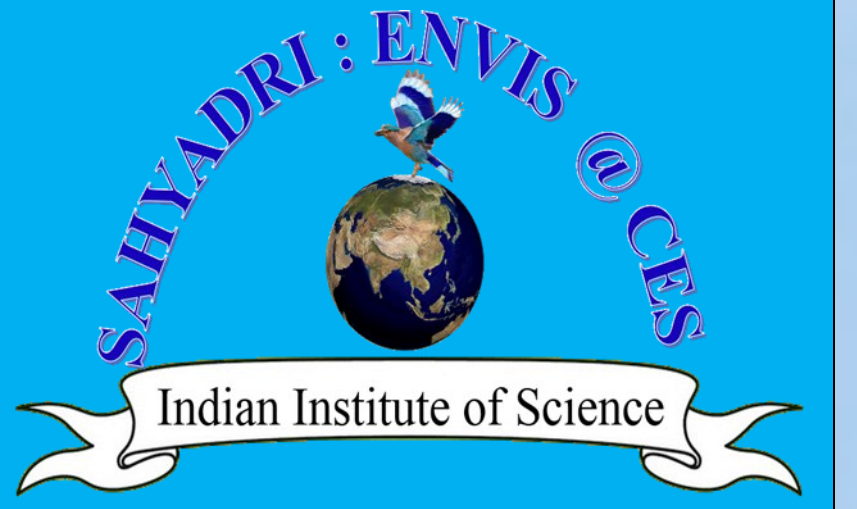




Kotiteertha : Gokarna Temple Pond

Energy and Wetland Research Group,
Centre for Ecological Sciences, Indian Institute of Science, Bangalore;
Web: Url: <http://wgbis.ces.iisc.ernet.in/energy/>



