Davies, James W FLNR:EX

From: Stoddard, Erin M FLNR:EX
Sent: Monday, February 13, 2012 10:03 AM
To: Davies, James W FLNR:EX; Babakaiff, Scott C FLNR:EX
Cc: 'Knight, Francesca'; 'Busto, Vince'; Barrett, Scott FLNR:EX; Bickerton, Nicola FLNR:EX
Subject: Using downstream Tributary Inflows to Make-Up the IFR. Why it's Not Appropriate for Fish

During the review and development of advice for currently managed and recent hydropower applications, I provided feedback on the use of tributary inputs in the make-up of the needed IFR to mitigate against irreversible impacts to fish populations in the project streams. Here are my comments and advice from a general perspective to reviewing and managing hydropower clean energy projects in the South Coast Region and why it's not appropriate to permit the use of tributary inflows in the make-up of the IFR:

1. Fish access and use assessments have rarely been conducted adequately and appropriately with these types of projects due to the limited assessments that are conducted, the limited timeframes and resources available for assessments, limitations in the methods, inexperience of field crews, inappropriate or inadequate use of methods, and the often non-conservative approach or recommendations by professional biologists. To date, professional biologists have not been held accountable for their inappropriate assessments or recommendations, and typically neither have facility operators;
2. Under the professional reliance model, biologists are to be acting on behalf of the public, independent of their client to ensure that resources are conservatively protected and sustained. An acceptance of this way of calculating the IFR will put even more pressure on professional biologists opinions and recommendations, as the more they can convince regulators to support the use of tributary inputs, the less IFR needs to be released at the intake, and the more water is available to the client for diversion and power generation;
3. Tributary inflows in these watersheds are typically characterized by steep watercourses with flashy flows. These are less than ideal conditions for the support of sustained base level flows in fish-bearing sections of the diversion reach receiving waters, and with lower IFR flows in the receiving waters of the diversion reaches, they will have a greater effect on flow instability in those reaches;
4. The IFR is a licensed requirement. The objective of the IFR requirement is to conserve stream supported fish or sensitive aquatic wildlife populations, either through providing water for inhabiting fish and/or wildlife, or for aquatic invertebrates or other organisms as food and nutrients to support downstream fish and/or wildlife populations. Proponents are obligated to confirm compliance with this designated requirement, which they can control. Proponents can't control tributary inputs or occurrences that might impact those tributaries, especially when there are other activities associated with those tributaries(e.g. forest harvesting, etc), so they can't be held accountable for the water that is provided by those inputs. As such, even if it was practical (it isn't by the way) to have monitoring devices at the point of confirmed fish presence, and a program in place (gates, pipes, computer management and back-up systems) that would ensure that fish have at least 100% of the required IFR, regardless of the tributary inputs, then if something did happen to the tributary input, and the facility provided as much as it was able to provide beyond the prescribed IFR, then even if fish were stranded and killed, they couldn't be held accountable. And realistically it isn't practical, as there are always limitations or glitches in the designs of the intakes or computer management programs throughout the life of these facilities, the facilities are remote and are typically remotely operated, the IFR capacity is typically a fixed amount that can't be altered, and the IFRs are regularly not provided in full. So

compliance with the required IFR can be shown, but consistency with and accountability for the conservation of fish or wildlife populations can't;

5. Currently, IFR non-compliance is common. For many reasons, including but not limited to plugged pipes, plugged gates, mechanical malfunctions, computer programming glitches, computer failures, monitoring device failure, and human error, etc., and as such IFRs on numerous facilities within the region haven't been provided at times. Times have been from hours to days and even months. The impacts of not providing IFRs have been variable from only minimal reductions in habitats to significant reductions in habitats, fish strandings and fish kills. Fish have difficulty accessing refuge habitats when waters quickly recede, and they can only last a couple minutes without water before impairment, then death occurs. Searches and salvages are typically not conducted after incidents within a reasonable time to determine if a stranding event occurred or to salvage stranded fish. Tributary inputs that occur downstream of intakes within the diversion reaches enable fish to have some buffer of protection to provide water and mitigate the IFR stoppage when it is no-longer provided. Relying on the tributaries as part of the IFR will mean less available water, less available habitat and more potential stranding when an inevitable IFR stoppage occurs, and
6. Biological effects monitoring programs are implemented with these projects to assess and determine if impacts to biological resources as a consequence of the resource use are greater than what was originally assumed and supported by the proponent and their professionals. These programs are based on the facility meeting the design parameters, license requirements and objectives of the monitoring and operational plans. If there are additional parameters such as tributary inputs outside the control of the facility, then facilities can conclude that any additional impacts to biological resources that were greater than expected were outside their control. There would be no accountability for resource users or their professionals in this model.

Please feel free to contact me to further discuss this advice.

Sincerely,

Erin M. Stoddard, R.P.Bio.
Ecosystems Biologist