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

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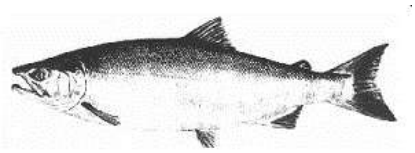

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Date Issued: 11/9/12
Time: 1:00 p.m.

2013 NUSHAGAK RIVER CHINOOK SALMON HARVEST PROJECTION

The 2013 Nushagak River Chinook salmon harvest projection is provided below.

AREA: **Bristol Bay, Nushagak District**

SPECIES: **Chinook Salmon**

PROJECTION OF 2013 COMMERCIAL HARVEST

TOTAL PRODUCTION:	Projection (thousands)	Projection Range (thousands)
Commercial Common Property Harvest	45	25-65

While it has been our practice to forecast Chinook salmon total return to the Nushagak River and from that, project the anticipated commercial harvest, the total run forecast model has not performed well in recent years. As we did in 2012, we will forgo a total run forecast for 2013 and simply project the commercial harvest for 2013 based on historical performance.

The anticipated commercial harvest of Nushagak River Chinook salmon in 2013 is 45,000 fish and is projected to range between 25,000 and 65,000 fish. This projection is based on the 10-year historical average harvest and forecasted mean absolute percent error (MAPE; 44%). During this timeframe, actual commercial harvests have ranged between 11,000 and 97,000 Chinook from the Nushagak River (Table 1).

Various factors account for our inability to accurately forecast future Chinook salmon runs to the Nushagak River. One of the more likely factors is our assessment of escapement using sonar near the village of Portage Creek. The sonar estimates salmon passage in the nearshore area of the river but does not have the ability to detect salmon across the entire river. We believe that our sonar estimate represents true abundance of sockeye salmon which almost exclusively migrate within the counting range of our sonar. Because an unknown portion of migrating Chinook salmon migrate farther offshore, we operate under the premise that our Chinook estimate is an index of abundance. Our assumption has been that we count a consistent proportion of returning Chinook salmon and

that this index therefore provides a solid 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 begun in 2011 attempts to address some of the uncertainties associated with estimating Chinook salmon abundance. We believe these efforts 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 2013 run will be large enough to meet the inriver goal and provide for commercial, sport, and subsistence harvest opportunities. The Nushagak River Chinook salmon run was very weak between 2007 and 2010 but has increased in each of the two years since. We expect it to remain at current levels or slightly higher in 2013 based on long-term historical trends. We expect that age-1.3, -1.4 and -1.2 fish will make up approximately 42%, 33% and 24% of the 2013 Nushagak River Chinook run.

Greg Buck, Fred West and Charles Brazil
Bristol Bay Research Staff
Anchorage

Table 1.–Commercial harvest of Chinook salmon in the Nushagak fishing district of Bristol Bay, Alaska from 2003 through 2012.

Year	Harvest
2003	42,615
2004	96,534
2005	62,308
2006	84,010
2007	51,473
2008	18,670
2009	24,287
2010	25,501
2011	26,443
2012	11,420