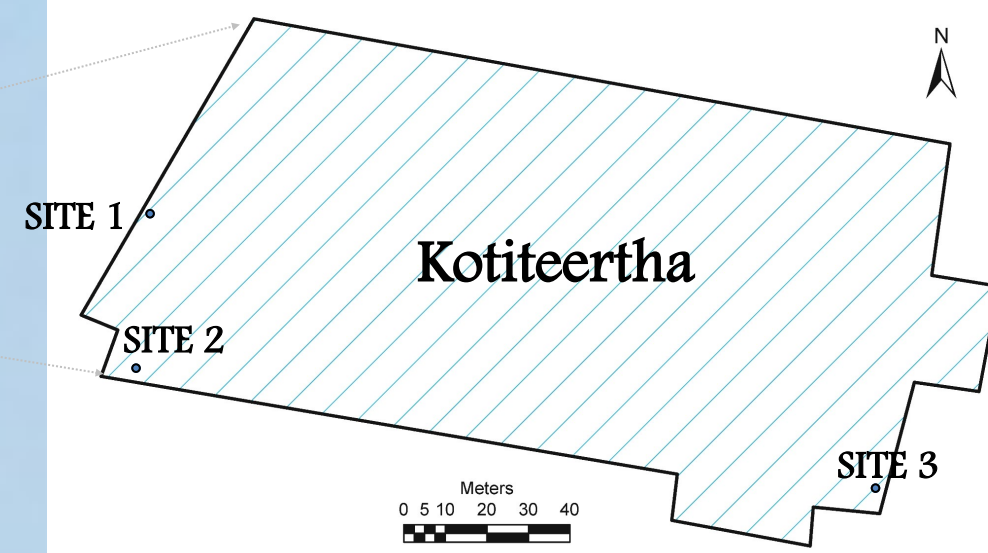
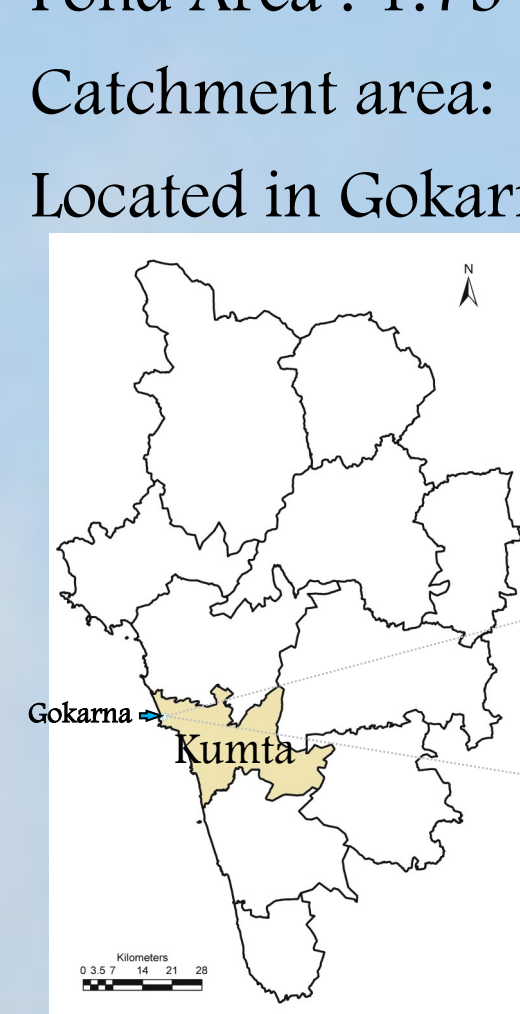
