Statement of George Lapointe, Fisheries Consultant and former Commissioner of the Maine Department of Marine Resources

U. S. House of Representatives, Committee on Natural Resources,

Oversight hearing titled: The Challenges of Keeping Hydropower Affordable and Opportunities for New Development.

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Mr. Chairman and Subcommittee members:

Thank you for the opportunity to testify before the House Natural Resources Committee's Subcommittee on Water, Power and Oceans on the challenges of keeping hydropower affordable and opportunities for new development. I am George Lapointe, a fisheries and ocean policy consultant and former Commissioner of Marine Resources in Maine. I am also the former chair of the Atlantic States Marine Fisheries Commission, an interstate fisheries management commission which manages anadromous (fish that spawn in freshwater streams but live much of their lives in the ocean) and catadromous (fish that spawn in the ocean but live much of their lives in freshwater streams) fish species including American eel, American shad, alewife, blueback herring, striped bass and Atlantic sturgeon. In these roles, I have addressed a number of fish passage issues important to the states. I have been squarely in the middle of many decisions where I tried my best to balance the needs of hydropower and other development interests with the commercial and sport fisheries interests that are critical to the economic health of the state of Maine.

Fish passage is important to restoring and maintaining anadromous and catadromous fish resources because so many rivers have been impacted by dams, obviously not all hydropower dams. I have attached a map of New England with an inventory of dams to show why fishery managers are concerned about fish passage. I mention this because it shows the extent of barriers to fish movement, and also because each dam requires a tailor-made solution to fish passage, something that I think bears directly on the relicensing process and today's hearing.

<u>Opportunities for new hydropower development</u>

With respect to new hydropower development, I think the best opportunities lie with adding generation through capacity additions or efficiency improvements at existing hydropower facilities. I'm sure that there are other ways to increase the efficiency of hydropower facilities but others are more qualified to discuss these options. I focus on improved efficiency and expansion of current facilities because my sense is that there

aren't many sites suitable for development of new hydropower dams that will not have very significant impacts on fisheries, recreation, and the ecological integrity of an area, or that would require flooding of huge areas and the building of very large dams to impound the water needed to generate significant amounts of hydropower. This conclusion is supported by a 2016 Department of Energy Hydropower Vision study which concluded that building new dams would cost more in investment needed and negative impacts to clean water, fish and wildlife, and rural economies than the electricity generated. This study also concluded that efforts to expand hydropower production should instead focus on promoting efficiency, retrofitting suitable non-powered dams, and upgrading the old technology in currently operating hydroelectric projects.

I have also seen the application of increased generation and efficiencies with the Penobscot River project in Maine that improved generation capacity at a number of hydropower facilities and resulted in the removal of two mainstem dams with a net impact of increased generation capacity and significantly improved fish passage for 11 species of anadromous and catadromous fish. I recall talking to staff of the hydropower company, then Pennsylvania Power and Light (PPL), about how they would accomplish the increased production and efficiencies. They replied that they would put in some additional turbines as well as replacing some turbines that were very old. With the aging infrastructure at many hydropower facilities, it seems to me that these types of efficiencies could be applied which could result in additional hydropower capacity at current facilities.

Collaborative licensing processes

Another way to achieve efficiencies is through the use of collaborative licensing processes. The one that I'm most familiar with is the Penobscot River Project where PPL, the State of Maine, federal agencies, the Penobscot tribe, and environmental interests hashed out an agreement to remove two dams, improve fish passage at remaining dams, and increased generation at other facilities within the watershed, while improving the capacity of the river for recreation, and achieving no net loss of electricity generation.

I won't say it was easy but it was successful and addressed the licensing issues of multiple facilities in one administrative process rather than many processes. The net effect was a net increase in generation capacity, improved working relationships, a more efficient licensing process, and significantly improved fish passage. For the endangered Atlantic salmon, the project provided access to hundreds of miles of additional spawning habitat. Last year, the fish lift at Milford (one of the remaining mainstem dams with improved fish passage) passed 288 Atlantic salmon, 3833 sea lamprey, 7862 American shad, and over 1.25 million river herring. So, this collaborative process resulted in improved habitat availability for these important fish species and increased availability of these fish to other wildlife species.

I know that there are other examples of collaborative licensing processes which suggests to me that this is a promising area for improving the re-licensing of hydropower facilities. I think it also speaks to taking a basin-wide or multiple facility approach to achieve the efficiencies of licensing and to allow a broad-based discussion of the tradeoffs for hydropower production, and fish and wildlife habitat losses and gains, for overall net gains

Fish and wildlife agency consultation process works

I believe that the fish and wildlife agency consultation process works to ensure that fish, wildlife, habitat, and recreation issues are given proper attention in the licensing process. Importantly, this means state and federal agencies, because my experience is that the State of Maine often had different priorities than the federal management agencies. I understand that this process may add time to the licensing process but the issues raised by resource agencies are often evolving issues that we are all learning about and want to bring this type of information to bear in the licensing process.

This is particularly important because of the length of FERC operating licenses. For example, there wasn't much discussion of American eel passage when many dams were last licensed 30 to 50 years ago. We know now how important both upstream and downstream passage is for American eel throughout its range so we bring this new information to the licensing process and work with hydropower companies to balance electricity generation with the need to protect eels. For other anadromous and catadromous fish, new information is being generated on species needs and fish passage requirements that need to be brought to the relicensing process.

It's also important to note that many of the fish ladders that were built into the old projects failed to work effectively, exacerbating the loss economically valuable species such as Atlantic salmon and Shad in Maine and other parts of New England. Thus, it is common and necessary to conduct the studies needed to re-design new, modern fish passage facilities to ensure that we get it done right for next 30 to 50-year period.

Incentivize ongoing monitoring and upgrades over the course of the new license

A common-sense change to consider in the licensing process would be to incentivize fish passage studies and monitoring and adaptive work on the operation of the dam during the life of the license. Ongoing studies would help with the cost and time associated with addressing fish passage issues at the site. By investing regularly, new information can guide the licensing process so that studies aren't all front-loaded in the licensing timeline.

New generating capacity from hydro dams should occur from facility upgrades at existing dams. Those situations are likely to yield the highest returns on power generation while causing the smallest impacts on vital fisheries and recreation industries on rivers in the United States. We have seen it work in Maine, as the cooperative work of PPL, Penobscot Tribe, state and federal agencies, and

stakeholders has produced some very good results for hydropower generation and fisheries restoration.

The fish and wildlife agency consultation process is a very valuable mechanism for state and federal resource agencies and it should not be weakened. It can be improved by encouraging more collaboration among the agencies involved, the dam operating utility, and stakeholder groups. Also, incentivizing ongoing studies and adaptive improvements through the life of the license would be a useful upgrade to the re-licensing process.

Thank for the opportunity to testify today.

Map of dams in New England

Source - https://www.elementascience.org/articles/10.12952/journal.elementa.000108/