



Hurricane Planning

Lessons Learned

Facility Crisis Management

Robbery

Medical Emergencies

Crisis Communication

Fire Alarms and Evacuations

Severe Weather and Tornado

Hazardous Materials Spills, containment and reporting

Animal Escape

Lost Children and Car Accidents

Power Failure and Flood

Bomb Threat Procedures

Radio Codes and Procedures

Hurricanes

Extremely significant for Gulf and
Atlantic Coast facilities
Likely to become more significant

Hurricane Plan (Pre-Ike)

Due to Moody Gardens' geographical location on the Gulf Coast of Texas, hurricanes present a real threat to the entire project. It is estimated that 72 hours are required to close down and secure the facility in the event of a threatening storm. This Hurricane plan outlines the responsibilities of the Life Science and Exhibit Operations staff regarding preparations for the Rainforest, The Learning Place, Aquarium, Animal Holding building and any other applicable animal areas. Although the central plant is capable of supporting the Aquarium, Rainforest and Animal Holding building in the event of a prolonged power loss, at the beginning of the hurricane season, a generator capable of supporting core animal operations will be reserved for use if needed following a storm. All staff has been divided into 3 teams that have been color coded green, blue or red. All part-time staff members are on the green team. All full time employees are on the blue team. Red team consists of experienced personnel that have volunteered to remain on site.

Details

- Staff designations (roles)
- Timeline for tasks
- Specific duties outlined
- Coordination ambiguous (pros/cons)
- Framework allows more specific lists to be developed.

Of Significance...

1995 AZA Accreditation required policy
2-3 minor storm events that tested our practices
2005 KatrinaRita...real world test
Adopted no animals moved off site after Rita
Better prepared with supplies that were useful in Rita
Better developed communication plan
General awareness of hurricane season

Tuesday, 9 September, 2008

Ike enters Gulf with projected paths towards CC

Contacts made & assistance offered (mutual)

Hurricane Plan initiated (tentative)

Wednesday afternoon-path moving north

Thursday noon-bullseye on Galveston



*You are
here*



7:45am Friday, 12 Sep



9:30am flooding surpasses levels
seen during Hurricane Rita-7ft



2pm 8ft surge



6:30pm tropical storm winds
9ft surge



7:30pm 10ft surge



8am Saturday-still 10ft surge



8am



11am, 13 Sep



1:30pm Sunday



Debris!



