legislature, and this should not be considered as a potential source of funding for dam repair.

The State Hazard Mitigation Grant Program was also researched as a potential funding source. This program, administered by MEMA, provides funds for “Minor structural flood control projects”, such as culvert upgrades, to minimize flood hazard potential. However, MEMA specifically says that dams, which are classified as “major flood control projects”, are not eligible for funding.

Federal Funding

Kleinschmidt researched potential federal funding sources for dam repair, but primarily focused on sources not related to habitat restoration. I have contacted both the U.S. Fish & Wildlife Service (USFWS) and National Oceanic & Atmospheric Administration (NOAA), and both organizations have indicated that it would be very unlikely that habitat restoration grant funding could be available for dam repair.

Throughout the United States, the lack of available funding for a dam repair is considered to be a crisis. In its 2005 “Infrastructure Report Card”, the American Society of Civil Engineers (ASCE) gave the state of the nation’s dams a “D”, and noted that “\$10.1 billion is needed over the next 12 years to address all critical non-federal dams—dams which pose a direct risk to human life should they fail.” The ASCE further stated the following:

According to results of a study by the Association of State Dam Safety Officials, the total investment to bring U.S. dams into safety compliance or to remove obsolete dams tops \$30 billion. Except for a handful of state programs offering low-interest loans to dam owners, there are no funding sources for dam rehabilitation or repair.

In March 2005, Rep. Sue Kelly of New York and thirty-five cosponsors introduced H.R. 1105, the “Dam Rehabilitation and Repair Act of 2005”. The bill would “establish a program to provide grant assistance to states for use in rehabilitating publicly-owned dams that fail to meet minimum safety standards and pose an unacceptable risk to the public (deficient dams).” The bill has been hailed by the ASCE and Association of State Dam Safety Officials (ASDSO) as a big step forward, even though the projected funding (\$50 million for fiscal year 2007, with an additional \$100 million each for fiscal years 2008 through 2010) will obviously fall shy of the national need. The federal share of rehabilitation costs would reportedly be limited to 65% through this bill.

The bill’s status is uncertain; as of September 20, 2006 the bill was “Ordered to be Reported (Amended) by Voice Vote”. Mr. Fletcher of MEMA indicated that he has no information about whether the State of Maine will receive any funding if this bill is passed. However, even in the event that this very competitive grant program became available, it appears as though the Coopers Mills dam would be ineligible for funding because the bill targets dams that do not meet minimum state safety criteria and pose a threat to public safety, often referred to as “high hazard” dams. The Coopers Mills dam is considered a “low hazard” dam and therefore, in Maine, has no minimum safety criteria. The low hazard classification is related to the size of the dam, the impoundment volume and development downstream, i.e., factors that affect downstream flood damage in the event of a breach. The hazard classification does not account

for other public safety issues, such as the water supply available for firefighting, or hazards from falling or drowning. It is our opinion that the “Dam Rehabilitation and Repair Act of 2005” should not be anticipated as a source of grant funding for repair of the Coopers Mills dam.

We are familiar with at least one dam in Maine, the Highland Lake dam in Westbrook, rebuilt with other types of federal funding. In October 1996, a severe storm in southern Maine caused the breach of an embankment of the Highland Lake dam. The dam was replaced in 2000 using funding—in part—from the Federal Emergency Management Agency (FEMA). However, the Highland Lake dam differs from the Coopers Mills dam in many significant ways, including that the primary purpose of the Highland Lake dam is for flood control. Most important, however, is that unlike the Town of Whitefield the City of Westbrook is a participant in the National Flood Insurance Program (NFIP) administered by FEMA, and therefore the Highland Lake dam is eligible for funding related to flood mitigation and/or flood damage. However, even if the Town of Whitefield was a participant in the NFIP, a review of available funding from FEMA did not unearth any possibilities for funding the repair of a low hazard dam that did not serve flood control purposes. (The Coopers Mills dam is a “run-of-river” dam and does not attenuate peak flood flows or provide storage during floods. If anything, the presence of the dam increases the flood potential upstream of the dam along Basin Lane and the dam’s removal, not repair, would be considered to mitigate flood damage potential.)

