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Executive Summary

Maryland's Coastal Bays, the shallow lagoons nestled behind Ocean City and Assateague Island, comprise a complex ecosystem. These estuarine bays, at the interface between fresh and saltwater, provide habitat for a wide range of aquatic life. But like many coastal systems, they face threats from intense development, nutrients, sediments, and other stresses associated with human activities. This report documents the most up-to-date status of water quality and living resources in the Coastal Bays and highlights management steps being taken to preserve them.

Overall, the Coastal Bays reveal differences in water quality with generally degraded conditions in or close to tributaries and good conditions in more open, well-flushed bay regions. Showing the strain of nutrient enrichment, the Coastal Bays exhibit high nitrate levels in freshwater reaches of streams, chronic brown tide blooms, macroalgae blooms, and other harmful algal blooms associated with excess nutrients. Although large increases in seagrasses took place during the 1990's, these increases have leveled off during the past three years.

In terms of aquatic species health and water quality conditions, the bays fare as follows from best to worst: southern Chincoteague Bay, Sinepuxent Bay, northern Chincoteague Bay, Isle of Wight Bay, Assawoman Bay, Newport Bay, and St. Martins River. The bays show a tendency toward poorer water quality from south to north.

Like water quality, the status of Coastal Bays living resources is mixed. While the bays still support diverse and abundant populations of fish and shellfish, human activities are affecting their numbers. Forage fish, the major prey item for game fish, have been in steady decline since the 1980s, and reports of fish kills, usually the result of low oxygen levels, are increasing. Hard clam densities are lower than historic levels but generally stable over the past 10 years. Blue crab populations are fluctuating but do not appear to be in decline, despite a relatively new parasite causing summer mortality. Oysters, which were historically abundant in the Coastal Bays, now cling to small, relict populations. Bay scallops, however, have recently returned to the bays after being absent for many decades, although numbers are low.

In response to these changes, dozens of organizations, groups, and agency partners have implemented a wide range of management activities. Fishery management plans, nutrient reduction goals, shoreline restoration, and sewage upgrades along with several hundred other initiatives are serving and will serve to improve the condition of the Coastal Bays. In addition, ongoing monitoring programs now track status and trends in this coastal ecosystem, and new research is aiding scientists in their quest for solutions.

This report presents a technical overview of the current state of the Coastal Bays and should help serve as a guide for preserving this ecosystem. However, human population is expected to climb steadily in the Coastal Bays watershed and the associated impacts of this growth will present future challenges to the health of the bays. Maintaining active

and vigorous environmental monitoring and management programs will be essential to preserve this fragile estuary.

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