

**1. Introduction 4,000 words**

- Not Just any Bay
- An Ever Changing Environment
- Saving the Bay
- People

**2. Beneath the Surface: What is an Estuary? 11,000**

*Fieldwork: USGS Polaris Cruise*

- Introduction
- Geography & Geology
- Fresh & Salt Mix
- Rivers
- Creeks & Drainages
- Bays within the Bay
- Ocean Tides
- Water Layers & Flows
- Wind, Waves & Erosion
- Sediment
- Climate
- Regional Ocean Influences
- Long Term Climate
- Conclusion

**3. Visible & Invisible Life: Fish, Birds & Other Wildlife 18,100**

*Fieldwork: CDFG Longfin Fishing Trip*

*Graphic Table: Seasonal Wildlife Events*

- Introduction
- LIVING CONDITIONS
  - Environment in Flux
  - Bay Habitats
  - The Marine Nursery
  - Fundamental Food
- PLANTS
  - Eelgrass
  - Cordgrass
  - Salt grass
  - Pickleweed
  - Gumplant
  - Alkali bulrush
  - Tule
- BOTTOMDWELLERS
  - Clams
  - Worms
  - Shrimp
  - Dungeness Crab
- FISH
  - Pacific Herring
  - Northern Anchovies
  - Longfin smelt
  - California Halibut
- Salmon
- Sturgeon
- Sevengill cow shark
- Leopard Shark
- Creek Fish
- MAMMALS
  - California sea lion
  - Harbor Seal
- BIRDS
  - Bufflehead
  - Great blue heron
  - Peeps
  - Double crested cormorant
- Conclusion

#### **4. History of Human Changes 1800s – 1960s** (14,500 words)

*Graphic Table: Timeline*

- Introduction
- Earliest Inhabitants
- Explorers, Missionaries, Hunters
- Mining Gold
- Fighting Floods
- Reclaiming Swamps
- Settling into Farms & Towns
- Fishing for a Living
- Culturing Oyster
- 
- Protecting Fish & Wildlife
- Industrialized Fishing
- Bay & Riverfront Enterprise
- Transportation Facilities
- The Bridges
- Controlling Water Supply & Floods
- Damming the Bay
- Growing through War
- Conclusion

#### **5. The Environmental Backlash – 1960s – Present** (21,300)

*Fieldwork: SFEI shoreline fishing trip for mercury*

*Graphic table: Timeline*

- Stopping Fill
- Cleaning Up the Water
- Preventing Spills & Runoff
- Emerging Contaminants
- Curing the Throwaway Habit
- Last of the Fishing
- Maintaining Ports and Shipping
- Preserving Wetlands and Wildlife
- Warring over Water
- Caring for Urban Creeks
- Preventing Invasions
- A Few Bad Actors
- Synergistic Problems
- Conclusion

#### **6. Restoration Frontiers: The Watershed** (8500 words)

*Graphic table: Timeline*

- Introduction
- Historical Milestones
- Key Ingredients – A Recipe for Riparian Restoration
- The Big River Projects
- The Delta and Shallows
- Water Rights for the Ecosystem
- Production or Conservation Hatcheries?
- Reviving Bay Creeks
- Bringing Back the Steelhead
- Butte Creek Migration
- Conserving Water
- Conclusion

## **7. Restoration Frontiers: The Bay** (16,387)

*Fieldwork: clapper rail telemetry*

*Graphic table: Timeline*

- Introduction
- Historical Milestones
- Key Ingredients: A Wetland Recipe
- The Marin Coast
- North Bay Hayfields
- South Bay Salt Ponds Reborn
- High Tech Weeding
- Underwater Restoration
- Central Bay Eelgrass Beds
- Oysters Back in the Bay?
- Building a Healthy Ethic
- Conclusion
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## **8. Climate Change & The Bay's Future** (4200 words)

- Introduction
- Climate Change Basics
- The Bay's Vulnerabilities
- Wetlands as Buffers
- Adaptation

## **9. Coda**

## **10. Links, References, Index**