

Radio-Toting Fish Give Thumbs-Up to Clean Hydrokinetic Power

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A new study commissioned by Hydro Green LLC shows that underwater hydrokinetic turbines are safe for river dwelling fish. According to a recent study, fish can live with a new type of hydropower that does not involve constructing dams, weirs, or other fish-unfriendly infrastructure. It's called hydrokinetic power, and it simply uses underwater turbines to harness the energy of existing currents in rivers. Sounds good so far, but the key point is whether or not river dwelling fish can co-exist with the installation.

Hydro Green Energy, LLC is a leading hydrokinetic company that engaged the study. One goal was to help provide a definitive answer to the fish question industrywide, so the study went all the way. Rather than simply extrapolating from computer models, the study involved tagging and tracking hundreds of individual fish with radio transmitters and balloons. The results provide encouraging news for the development of a more sustainable energy landscape for hydropower, and rivers could be just the beginning.

Hydrokinetic Power and Fish Survival

Hydro Power's study was conducted by Normandeau Associates. It took place at a tube-shaped hydrokinetic turbine installed by the company in the Mississippi River at Hastings, MN. Of the 502 fish tagged by Normandeau, 402 swam directly through the turbine (the other 100 swam nearby). Almost all of the fish from both groups were recaptured. Among those, only one showed signs of turbine-related injury, caused when the fish's balloon raised it to the surface. Under natural (non-balloon) conditions, that injury would not have occurred.

Fish and Conventional Hydropower

It's no secret that fish get killed directly by conventional hydropower installations. They get killed indirectly, too. According to the U.S. Fisheries Service, dams concentrate more fish upstream, attracting more predatory species. Fish downstream from hydropower dams are weakened by injury and stress, which also makes them more vulnerable to predators. In contrast, Normandeau found no increase in predation downstream from Green Hydro's hydrokinetic turbine. Verdant Power is another hydrokinetic company that has so far observed no impact on fish as it finishes a three-phase hydrokinetic installation in New York City (and yes, there are fish in the East River - big ones).

The Future of Hydrokinetic Power

The Hydro Green fish survival study is the first, and so far the only one to tag and track individual fish. If the study is considered definitive, the implications could be widespread because it confirmed results that were predicted by Hydro Green's computer modeling. That could improve the acceptance of computer modeling as a reliable tool for determining the impact of new hydrokinetic proposals on fish, especially those that could impact sport fishing areas or environmentally sensitive areas. One company has even developed a hydrokinetic turbine for canals, streams, and other small waterways, so it's possible that fish friendly hydrokinetic power could be introduced to many new locations aside from major rivers.