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News from Hanford Reach National Monument

### Entrapment Basins are Surveyed on Hanford Reach

Recently the mighty Columbia River was temporarily throttled for the benefit of salmon science. Flows from Priest Rapids dam were curtailed in late October to give researchers an opportunity to survey the extent and total number of entrapment basins along the 51 mile Hanford Reach river corridor. Fourteen two person teams, headed by supervisory fishery biologist Don Anglin, walked the 102 miles of river shoreline, using GPS to locate and record all basins three feet or more in diameter. It is not totally understood what creates the circular depressions in the shoreline cobbles, but what is known is that they are infamous fish killers. As water levels on the Columbia rise and fall in response to hydropower demands, salmon fry are trapped in the shoreline pools and become vulnerable to predation, low oxygen and high temperatures, or suffocation as the water drains. Results of the study are still being tabulated, but initial estimates indicate the presence of approximately 8000 entrapment basins along the entire length of the Reach. The entrapment basin data will be folded into the recently completed bathymetry (water depth and bottom contour) study which has been used to develop a 3-D model of the Hanford Reach. With the Priest Rapids Dam re-licensing project underway, a multi-divisional effort between Fisheries, Ecological Services, and Refuges is targeted at ensuring that the best available science is used in the re-licensing agreement. The 3-D model will be a valuable tool used to determine river management strategies that will minimize the impacts of fluctuating water levels that currently can rise and fall as much as twelve feet daily. The Hanford Reach is the last major natural spawning grounds on the Columbia River and provides some 15% of the Chinook salmon fishery to Southeast Alaska's commercial fisherman. As Anglin stated, "This is the last fish factory in the Columbia.....all that's left is this. That's why we are so adamant about this 50-mile piece of river."