Before



After



West Exhibit Access

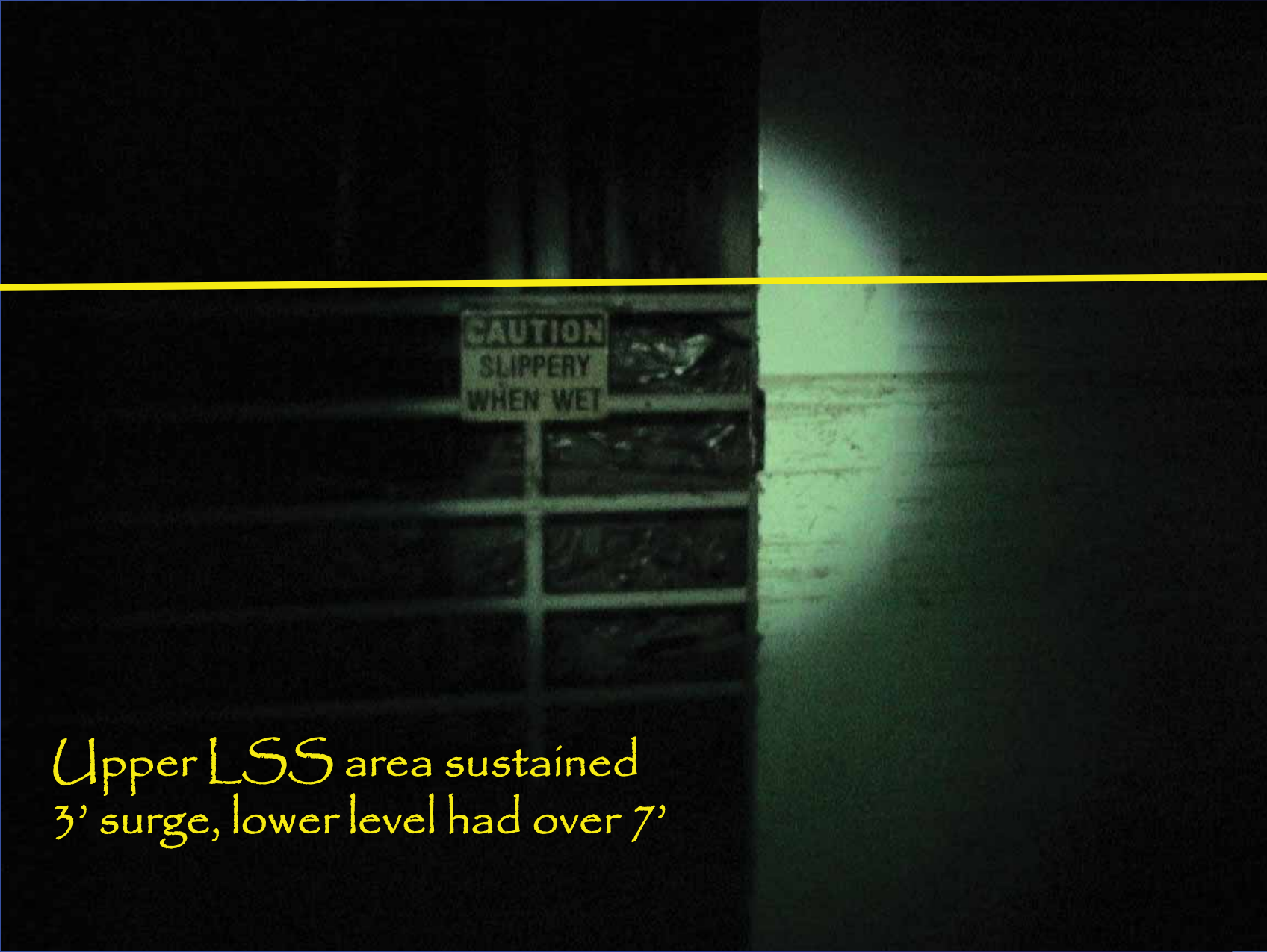










A dark, grainy photograph of a storage area. On the left, there is a metal shelving unit with several shelves. A white sign with black text is attached to the side of the shelving unit. The sign reads "CAUTION SLIPPERY WHEN WET". To the right of the shelving unit, there is a bright, overexposed area that appears to be a doorway or a large opening, possibly leading to a flooded area. The overall lighting is very low, making the details of the storage area difficult to discern.

CAUTION
SLIPPERY
WHEN WET

Upper LSS area sustained
3' surge, lower level had over 7'





Post storm timeline

- Staff arriving on site ~55 hrs after storm passed
- Power to some aquarium systems ~60hrs after total power loss.
- Electrical support sporadic over the next 9 days with many interruptions.
- Chilled water loop service 12 days after storm. This allowed complete temperature control to cold water systems.

