

Using Technology to Manage Adult Return and Pond Inventory

The Hatchery Reform analysis highlighted the need for collecting eggs so that the entire run of each species is represented. This requires hatchery managers to have a good understanding of run timing and to be able to hold fish from each part of the run until they are ready to spawn. Controlling pond inventory requires knowing the number of fish on station each day. Currently, most managers make crude estimates of the daily trapping rate, number of fish on station, and run timing.

In a cooperative pilot project between Northwest Marine Technology (NMT) and the United States Fish and Wildlife Service at Little White Salmon National Fish Hatchery (NFH) and Spring Creek NFH, we used an NMT Adult Fish Counter to count the number of fish entering each hatchery daily. This enabled the hatchery managers to control on-station pond inventory, manage staffing more efficiently, and to meet Hatchery Reform brood stock management recommendations while maximizing harvest.

The NMT Adult Fish Counter is easily installed in a fish ladder or fish way and provides accurate counts of returning jack and adult salmon. During testing at Little White Salmon NFH, we found a difference of less than 4% between the Adult Fish Counter and a final hand count of fall Chinook and coho salmon. Use of the NMT Adult Fish Counter allowed the manager to avoid excessively high adult fish densities and to efficiently remove 8,500 fish in excess of hatchery escapement needs. With the addition of representative PIT tagging and installation of a PIT tag detector in the fish ladder, these new technologies provide state of the art adult holding pond management and assure the collection of brood stock from the entire spectrum of the run.

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