

Garapan Watershed Management Plan

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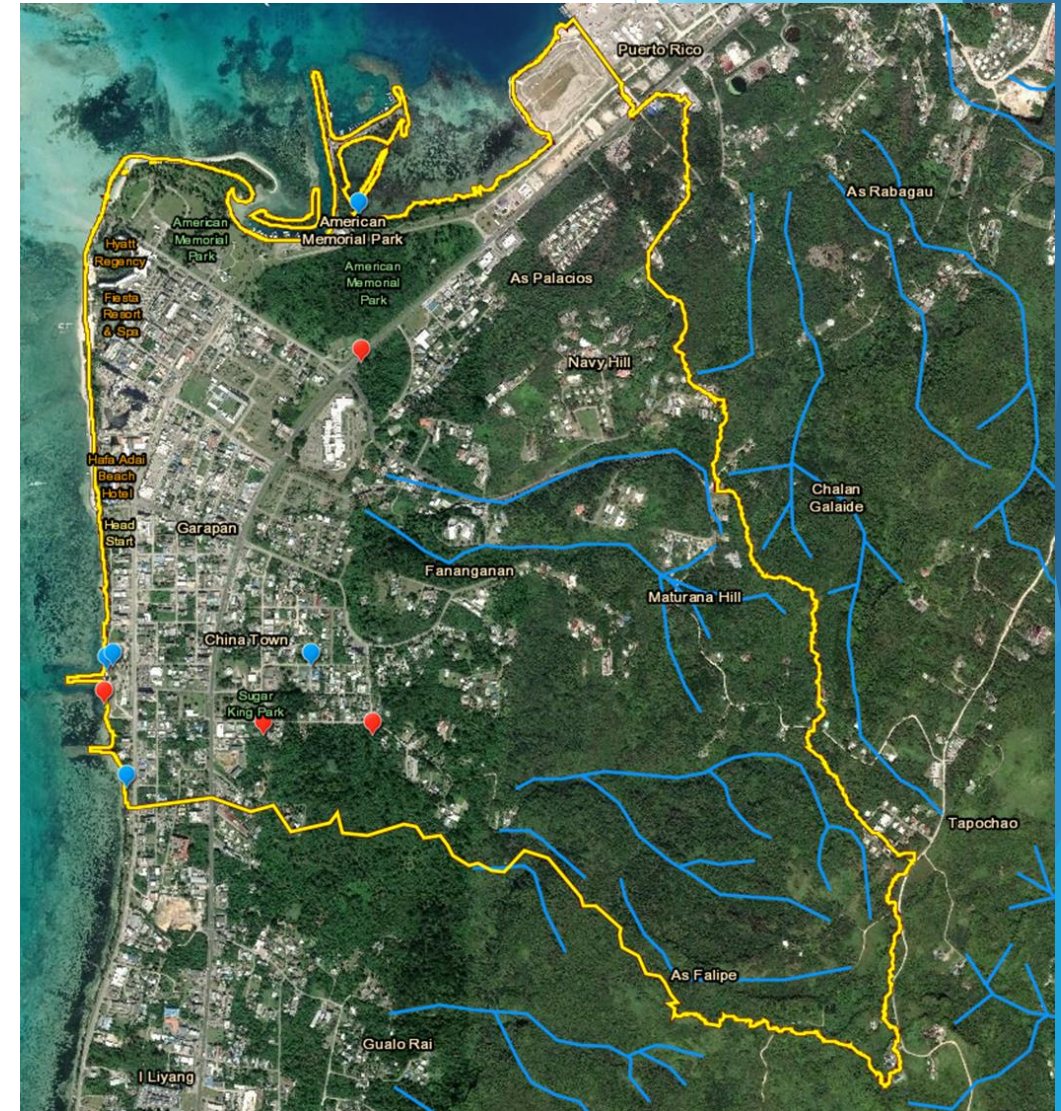
Background:

- ▶ One of four Watershed Management Plans currently in development:
 - ▶ Talakhaya (final review)
 - ▶ Garapan (expected completion ASAP)
 - ▶ Laolao
 - ▶ Achugao
- ▶ 4-day Watershed Workshop held January 21-24, 2020



