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# PROOFREADING SAMPLE

## Non-Fiction Book

### Introduction

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“It took me eight days before I could find the entrance of the Sacramento, as it is very deceiving and very easy to pass by.”

*John Sutter, The Diary of Johann August Sutter, 1838–1839 entry*

Throughout the world, and particularly in the American West, people are learning how to re-manage natural resource and environmental systems, which they had thought of as fully-developed and sustainable. In many cases, the old assumptions are proving false. External forces such as sea level rise, climate change, economic globalization, population growth, and rising concern for the natural environment all impose changes on the management of these systems. In some cases, the internal dynamics, however well-intentioned, are also proving unsustainable—with outcomes such as soil erosion and accumulation of pollutants in soils and groundwater imposing changes in management over time. This complex confluence of changes in circumstances and expectations should encourage societies to periodically rethink ~~how-to-the~~ management of natural systems. Yet such questioning can be difficult when people have ~~many-several~~ years of experience and investment ~~behind them-in-the-past~~.

The Sacramento–San Joaquin Delta is part of the largest estuary on the West Coast of the Americas, providing a home to roughly 50 species of fish and close to 300 species of birds, mammals, and reptiles. The Delta is also the largest single source of California’s water supply, channeling water from Northern California’s watersheds to two-thirds of the state’s households and millions of acres of southern Central Valley farmlands. Locally, the Delta is also central to a productive agricultural and recreational economy. The Delta’s ~~local land useecological~~, water supply, and ~~ecological local land-use~~ functions are in crisis, with crashing populations of native fish species and increasing risks of ~~a~~ catastrophic failure of fragile levees—an event that could severely disrupt the state’s water supply as well as local activities. Because the current water supply system has ~~helped~~ changed the Delta ecosystem in unfavorable ways, water exports also are susceptible to cutbacks to protect endangered fish species. This combination of extreme risks—to the state’s water supply, the estuarine ecology, and the local economy—make the Delta the foremost water management problem ~~faciing-in~~ California ~~today~~.

Strategies to manage the Delta to satisfy competing interests have been discussed and debated for almost 100 years, at times leading to acrimonious divisions between Northern and Southern California, environmental and economic interests, and agricultural and urban sectors. Recently, the Delta has again taken center stage in debates on California’s water policy. Research and actual levee failures have exposed the Katrina-level fragility of 1,100 miles of levees, on which both Delta land uses and water supply systems currently depend. In addition, dramatic population declines have occurred among several fish species that depend on the Delta. ~~As-a~~ awareness of these risks has ~~been~~ heightened, ~~and-it-this~~ has also exposed weaknesses in the institutional framework for governing the Delta watershed. By late 2004, the stakeholder-driven process known as CALFED—established a decade earlier to mediate conflict and to “fix” the problems of the Delta—~~began~~ ~~had-begun~~ to unravel. As



this informal truce among competing interests eroded, lawsuits ~~have~~ filled the gaps left by a lack of consensus on management strategies and options. For the past 70 years, California's official policy has been to maintain the Delta as a freshwater system through a program of water flow regulation, supported by the maintenance of agricultural levees. This approach now appears near or past the end of its useful life, given the deterioration of the Delta's ecosystem and levees, as well as the rising consequences of levee failure.

This book is about finding better solutions to Delta problems. We do not pretend to offer a perfect, comprehensive solution; 100 years of history would argue ~~that~~ that kind of solution is unlikely. Indeed, it may be that different Delta strategies are appropriate for different periods in California's development. ~~Instead,~~ ~~our~~ aim, ~~therefore,~~ is to launch a serious, scientific search and comparison of potential long-term strategies, and provide some broad guidance for the coming decades. This analysis is wide-ranging and integrated, with a focus on the future and ~~the~~ best management of the Delta and its landscape and inflows for environmental and economic purposes.

## What Is the Delta?

The Delta is a web of channels and reclaimed islands at the confluence of the Sacramento and San Joaquin rivers. It forms the eastern portion of the wider San Francisco Estuary, which includes the San Francisco, San Pablo, and Suisun bays, and it collects water from California's largest watershed, which encompasses roughly 45 percent of the state's surface area and stretches from the eastern slopes of the Coastal Ranges to the western slopes of the Sierra Nevada. It resembles other deltas of the world in that it is at the mouth of rivers, receives sediment deposits from these rivers, and was once a vast tidal marsh. ~~However,~~ ~~The~~ ~~the~~ Sacramento–San Joaquin Delta fundamentally differs from other delta systems, ~~however,~~ in that it is not formed primarily by sediment deposits from upstream ~~sources~~. Instead, it is a low-lying region where sediment from the watershed commingles with vast quantities of organic matter deposited by tules and other marsh plants. For some 6,000 years, sediment accumulation in the Delta kept pace with a slow rise in sea level, forming thick deposits of peat capped by tidal marshes (Shlemon and Begg 1975; Atwater et al. 1979; Malamud-Roam et al. 2007). A century and a half of farming has reversed this process, creating artificial islands that are mostly below sea level, protected only by fragile levees (Drexler et al. 2007).<sup>1</sup> Today, those who drive through the Delta see mainly huge tracts of flat, prosperous farmland intersected by narrow channels populated by recreational boaters.

Geographically, the area known as the “Legal Delta” lies roughly between the cities of Sacramento, Stockton, Tracy, and Antioch (Figure 1.1). It extends approximately 24 miles east to west and 48 miles north to south and includes parts of five counties (Sacramento, San Joaquin, Contra Costa, Solano, and Yolo). At its western edge lies Suisun Marsh, an integral part of the Delta ecosystem. At its southern end, near Tracy, motorists pass over two major pieces of California's water infrastructure—the Delta-Mendota Canal and the California Aqueduct. These and several smaller aqueducts, built between the 1930s and the 1960s, deliver water from Northern Californian rivers to cities and farmland in coastal and Southern California and the San Joaquin Valley. The Delta is considered the hub of the state's water supply because it is used as a transit point for this water. This role has significantly influenced ~~the~~ Delta's management policies, which aim to keep ~~the~~ Delta water fresh.