

Metro Bay Special Area Management Chapter Summary

Natural Hazards, Hurricanes, Floods & Sea Level Rise

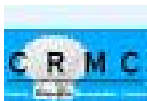
KEY ISSUES

- Issue 1:** Increased risk to coastal development due to fill, infill development, sea level rise, runoff, and shoreline change
- Issue 2:** Increased flooding impacts from additional infrastructure and populations in the floodplain and within the river.
- Issue 3:** Emergency management, coastal management, and land use strategies are not coordinated, thereby reducing community resilience.
- Issue 4:** Existing financial and technical capacity reduces effectiveness of mitigation strategies.
- Issue 5:** Inconsistent policies and procedures reduce the effectiveness hazard mitigation actions.
- Issue 6:** Information is insufficient for decision-makers and the public to be proactive about climate change and its impacts
- Issue 7:** Impact of existing and potential shoreline debris during a storm event is of critical concern

7.1. Proposed Changes to Regulation and Policy

It is recommended that RI State agencies and the Metro Bay cities adopt more stringent building standards, flood ordinances, permitting processes, and best practices in coastal flood zones to reduce vulnerabilities to existing and future infrastructure, development and populations.

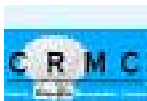
- 7.1.1.** Develop standards and regulations on sea level rise and climate change adaptation (CRMC, State Building Code, RI Sea Grant, Researchers, non-profit organizations, Municipalities).



- 7.1.2. Adopt a freeboard that will increase the required first floor elevation above the base flood elevation for new or substantially improved structures in high hazard areas (CRMC, State Building Code, State Land Use Plan, RIEMA, Municipalities).
- 7.1.3. Standardize the 50-percent rule for redevelopment, expansion, and revitalization (CRMC, State Building Code, and Municipalities).
- 7.1.4. Develop a Coastal A-zone policy and coordinated implementation approach, where structures within A-zones subject to wave activity of 1.5 to 3-feet are designed to V-zone standards (CRMC, State Building Code Commission, RI Statewide Planning, RIEMA, Municipalities).
- 7.1.5. Develop a review procedure for proposals that include filling in Coastal A-zone and V-zones.
- 7.1.6. Incorporate climate change considerations into Low Impact Design standards and the Urban Coastal Greenway Policy (CRMC, DEM, Municipalities).
- 7.1.7. Incorporate provisions into design and permitting of water-based projects to address preparedness, response and recovery of hazards related to hurricanes and sea level rise (CRMC, Municipalities).
- 7.1.8. Develop and implement a policy that prohibits fuel transfer in the Port of Providence during significant storm events (DEM, CRMC, Port of Providence, and Coast Guard).

7.2. Recommended Actions

- 7.2.1. Develop and implement a model floodplain ordinance (RIEMA, State Building Code Commission, RI Floodplain Mitigation Association, Municipalities).
- 7.2.2. Establish a marine debris removal plan for post-hazard cleanup (RIEMA, DEM, CRMC, Marine Trades Association).
- 7.2.3. Prioritize property acquisition strategies that focus on UCG Areas of Particular Concern and flood mitigation (DEM, CRMC, Municipalities).
- 7.2.4. Develop an ongoing outreach program for coastal developers, engineers, small businesses, banks, and home owners on the best ways to safeguard lives and property against coastal hazards (RI Floodplain Mitigation Association, RI Sea Grant, RIEMA, State Building Code Commission, CRMC).



7.2.5. Coordinate state and local aspects of floodplain management across the Metro Bay region (RIEMA, municipalities).

7.2.6. Training (RIEMA, State Building Code Commission, CRMC, RI Flood Mitigation Association, RI Sea Grant).

7.3. Research Needed

The following list of research was the result of a workshop related to sea level rise (R.I. Sea Grant, 2007b) and various Metro Bay forums over the past two years:

- ▶ Obtain aerial images through LIDAR and multi-beam, so that these can be used for mapping and modeling inundation, as well as future scenarios of sea level rise.
- ▶ Work and coordinate with other organizations that need this information, in order to lower costs.
- ▶ Develop maps of existing coastal A-zones and future flood zones (with sea level rise).
- ▶ Monitor tide gauges to update sea level rise rates, maintain erosion mapping and monitor habitat restoration areas for effectiveness with changing climate and sea level.
- ▶ Examine other coastal areas and how they are adapting to sea level rise.
- ▶ Identify ways to translate sea level rise onto FEMA Flood Insurance Rate Maps. Develop economic evaluations to include the cost of retrofitting infrastructure for sea level rise impacts as well as a natural resource evaluation.
- ▶ Update the 2001 risk exposure maps to incorporate development since 2001, as well as planned development identified by the municipal master plans. The model should be flexible to allow for continual updates to incorporate information as new projects are permitted.