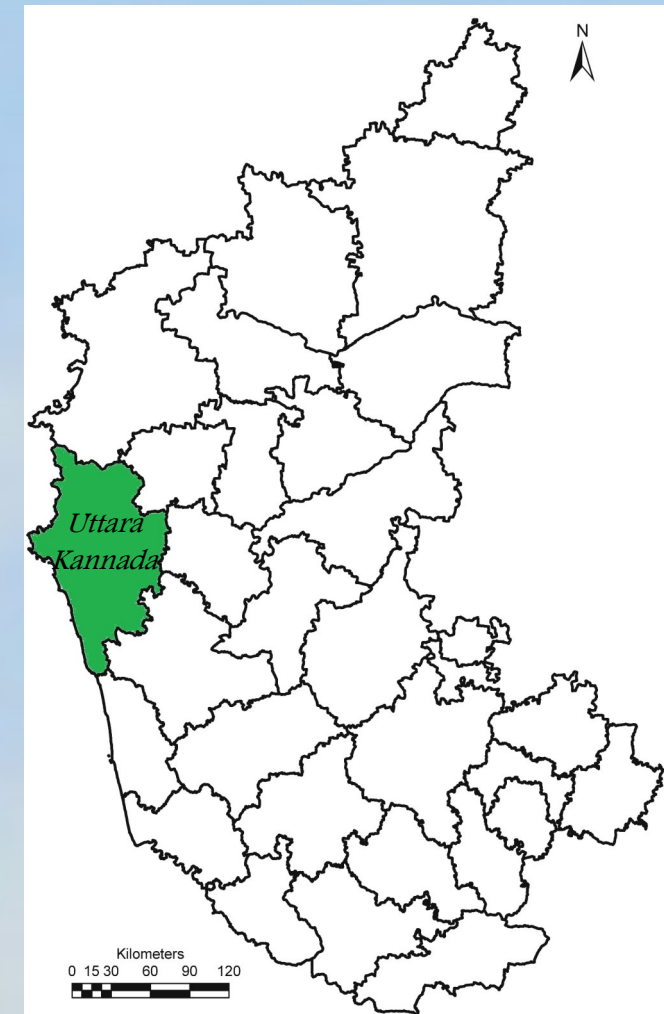
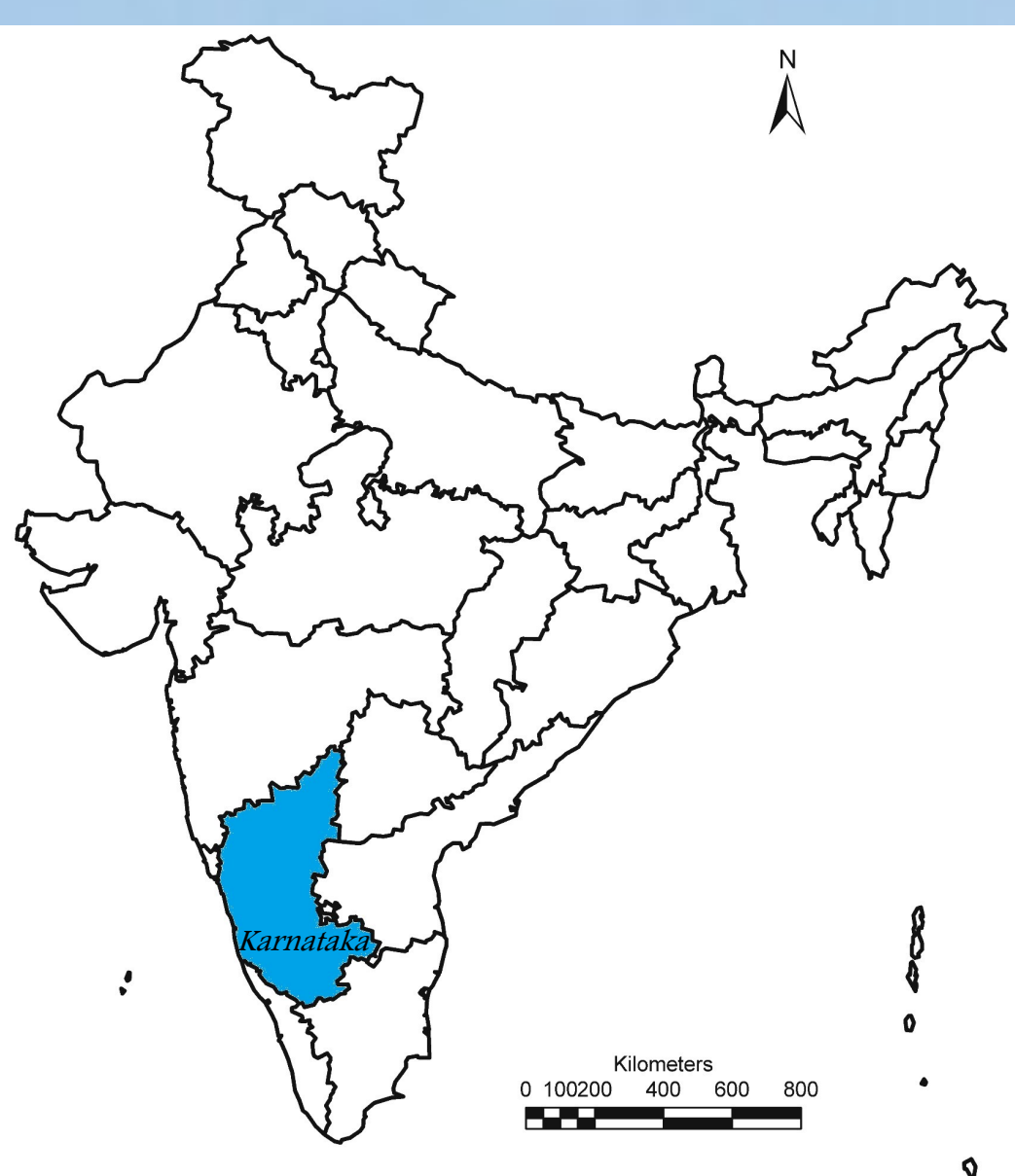
WETLANDS