The Department of Homeland Security (DHS) administers the Assistance to Firefighters Grant Program (AFG), whose purpose “is to award grants directly to fire departments and nonaffiliated emergency medical service (EMS) organizations.” According to information on the DHS website (www.dhs.gov), “[t]hese awards aim to enhance our first responders ability to protect the health and safety of the public, as well as that of first-responder personnel, with respect to fire-related hazards.” In 2006, most of the approximately \$1.6 million in AFG grant money awarded in Maine went to communities for the purchase of vehicles, with a smaller amount for equipment and training. Although the grant does not specifically exclude water supply infrastructure, the AFG guidelines are clear that construction is not eligible, except for an activity like an upgrade in training facilities at a fire station where the costs do not exceed \$10,000. The grant, therefore, appears to be a good resource for the Whitefield Fire Department for equipment and training, but is not applicable for an activity like dam repair.

The Natural Resources Conservation Service (NRCS) and its predecessor, the Soil Conservation Service (SCS), have some historical precedent for funding the repair or construction of dams, especially those that serve agricultural (i.e., irrigation) purposes or have wildlife benefits (e.g., waterfowl habitat). They have also overseen the design and construction of ponds, also for the benefit of agriculture and wildlife, including ponds that were fitted with dry hydrants. The Coopers Mills dam does not serve any agricultural activities, and the small impoundment is not considered to provide significant waterfowl habitat. The Wildlife Habitat Improvement Program (WHIP) administered by the NRCS has recently been used in Maine for funding activities such as fish ladder construction and repair, as well as dam removal, and some funds have even been dedicated for projects that specifically benefit wild Atlantic salmon (*Salmo salar*). In 2006, for example, the NRCS provided funding—in part—for the removal of the Sandy River dam in Norridgewock, Maine. Based on the NRCS’s current priorities for Maine and the track record of WHIP funding in the state, it is unlikely that the NRCS would fund dam

repair. It would, however, be likely to fund repair activities directly involving the Denil fish ladder at the Coopers Mills dam. Fish ladder rehabilitation is a critical part of the dam repair alternative, although the costs would be small compared to the repair of the spillway, abutments and gates.

Mary Thompson and Bill Yamartino of the NRCS indicated that the NRCS would not typically be involved in dam repair unless there was habitat for threatened and endangered species dependent on the dam remaining in place. Mr. Yamartino further elaborated that the applicant for any NRCS funding would have to be the owner of the dam (i.e., Town of Whitefield) “or an entity which has been granted control of the dam through a lease or easement”.

Private and Non-profit Funding

Numerous foundations and non-profit organizations within Maine and the rest of the U.S. have been involved in funding fish passage projects in the state, especially dam removal. We are unaware of any recent funding of dam repair by foundations or non-profits. Historically, conservation organizations such as Ducks Unlimited provided funding for dam construction and repair in the interests of protecting or enhancing waterfowl habitat. However, these activities seem to have slowed in recent years, in part due to concerns about dam safety and the long term maintenance of these structures. While a grant from a foundation or non-profit organization for dam repair is theoretically possible, there is probably a greater probability of receiving funding from a private donor or a local civic organization. While some non-profits (e.g., American Rivers) have developed specific programs to help support fish passage alternatives such as dam removal, we have seen no evidence of any non-profits maintaining programs to fund dam repair.

Other Funding

Kleinschmidt is involved in a lot of dam projects throughout the U.S., especially the northeast, and our research into the funding available for dam repair seems to be corroborated by dam owners and operators. There appear to be no good “outside” resources for funding dam repair. Nevertheless, dam repair regularly occurs, and typical projects include the following.

- The repair of hydropower dams is usually funded by revenue from hydropower operations. Most of these dams are privately owned, although a few municipally-owned projects exist. Some repair is mandated by dam safety criteria, including regulations of the Federal Energy Regulatory Commission (FERC) for hydropower dams that it licenses. The economics of dam repair seem to be important in every case, and there are examples of dams being removed because the costs of dam repair and fish passage were too high. Despite the attractiveness of a revenue stream for activities such as dam repair, little to no new hydropower development is occurring due to the negative economics of these projects and their environmental impacts.
- Some dams owned by private individuals or lake associations have been repaired without outside funds, usually to preserve water levels for recreation.