Today's Objectives:

- ▶ Confirm Objective Leads and Partners
- ▶ Confirm cost/budget estimates
- ▶ Load reduction modeling, incorporation of management options into new objectives?
- ▶ Final comments due to Becky by COB, Friday July 17



Garapan WMP Overview

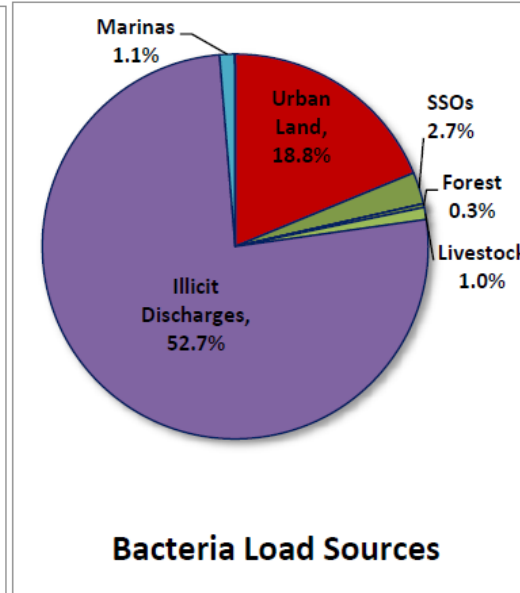
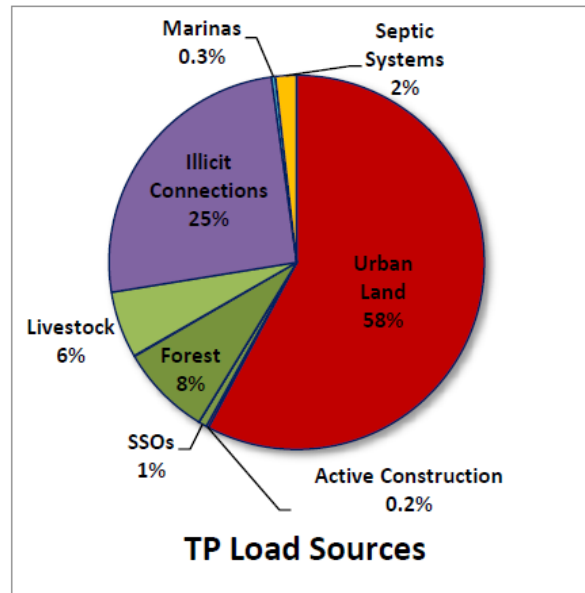
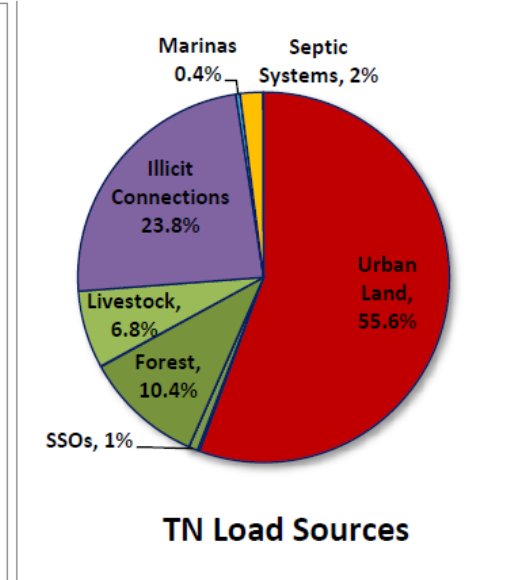
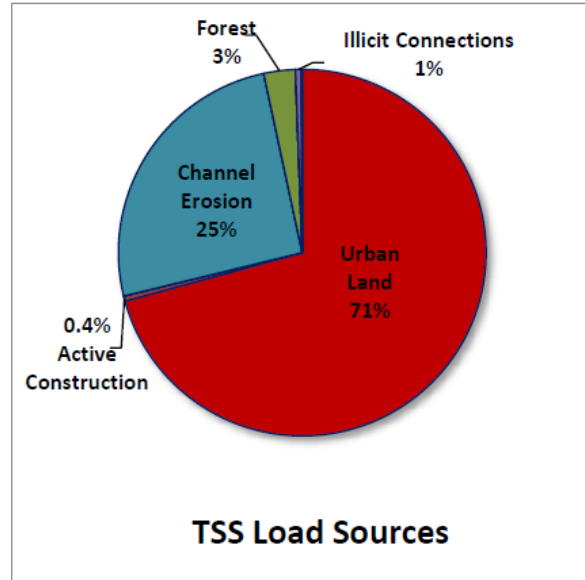
Table of Contents