- Wetlands are the most productive ecosystems with a wide array of goods and service, supporting life.
- Wetlands aid in i) **Bioremediation**—"Kidneys of Landscape", ii) **Recharging Ground Water Table**
- Harnessing water through wetlands is practiced in India, since time immemorial for Domestic and Agricultural practices.
- Temple Ponds (Kundas/Pushkaranis/Tirthas) in the vicinity of temples meet the water needs for the temples (rituals).
- In order to maintain sanctity and water quality, anthropogenic activities are to be restricted.
- Nature of vegetation (land use) the catchment controls the surface and subsurface hydrological regime.

KOTITEERTHA: Investigation of Poor Status

- Kotiteertha is located in Gokarna—Uttara kannada district, Karnataka.
- Pious destination for pilgrim's across India for performing rituals and pay homage to the departed soul's through out the year.
- Enhanced ritual offerings, unscientific solid and liquid waste disposals have resulted in deterioration of water quality.
- Ritual offerings (such as flowers, rice, fruits, leaves, coconut shells, saturated and unsaturated fats and occasionally cloth pieces, etc) disposed in the pond have enriched pond with Carbon and Nitrogen
- Bathing, washing clothes and utensils using chemical based soaps, shampoos *etc* have enriched the pond with Phosphorus and Nitrogen.

STUDY AREA—Kotiteertha : Gokarna Temple Pond

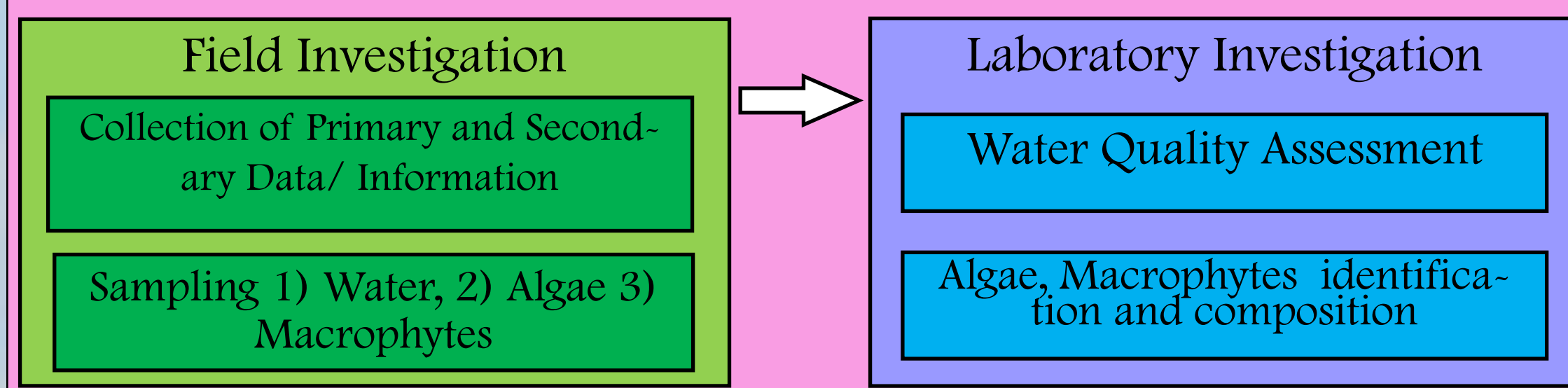


Pond Area : 1.75 Hectares (4.35 acres)
Catchment area: 162.8 Hectares (402.5 acres)
Located in Gokarna of Kumta Taluk, Uttara kannada District
Annual Rainfall 3750 to 4500 mm
Temperature: 18°C to 38°C.

