A Preliminary Assessment to Ascertain the Water Quality Status and its Impending Impacts on the Recreational uses of the Ortoire River

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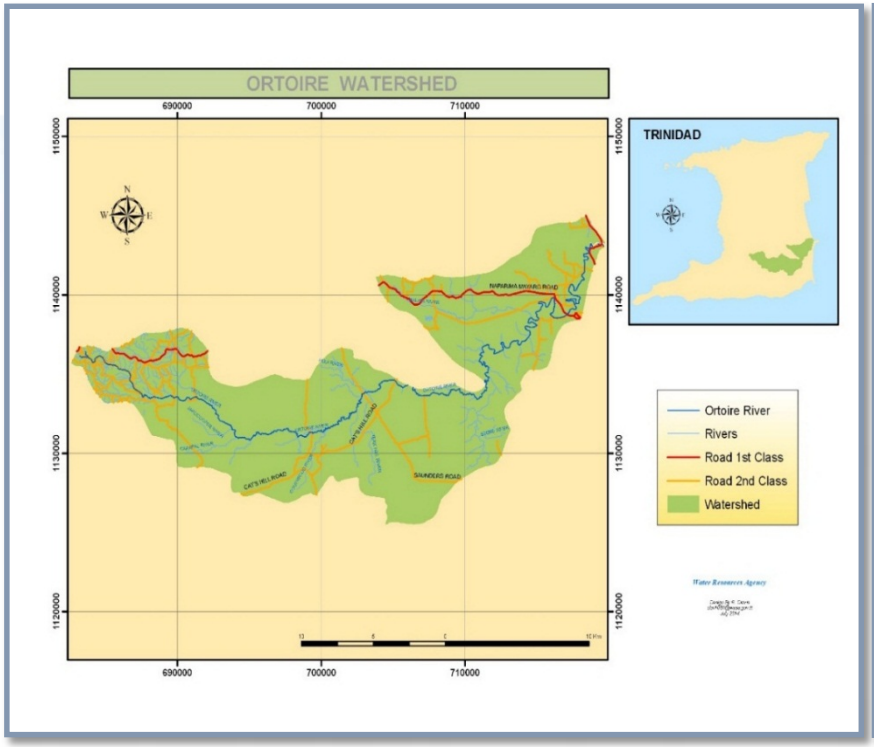
OBJECTIVES

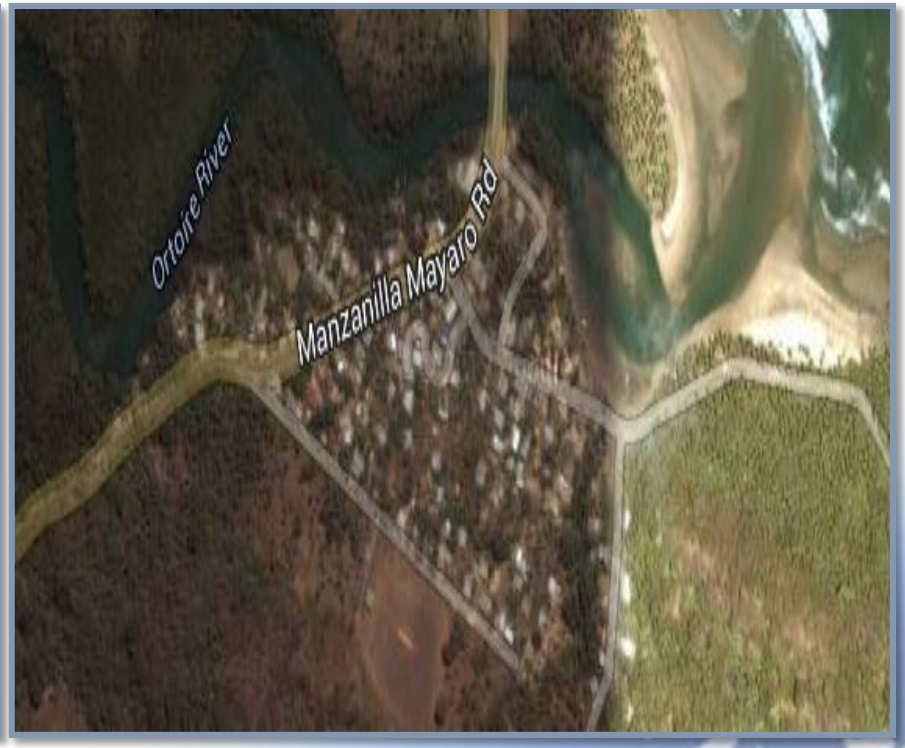
To Provide:

- Overview of the status of the water quality
- Impending impacts on the river
- Way forward

STUDY AREA

- Located in the south-eastern part of Trinidad
- One of the largest hydrological regions in Trinidad (>400 km^2)

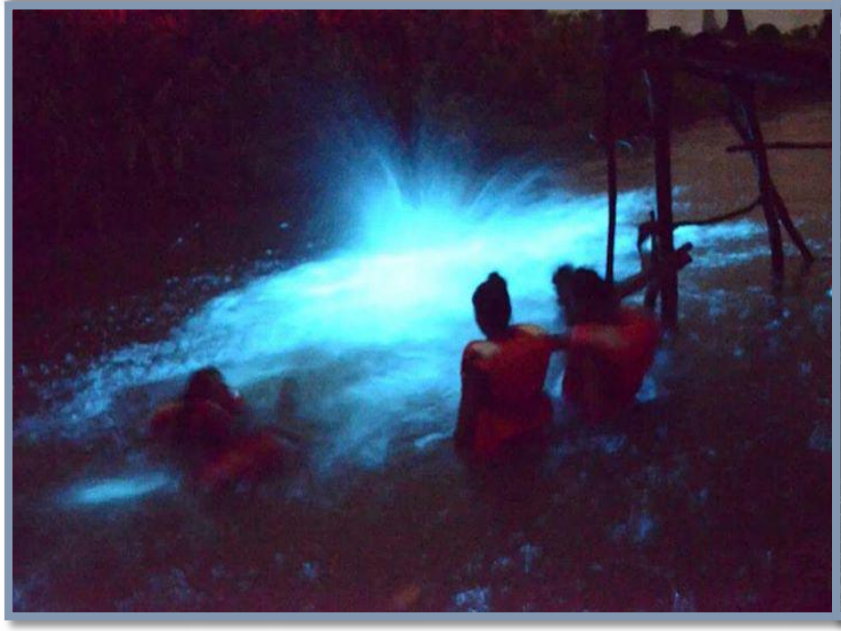




STUDY AREA

- Natural habitat for the varied wild life - hunter's paradise
- Fishing - most important means of income
- Oyster, conch & crabs - sold by roadside peddlers
- Fringe & basin type mangrove - "home" of the cascadura fish
- Livestock rearing - pigs, cattle & poultry
- Cash crop farming - lettuce, some vegetables & watermelon
- Beachfront guesthouses - local tourism, favourite vocation haunt on long weekends & public holidays
- Recreation – bathing, kayaking
- Oil exploration – onshore / offshore
- 60% - is of evergreen forest allocated for forest reserve conservation (Victoria Mayaro, Central Range, San Pedro)