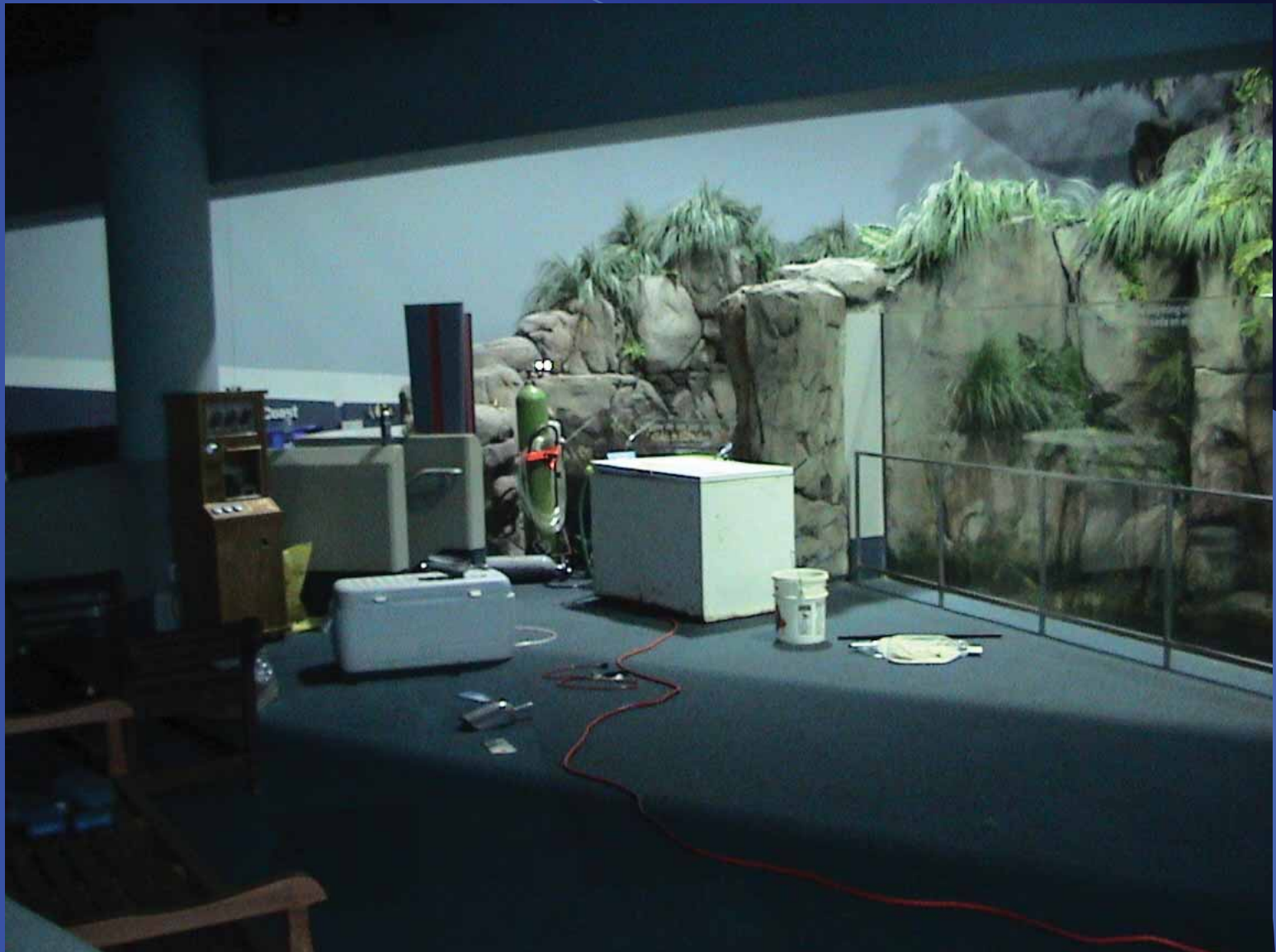
What didn't work?

- On site emergency generators
- Elevators
- Communications (off site)
- Communications (on site)
- Communications (between on and off site)

What did work?

- Immediate acquisition of generators
- Immediate access to clean up crew
- Immediate response of power company
- Supplies on site-oxygen, aerators
- Ability to get “animal care” staff on site
- AZA network
- Acquisition of LSS equipment
- STAFF

Island style





Changes to plan

- Macaws would be housed in their current off exhibit location unless it was determined that a storm surge in excess of 9 feet was imminent, at which point they would be moved to protected locations within the aquarium.
- Removal of irrelevant collection notes until needs arise to update plan.
- Elimination of plans for any off site animal moves.
- LSS verify replacement pumps are on site and “located in safe, elevated areas.”

Unwritten changes

- Formally designate communication tree for off site communications.
- Formally designate communication conduit and schedule between site and off site.
- Formally designate communication center within Aquarium
- Oxygen dewars on site through hurricane season
- Remove and relocate package filtration units in quarantine to safe, elevated areas.
- Remove and relocate chillers from quarantine to aquarium for use on kelp as needed.

Additional Changes (wish list)

- Install watertight doors on HVAC vents
- Install watertight doors at RF loading docks
- Move compressor and air distribution feeds for entire aquarium to elevated area.
- Acquire and maintain off site laptop for crisis management.
- Streamline record keeping and develop efficient safeguards.
- Consider emergency generator options at Aquarium.

Questions