KOTITEERTHA, Pollution Indicator Dynamics



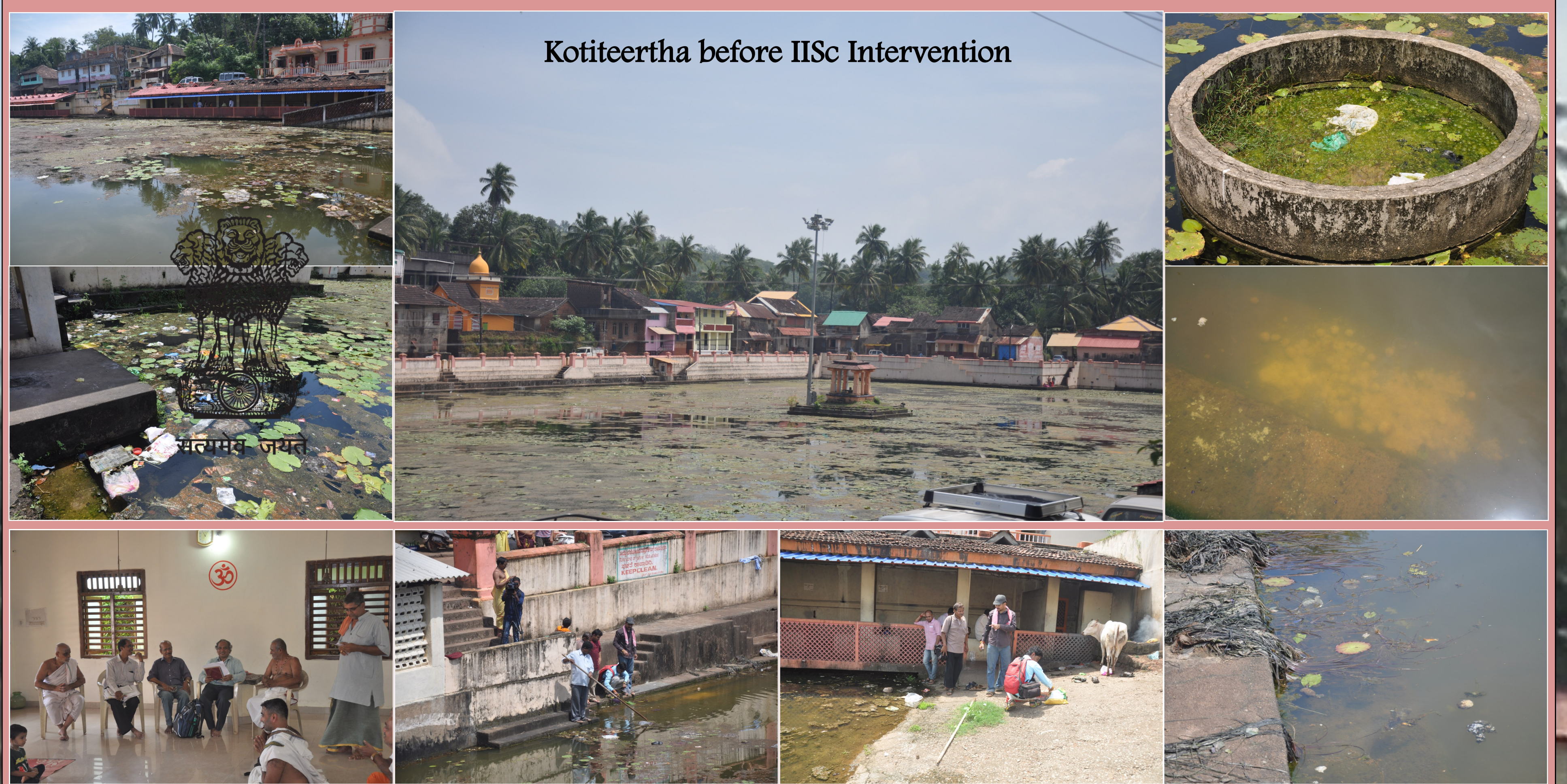
METHOD



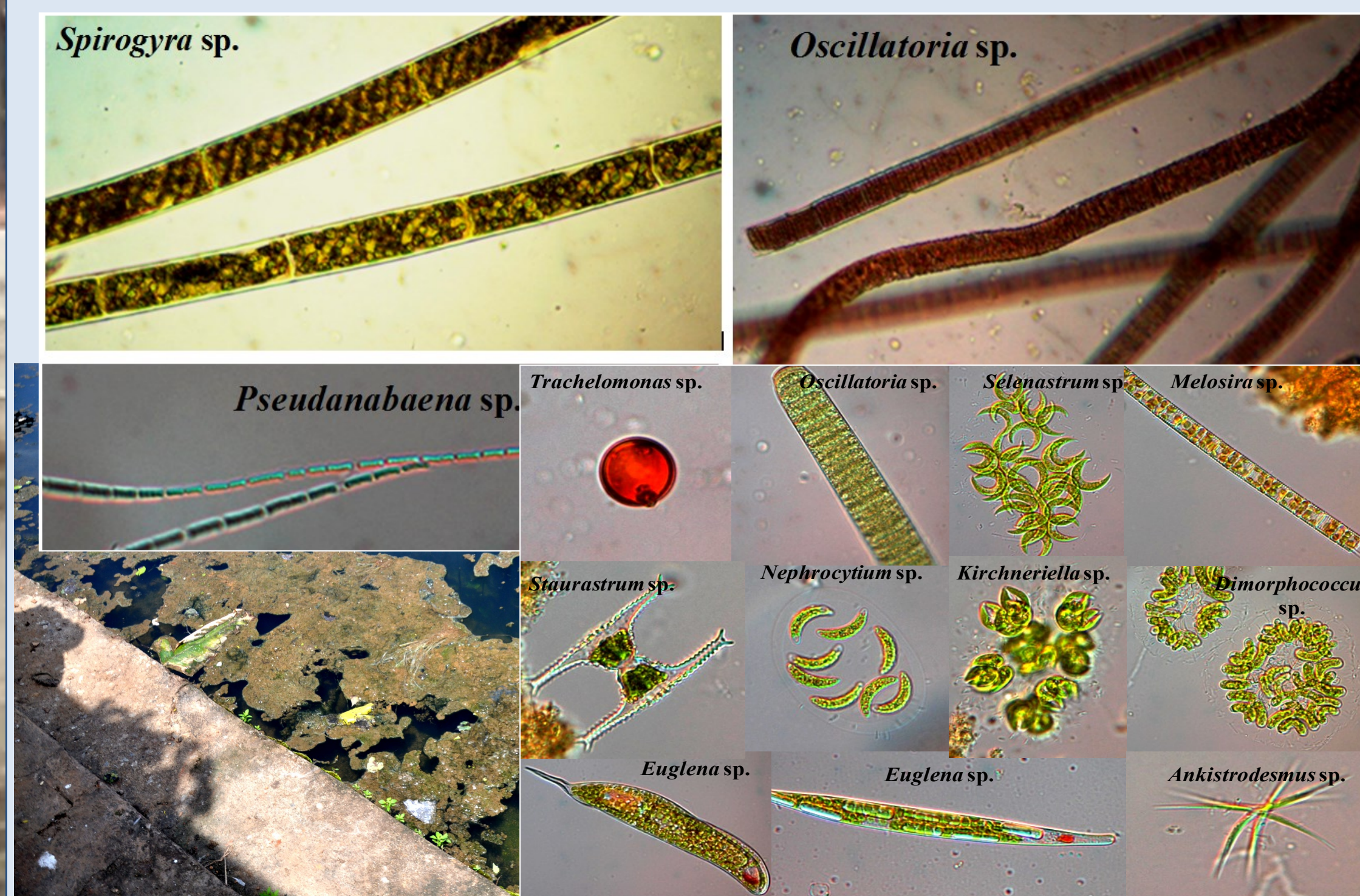
Water Quality Assessment

Parameters \ Sampling Locations	Site-01	Site-02	Site-03
pH	5.9	5.8	6.1
Temp (°C)	33	35.6	31.3
TDS (ppm)	38.5	41	38.8
Turbidity (NTU)	3.45	4.81	1.69
DO (ppm)	2.70	5.00	11.3
BOD (mg/l)	8.13	4.07	8.13
COD (mg/l)	16	24	12
Chloride (mg/l)	22.72	24.14	24.14
Phosphate (mg/l)	0.211	0.243	0.41
Nitrate (mg/l)	0.23	0.146	0.217
Sodium (mg/l)	21.6	22.8	22.8
Potassium (mg/l)	3.2	4.8	4