ACTIVITIES ON THE RIVER



JUSTIFICATION

Increased development within the area

Significant dwelling units along river bank & use of outdoor facilities

Unauthorized & authorized activities/development along the river

Lack of a proper sewered wastewater treatment system in the area

JUSTIFICATION



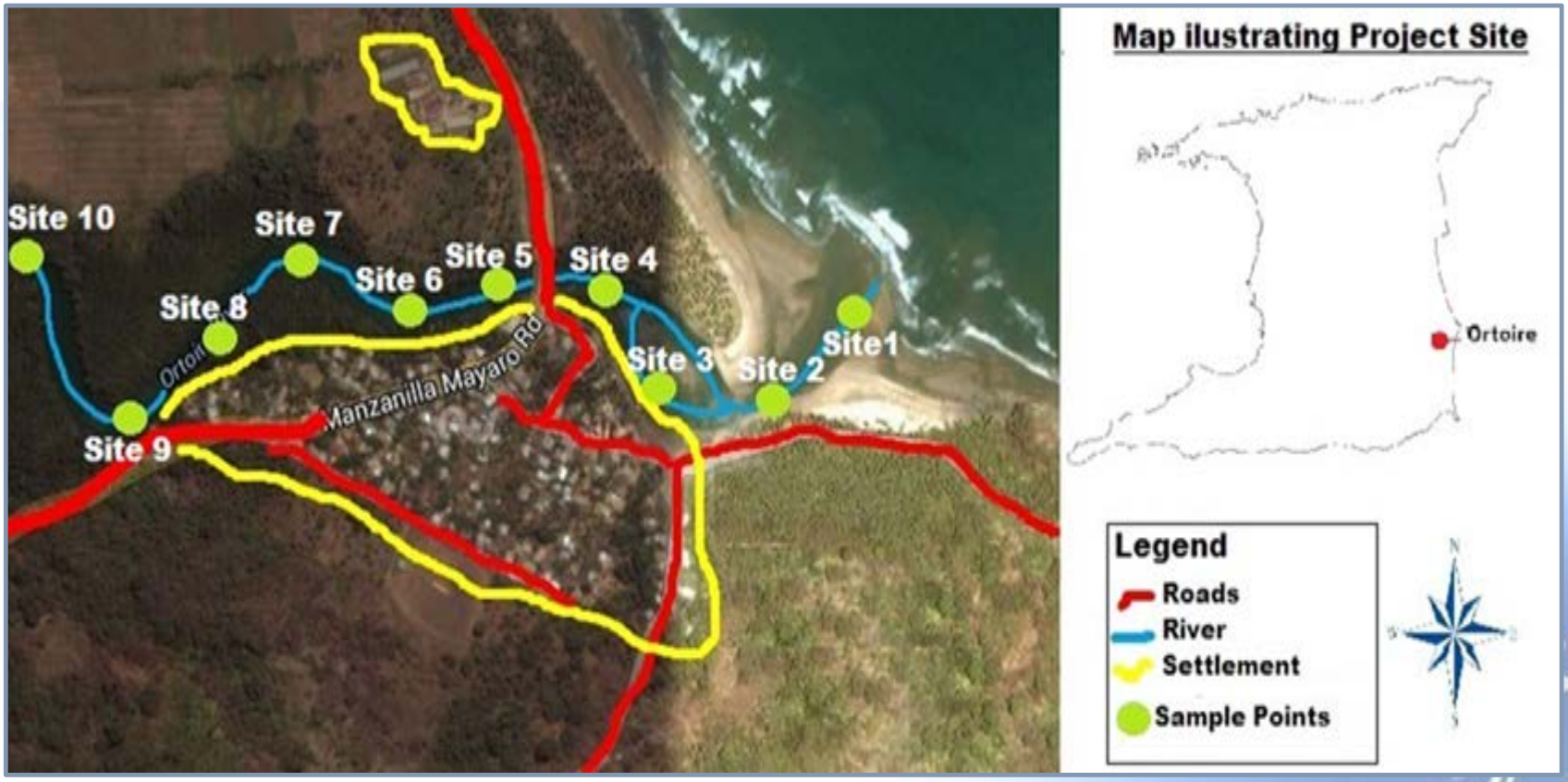



METHODOLOGY

- 10 samples were carried out at 10 sites along the river

- Samples were carried out in the lower regions of the river, extending from the mouth of the river into the watershed

- Samples were taken on weekdays to facilitate analysis; insitu and grab samples



AMBIENT WATER QUALITY GUIDELINES FOR RECREATIONAL USE

TnT has not yet developed ambient WQ guidelines, however, WRA is in the process of developing national guidelines for ambient WQ

