

**DETECTION OF PASSIVE INTEGRATED TRANSPONDER (PIT) TAGS ON  
BREEDING COLONIES OF AVIAN PISCIVORES IN THE COLUMBIA RIVER BASIN,  
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Scott H. Sebring  
Pacific States Marine Fisheries Commission  
[scott.sebring@noaa.gov](mailto:scott.sebring@noaa.gov)  
Point Adams Biological Station  
520 Heceta Street Hammond, Oregon 97121

And

Richard D. Ledgerwood  
[dick.ledgerwood@noaa.gov](mailto:dick.ledgerwood@noaa.gov)  
Point Adams Biological Station  
520 Heceta Street Hammond, Oregon 97121

**ABSTRACT**

Passive integrated transponder (PIT) tag detection efforts for 2008 yielded over 121,000 juvenile salmonid *Oncorhynchus* spp. tags that had not previously been detected on breeding colonies of piscivorous birds in the Columbia River basin. PIT tag recoveries accounted for about 3.7% of all PIT-tagged salmonids released into the Columbia River basin for migration year 2008. The majority of these tags were detected on Caspian tern (*Hydroprogne caspia*) and double-crested cormorant (*Phalacrocorax auritus*) colonies located on East Sand Island in the Columbia River estuary and on Crescent Island near the confluence of the Snake and Columbia Rivers.

On East Sand Island, we detected 11% of the steelhead transported and released downstream from Bonneville Dam and 13% of those detected at Bonneville Dam. Detection percentages on East Sand Island for transported or bypassed Chinook salmon were considerably lower than for steelhead, about 3.5% for each group. We also tagged 3,000 subyearling Chinook salmon at four hatcheries located downstream from Bonneville Dam. These fish were released in May-July, and we detected about 27% of those on East Sand Island.

Consistent with previous years, steelhead continued to be significantly more vulnerable to avian predation than other species in all reaches and for all ESUs except for lower Columbia River subyearling Chinook salmon. Preliminary detection efficiency estimates obtained by scattering control tags pre-, mid-, and post-nesting season on both Crescent Island and East Sand Island tern colonies were consistent with previous years of high detection efficiency with 62% and 92% of the controls tag detected at each location.