EXECUTIVE SUMMARY	2
INTRODUCTION	3
WATERSHED BENEFITS.....	3
THE IWMP APPROACH	4
CONSERVATION ACTION PLANNING ACCOMPLISHMENTS AND CHALLENGES.....	4
EXISTING MONITORING DATA AND PROJECTS IN THE WATERSHED.....	5
VISION	8
KEY THREATS/ISSUES	9
POLLUTANT LOAD MODELING	9
CAUSES OF WATERSHED IMPAIRMENTS.....	9
GOALS, STRATEGIES, OBJECTIVES, ACTIONS	10
10 YEAR GOALS	10
5-YEAR SMART OBJECTIVES & ACTIONS TO ACHIEVE LOAD REDUCTIONS.....	11
EDUCATION AND OUTREACH	17
MONITORING AND EVALUATION PLAN	19
APPENDIX A: WATERSHED CHARACTERIZATION.....	27
APPENDIX B: IMPLEMENTATION STRATEGY & SCHEDULE.....	36
IMPLEMENTATION STRATEGY	36
IMPLEMENTATION SCHEDULE	36
WORKSHOP PARTICIPANTS.....	37

Garapan WMP Objectives

- ▶ Ob. 1: Funding and technical assistance to implement green infrastructure projects on private properties (both residential and commercial)
- ▶ Ob. 2: Open and maintain 3 public restrooms for use during regular daytime hours
- ▶ Ob. 3: IWDS inventory and education program
- ▶ Ob. 4: Implementation of IDDE program
- ▶ Ob. 5: Implementation of FOGs program
- ▶ Ob. 6: 2 spay-neuter clinic events
- ▶ Ob. 7: DFW hunting, fishing, and research permit regs are updated
- ▶ Ob. 8: BMPs for invasive species/vegetation into permitting & enforcement
- ▶ Ob. 9: CRM permitting regulations are updated
- ▶ Ob. 10: SSG principles incorporated into development projects
- ▶ Ob. 11: DCRM Major Siting permitting includes Zoning
- ▶ Ob. 12: Establishment of a central portal for planning, permitting, and decision making spatial data

Allocation of Loads



Load Reduction WTM...

12% for TN, 13% for TP, 8% for TSS, and almost 30% for bacteria

1. Illicit discharge detection through investigations within 30% of the service area and removal/elimination of all discovered connections.
2. Repair and abatement of half of the sanitary sewer overflows (SSO) (e.g., pump stations and clogged or broken lines) for (2.5 SSO's assumed within the 18 mile sewer network).
3. New stormwater retrofits (e.g., wetlands, bioretention, cisterns, and green roofs) managing 80% of the water quality volume (first 1.5 inches of rain) for 50 acres of impervious cover in the watershed.
4. Increased effectiveness of the erosion and sediment control inspection program that visits sites weekly and has stringent enforcement (program rating of 75% efficiency).
5. Addition of another marina pump out station and increased usage.
6. Semi-annual catch basin cleaning (for a combined drainage area of 50 acres).
7. Redevelopment improvements across 30 acres that results in a 10% average reduction in impervious cover and turf.
8. Stabilizing 0.3 miles of eroding stream channel.

Objectives & Actions...

Next steps

Final draft & WTM analysis distributed by
Monday morning, July 6

Final comments due to Becky by July 17, 2020
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