

## Salmon Forecasting

For salmon anglers, blustery spring days bring thoughts of summer salmon fishing. Spring is also the time when the summer's salmon quotas are set. The Pacific Fishery Management Council, the organization that establishes fishery regulations in concert with the CA Department of Fish and Game, met in Sacramento March 5-11 to forecast salmon populations and discuss catch quotas for 2010.

The salmon we see caught in the fishery in Monterey Bay are almost all Chinook salmon that originate in the tributaries of the Sacramento River. Also known as King or Tyee salmon, Chinook salmon spawn in freshwater streams in California's central valley. After the eggs hatch, the young spend up to 18 months in fresh water before heading for the ocean. Chinook salmon usually spend 3-5 years before returning to their native streams to spawn. An interesting biological phenomenon is that some precocious males (called jack salmon) will return from the ocean to spawn 1 year early. The number of jacks returning to freshwater in a year is a good indication of the number of adults that will return to spawn the following year. Managers use the jack count to estimate how many salmon will be spawning the following year and thus how many fish can be caught.

After several years of no salmon fishery here because of low population sizes, the good news is that a total of 9,216 jacks were estimated to have escaped to Sacramento River basin hatcheries and natural spawning areas in 2009. The resulting forecast for Sacramento Fall Chinook salmon populations for 2010 is 245,483 fish, well above the minimum number of fish needed to maintain the population.

The bad news is that after seeing 10 strong years of salmon populations, the number of Chinook salmon returning to spawn from 2007-2009 was below that level needed to maintain a healthy population, primarily due to poor environmental conditions in the ocean. For 3 consecutive years, the number of fish returning to spawn was one-third to one-half of the minimum desired (a range of 122,000 to 180,000 Chinook salmon returning to the Central Valley on an annual basis). This is a cause for concern by the Pacific Fishery Management Council, and was emphasized in 2009 when biologists recorded the lowest number of spawning adults since comprehensive surveys began in the 1970s.

Thus, fishery managers are now in a tough spot as they consider the 2010 season. They are concerned that the minimum number of spawning fish was not met for 3 years in a row, but they have evidence to say that this year will be better. The Council will be making a tentative decision this week, will collect public input, and will make a final decision about fishing in federal waters (12-200 miles offshore) in April. The California Fish and Game Commission will use the same information to decide upon regulations for the state salmon season (up to three miles offshore) at its April 21 meeting.