Increasingly, however, dam owners are trying to turn over these structures to municipalities, especially dams that need major rehabilitation and repair. The cost of repair and maintenance of these dams is an obvious concern, and sometimes an argument is made that it is in a town's best interest to maintain a dam, not only for public recreation but to protect lakefront property values which often comprise a large percentage of a town's tax valuation. Liability issues are another concern—unlike private individuals or lake associations, municipalities are protected against many types of lawsuits and are already covered for liability for structures like roads, bridges, schools, etc. In our experience, the repair of municipally-owned dams is almost always funded by municipal revenues (i.e., property taxes). In southern New England (Massachusetts, Connecticut, Rhode Island) we regularly see municipal appropriations for dam repair, but these communities often have much larger budgets than small Maine towns.

- Sometimes the repair of publicly-owned dams occurs through a related activity, such as an environmental cleanup or road construction. A dam, for example, may be playing a role in preventing contaminated sediments from migrating downstream, and its repair may occur through a Superfund project. However, it is also just as likely that a dam will be removed, as occurred in Corinna, Maine during the Superfund cleanup of the Eastland Woolen Mill. A dam that is an integral part of a bridge could theoretically also be repaired during bridge reconstruction, although there is an increasing tendency to remove these dams if possible and disassociate them from highway infrastructure.
- In Maine, the repair of state-owned dams is usually paid for using revenues from legislative appropriations and departmental financing. The Maine Department of Inland Fisheries & Wildlife (MDIFW), for example, owns nearly 70 dams, most of them associated with waterfowl habitat. Some past repairs have probably occurred using state bond money approved by voters, and other departmental revenue includes the sales of hunting and fishing licenses. The State of Maine seems very leery of acquiring new dams, due to the costs associated with maintaining them and the additional liability. A few years ago, a breach of a MDIFW-owned dam in Concord Township caused approximately \$1 million in damage to a state highway.
- Some municipally-owned dams are associated with water districts. Historically, the dams impounded ponds and lakes that were the primary source of water supply. Although a few surface water supplies still exist in Maine and the rest of New England, their numbers are dwindling. Many dams are still being maintained by water districts because they serve as a secondary source of water supply, especially in times of drought, sometimes for drinking water but more often as an emergency water source for firefighting where potable water is not required. For these dams, the repairs may be paid using water district revenue (i.e., water fees).

- Some dams are privately owned by businesses, who use the impoundments for water supply for firefighting, fish hatcheries, or mill water supply (e.g., papermaking). Dam repair is considered to be an expense in the overall business operations.
- Some dams have been repaired and maintained for historic and educational purposes, such as a working grist mill or sawmill as part of a museum. Usually there is a non-profit organization providing the funding for dam maintenance through visitor fees, donations and grants from other foundations and non-profits.

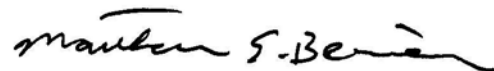
In summary, there appear to be no good sources of funding, other than municipal appropriations and donations, for the repair of town-owned dams in Maine, including the Coopers Mills dam. Although the role of the dam in providing water supply for firefighting is very important, the dam is not associated with irrigation, flood control or high value waterfowl habitat, activities that have funded dam repairs elsewhere. The low hazard classification of the dam—based on its potential threat to public safety in the event of a breach—also makes it unlikely that the dam would be competitive for any future grants administered by the state or federal government, since these grants would inevitably prioritize high hazard structures.

A few sources of funding may be available for some aspects of the overall dam repair, specifically the repair of the Denil fish ladder and additional passage for the American eel (*Anguilla rostrata*). The funding (most likely federal grants for fish passage and habitat restoration) may also be able to be applied to mobilization and construction access, activities that are necessary for gate and spillway rehabilitation as well as fish passage enhancement. However, most of the dam repair work (and cost) is related to the poor condition of the spillway, abutments and gates, and these repairs appear to have little to no possibility of outside funding.

As always, Kleinschmidt appreciates the opportunity to work with the SRWC on studies involving the Coopers Mills dam, and wish you and the community well as you discuss the important issues surrounding this structure.

Sincerely,

KLEINSCHMIDT ASSOCIATES



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