New PIT-tag Technologies

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Since the fisheries community within the Columbia River Basin switched to using FDX-B ISO tags in 2000, there have been numerous new PIT-tag technologies or tools introduced. These have included a transceiver that allow detection of tagged fish in adult fish ladders and a multiplexing transceiver that allow detection of tagged fish in streams using up to six antennas. It also includes the development of the SST tag model that enables ~70% of the tagged fish to be detected going through the huge 17' by 17' corner-collector antenna. Using the ISO-based technology also enabled the development of the surface pair trawl that can detect fish in the upper Columbia River estuary.

The year 2011 promises to introduce a number of new PIT-tag technologies. BPA has received multiple responses to its requests for tag models to be part of its new tag contract. These tags will be evaluated by PSMFC and NMFS with laboratory and field tests. We could also potentially see four or five new transceivers introduced. Destron Fearing is planning on introducing the 2020 transceiver, which might become the replacement for the all the different models currently installed at the dams, at the workshop. In 2011, they are also planning on finishing the ogee transceiver to be used for the spillbays and a new multiplexing transceiver. Allflex is planning on launching a new board designed specifically for fisheries applications. We may also see new transceivers from Texas Instrument (they introduced a shorter 13-mm half-duplex tag in 2010; their equipment is available to the fisheries community through Oregon RFID) and Biomark. PSMFC plans on testing the ability of its new computer program, M4, to control the separation-by-code functions. M4 will also be able to store metadata from instream and other research projects.

The introduction of these new PIT-tag technologies will enable the fisheries community to expand detection into new areas; some of which have not been imagined at this time. The presentation will provide details on the new technologies and give examples of what might be gained from applying them.