FIELD INVESTIGATION—October 2015



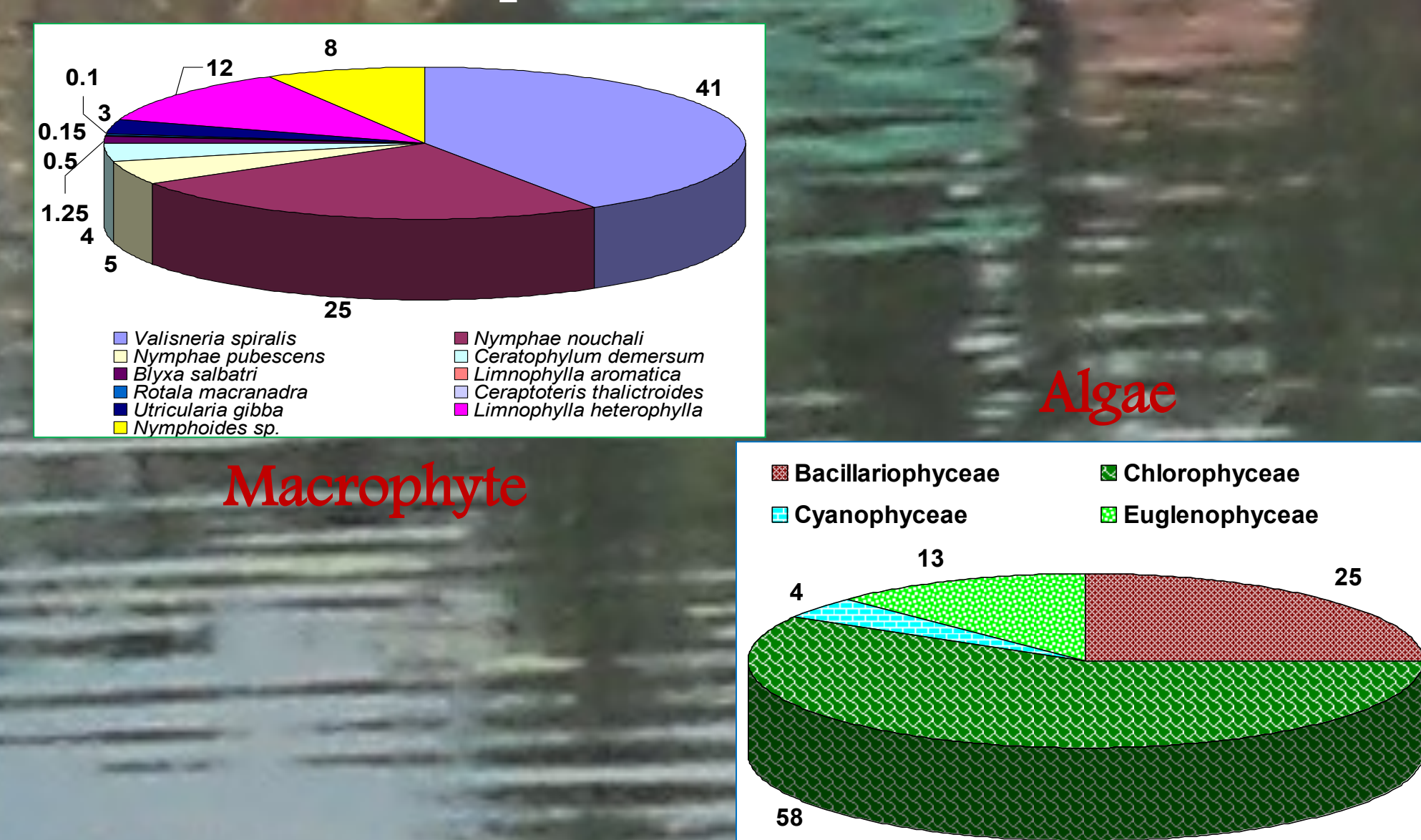
Algal Species



Macrophyte Species



Species Distribution



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