

**ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
NEWS RELEASE**



*Cora Campbell, Commissioner
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2012 NUSHAGAK RIVER CHINOOK SALMON HARVEST PROJECTION

The 2012 Nushagak River Chinook salmon harvest projection is provided below.

AREA: **Bristol Bay, Nushagak District**

SPECIES: **Chinook Salmon**

PROJECTION OF 2012 HARVEST

	Projection (thousands)	Projection Range (thousands)
TOTAL PRODUCTION:		
Commercial Common Property Harvest	30	16-44

The anticipated commercial harvest of Nushagak River Chinook salmon in 2012 is 30,000 fish with the projected to range between 16,000 and 44,000 fish. These projections are based on the most recent 5-year average and the observed mean absolute percent error (MAPE) of 46% during that same time period. The actual harvest has ranged between 19,000 (2008) and 51,000 (2007) during the most recent 5-year period (Table 1).

Previously, it has been our practice to forecast Chinook salmon total run and from that, the projected harvest. However, our total run forecast models have not performed well in recent years.

Various factors account for our inability to accurately forecast future Chinook salmon runs to the Nushagak River. One of the most likely factors may be in our assessment of the escapement portion of the total run. We believe that the sonar project provides a fairly good estimate of returning sockeye salmon which migrate close to shore. However, Chinook salmon, and to a lesser extent, chum salmon migrate further offshore. Historically, this project has counted salmon in the nearshore areas of the river and has never counted salmon across the entire river. We know that some portion of the returning Chinook salmon migrate up the middle of the river. Our assumption has been that we count a consistent proportion of the returning Chinook salmon and that this index provides a basis from which to forecast. However, the low return of Chinook salmon in recent years and the recent poor performance of the forecast have cast doubt on that assumption.

Additional concerns include recent changes made to the sonar equipment and the methods used to apportion counts to salmon species with gillnets. Research that begun in 2011 will attempt to address some of the uncertainties associated with estimating Chinook salmon abundance. We hope these studies will eventually improve our ability to assess the total run of Chinook salmon in the Nushagak River and produce reliable forecasts in the future.

Even with the difficulties in assessing and forecasting the total run of Chinook salmon in the Nushagak River, we believe the 2012 run will be large enough to meet the inriver goal of 75,000 Chinook salmon and provide for commercial, sport, and subsistence harvest opportunities. The Nushagak River Chinook salmon run appears to have declined to a low point in 2010, started increasing in 2011, and should continue to increase in 2012 based on long-term historical trends. It is anticipated that the 2012 Chinook salmon run will be primarily comprised of age-1.3 (~50%), followed by age-1.4 (~27%), and age-1.2 (~21%) fish.

Greg Buck, Fred West and Tim Baker
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Table 1.—Commercial harvest of Chinook salmon in the Nushagak fishing district of Bristol Bay, Alaska from 2002 through 2011.

Year	Harvest
2002	39,473
2003	42,615
2004	96,534
2005	62,308
2006	84,881
2007	51,473
2008	18,670
2009	24,287
2010	25,580
2011	29,811