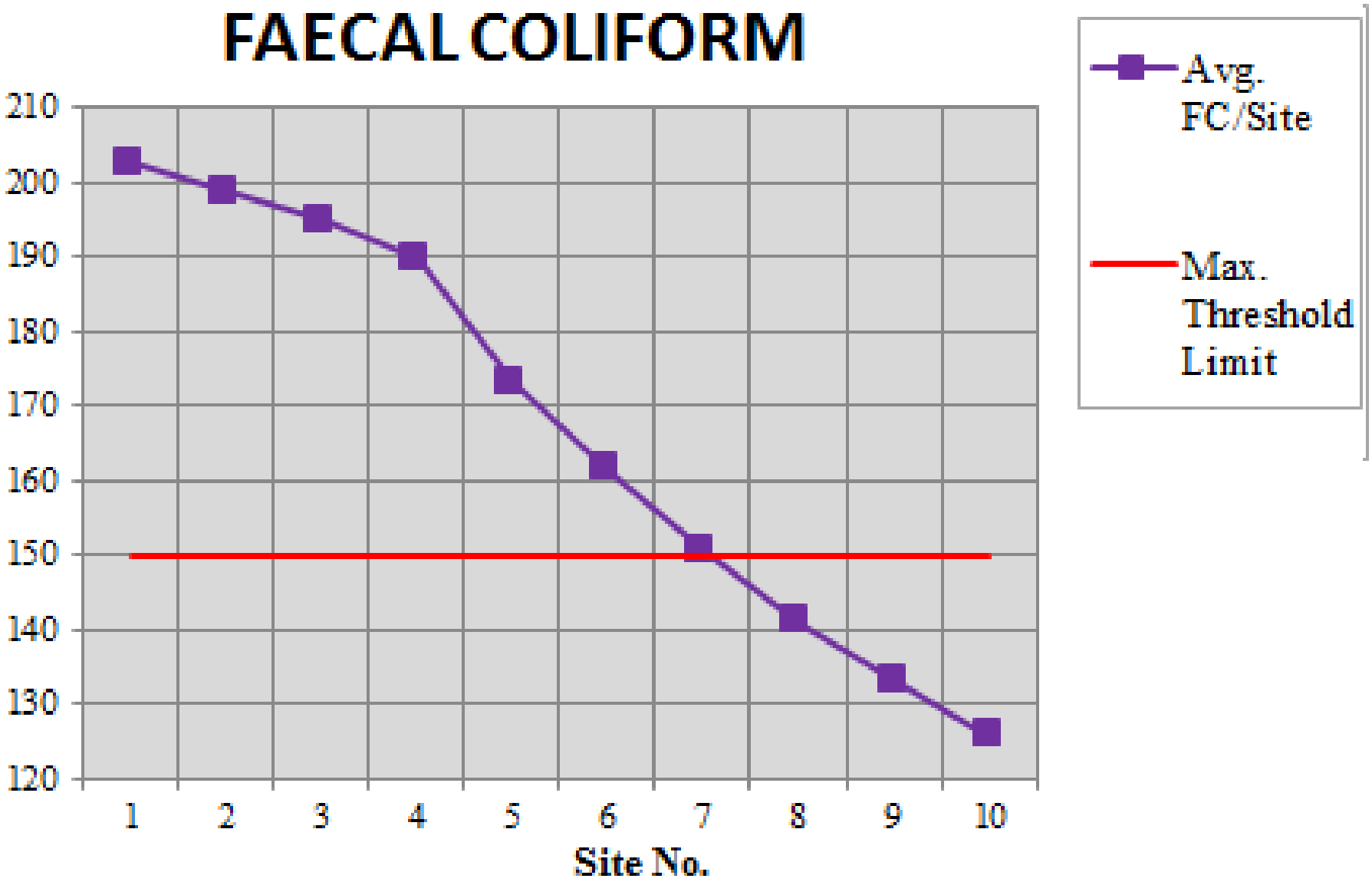
DENR, Philippine Clean Water Act of 2004, Water Quality Guidelines Ambient Water Quality

Climate similar to T&T – archipelagic country, main source of pollution; domestic (33%), livestock (29%), industrial (27%)

Class B Recreational Water Class I – Intended for primary contact recreation (bathing, swimming, fishing etc.)

PARAMETER	DENR, Philippines
DO (mg/l)	min 5
pH (pH unit)	6.5 – 8.5
Nitrate (mg/l)	max 7
Phosphate (mg/l)	max 0.5
Temperature (°C)	26°C - 30°C
Faecal Coliform (cts/100ml)	max 150
TDS (mg/l)	-
Specific Conductivity (mS/cm)	-

RESULTS


FAECAL COLIFORM
210
200
190
180
170
160
150
140
130
120
1
2
3
4
5
6
7
8
9
10
Site No.
Avg. FC/Site
Max. Threshold Limit

IMPENDING IMPACTS ON THE RIVER

- Ecological Damage
- Health Risks
- Economic Losses

CONCLUSION

- Results indicate that the lower reach of the catchment is becoming impaired, which is substantiated by the land use.

- Possibility of impending ecological, economic and health impacts if this trend continues as is.

WAY FORWARD

- Further research is needed – upper and middle regions
- Before it is too late, proper zoning and enforcement
- Explore the multiple use of the river; food / water supply
- Public awareness and capacity building in watershed management and River basin management – Adopt a River Programme

THANK YOU

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