

## Introduction

The cabezon (*Scorpaenichthys marmoratus*) is the largest member of the family Cottidae (commonly referred to as sculpins) found in the waters along the Northeast Pacific. Cabezon are desired by both commercial and recreational fishers because of their great size, physical attractiveness, and tasty flesh. Current knowledge of cabezon life history is sparse, and is usually based on information collected from a limited extent of the range of the species. The population status of cabezon in California waters was assessed in 2003, and the spawning output was estimated to be less than 40% of the unfished spawning output, but there was considerable uncertainty (Cope *et al.* 2004). Cabezon are currently managed as part of a nearshore complex of fishes that include several species of rockfishes and greenlings.

This is the second quantitative assessment of the population status of cabezon. In an attempt to enhance the spatial resolution of the assessment, it is based on two putative populations (“substocks”) of cabezon in California, delineated at Point Conception, CA (Figure 1). Available data for the Oregon and Washington remain insufficient to form the basis for a reliable stock assessment for cabezon in these areas.

## Stock Structure

There is little direct information on the stock structure of cabezon off the U.S. west coast. The genetic structure of cabezon is being investigated at California Polytechnic State University at San Luis Obispo, but no results are presently available (Dr. Royden Nakamura, pers. comm.).

The need for more spatial resolution in the assessment of cabezon was identified by the STAR panel that reviewed the past assessment. Distinct fishing histories, the distribution of fishing effort north and south of Point Conception, and the ecology of nearshore fishes, also indicate the need for a more spatially-resolved cabezon assessment. Specifically, the live-fish fishery for cabezon is active primarily north from the Morro Bay while, historically, the recreational take of cabezon has been greatest in central California, with the removals off southern Californian being fairly low. Cabezon are a cooler-water species, and are more abundant in the central and northern Californian nearshore areas. Typical of nearshore reef fishes, cabezon subpopulations are often spatially discrete, and therefore susceptible to serial depletion, which suggests the need to examine population trends at small spatial scales. The extent to which assessments can be conducted at small spatial scales is, however, limited. Nevertheless, it is possible to treat the cabezon resource off California as two populations (or “substocks”; the Northern California Substock (NCS) and the Southern California Substock (SCS)) with a division at Point Conception (Figure 1). This assessment accordingly reflects California-specific management needs by separating the central and northern management areas from the southern management area (Figure 1). One could also argue for an additional division north of Punta Gorda (the CDF&G Northern California Region) because of its unique fishing history, but there are currently insufficient data to support such a division. This assessment also explores the implications of assessing the entire cabezon resource off California as a single homogeneous resource to determine some of the impacts of allowing for spatial resolution.