



2013 Outlook and Forecast for Chinook Salmon Timing Lower Yukon River (Area Y-1), May 31, 2013

Outlook

The 2013 timing outlook is for a Chinook migration that is about a week later than average. In terms of the runs of the last 52 years, a late run is most likely, an average migration is unlikely, and a slightly early migration is highly unlikely but it has occurred in the past under similar environmental conditions. The Spring of 2013 has been much colder than average, based on the three most reliable environmental indicators, ice cover, sea surface temperature and Nome air temperature. The marine area between St. Lawrence Island and the Yukon River delta has had a daily average Spring ice cover (March 20 - May 31) of 70% (**0.70**), which is well above the long term (1970 – 2012) average of 0.57, and only slightly below the all time maximum of 78% (0.78) that occurred in 1971. The marine surface temperature, as an average of daily temperatures in May 2013, was **-3.71 C**, which is well below the long term average of -0.42 C, and not far above the coldest marine surface temperature of -3.83 C which occurred in 2001. April mean air temperature in Nome of **-9.18 C** was below the long term average of -7.13 C, but substantially warmer than the coldest observed of -17.06 C of 1985. Taken together, the combination of low marine surface temperature in May and high average Spring ice concentration are almost always associated with late Chinook migrations. None of these environmental conditions alone is the best indicator of timing, so the forecast models interpret the combined effects of all three on timing of salmon.

For more information data and updates go to <http://www.aos.org/2013-yukon-chinook-forecasting/>

Forecast

Table 1. Expected dates of cumulative percent total migration of Chinook salmon in Area Y-1

| | |
|----------------------------------|----------------|
| Fifteen percent (FIFDJ) | June 21 |
| Twenty-five percent (QDJ) | June 23 |
| Fifty percent (MDJ) | June 28 |

Table 2. Long term averages with standard deviations of dates of three percentiles percentage points of migration for the years 1961 - 2012

| N = 52 | FIFDJ | QDJ | MDJ |
|--------|---------|---------|---------|
| Mean | June 14 | June 17 | June 21 |
| s.d. | 4.85 | 4.77 | 4.84 |
| High | June 23 | June 26 | July 2 |
| Low | June 5 | June 6 | June 10 |