

## CHAPTER 4

### 2004 IN-PLANT FISH ASSESSMENT

#### INTRODUCTION

This chapter reports on fish impingement at the San Onofre Nuclear Generating Station (SONGS) in compliance with National Pollutant Discharge Elimination System (NPDES) requirements. The term "impingement" refers to entrapped fish that are killed in the SONGS cooling system and are removed by traveling screens. This chapter summarizes in-plant fish collection data for the year 2004 at San Onofre Units 2 and 3. San Onofre Unit 1 was taken out of service in 1992 and did not operate in 2004. Since circulating water pumps were not in service in 2004, no fish impingement samples could be taken, nor are they required by the NPDES permit.

Also included in this chapter is a report on the operation and effectiveness of "Fish Chase" procedures carried out in 2004 as a means of increasing fish survival at SONGS. The "Fish Chase" is a procedure used at SONGS to remove as many fish as possible from the circulating water system before heat treatment procedures are conducted. Heat treatment procedures are necessary to eliminate fouling organisms from colonizing within the cooling water system<sup>1</sup>.

Fish enter Units 2 and 3 of the generating station via seawater intakes supplying cooling water to the station. Most of the fish are guided through the intake screenwell to the fish return system and are returned to the ocean alive. Those remaining are impinged on the traveling screens and are deposited in containers for disposal. Estimates of the total number and weight of fish impinged during normal plant operation, including heat treatment, and analysis of size (age) and sex structure of select impinged species are presented in this report for Units 2 and 3 at SONGS.

#### METHODS

The analytical approach for this section utilizes tabular summaries of the number of individuals and biomass of fish impinged during normal operations and heat treatments. The total annual normal operation catch is calculated by multiplying the number of fish sampled during quarterly 24-hour sample periods by the total amount of sea water pumped during the year divided by the amount of water sampled during the 24-hour samples. Fish collected during heat treatments are added to the annual total. In other words:

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<sup>1</sup> Information in this report regarding the Fish Chase procedure also meets requirements of Condition B of the Coastal Development Permit for SONGS (permit no. 6-81-330-A, formerly 183-73 issued by the California Coastal Commission.