

# Integrated management Tonlé Sap Lake and the Mekong River in CAMBODIA



MARSEILLE, FRANCE '12

M. LIM Puy  
General Director  
Tonle Sap Authority  
15 mars 2012

## MEKONG & TONLE SAP LAKE

Hydrology of Tonle Sap Lake depends on the Mekong River flow regime during the monsoon season.

In the rainy season in June, Tonle Sap Lake fills up from the Mékong River until October and in November the Lake flows back into the Mékong and Bassac River during the dry season.

## TONLE SAP LAKE

Tonle Sap Lake is the largest freshwater Lake in Southeast Asia.

It covers an area of approximately 250,000ha with 4 500 MM<sup>3</sup> in the dry season and around 1.6 million ha in the wet season with 82 100 MM<sup>3</sup>.

Tonle Sap's water level is 1-2 meters in the dry season and 8-11 meters in the wet season.

It is a crucial flood regulator as it absorbs 20% of the Mekong River's flood water.

## TONLE SAP LAKE and BIODIVERSITY

- ✓ Flooded Forest: 647 407 ha protected by Decree August 2011
- ✓ Flooded Forest: at least 151 species of tree
- ✓ 107 species of freshwater fishes with 17 endangered species
- ✓ 225 species of water birds
- ✓ 42 species of reptiles
- ✓ 46 species of mammals

## Why study the integrated water resources management in the Tonle Sap and It's depended ?

- **Hydrological change due of climate change**
- **Dam/reservoir project in the next 5 years**
- **Needed more water resources for Intensive agricultural irrigation**
- **Around 30% only of the population has accessed to safe drinking water.**
- **Urban pollution....**

# River and Catchments Area Mapping



**Legend**

- Point
- Boundary
- International Border (Dotted Line)
- State Border (Dashed Line)
- District Border (Dotted Line)
- Police Station (Yellow Star)
- Post Office (Red Star)
- Water Body
- Sea (Blue)
- Lake (Blue)
- River (Blue)

1:500,000

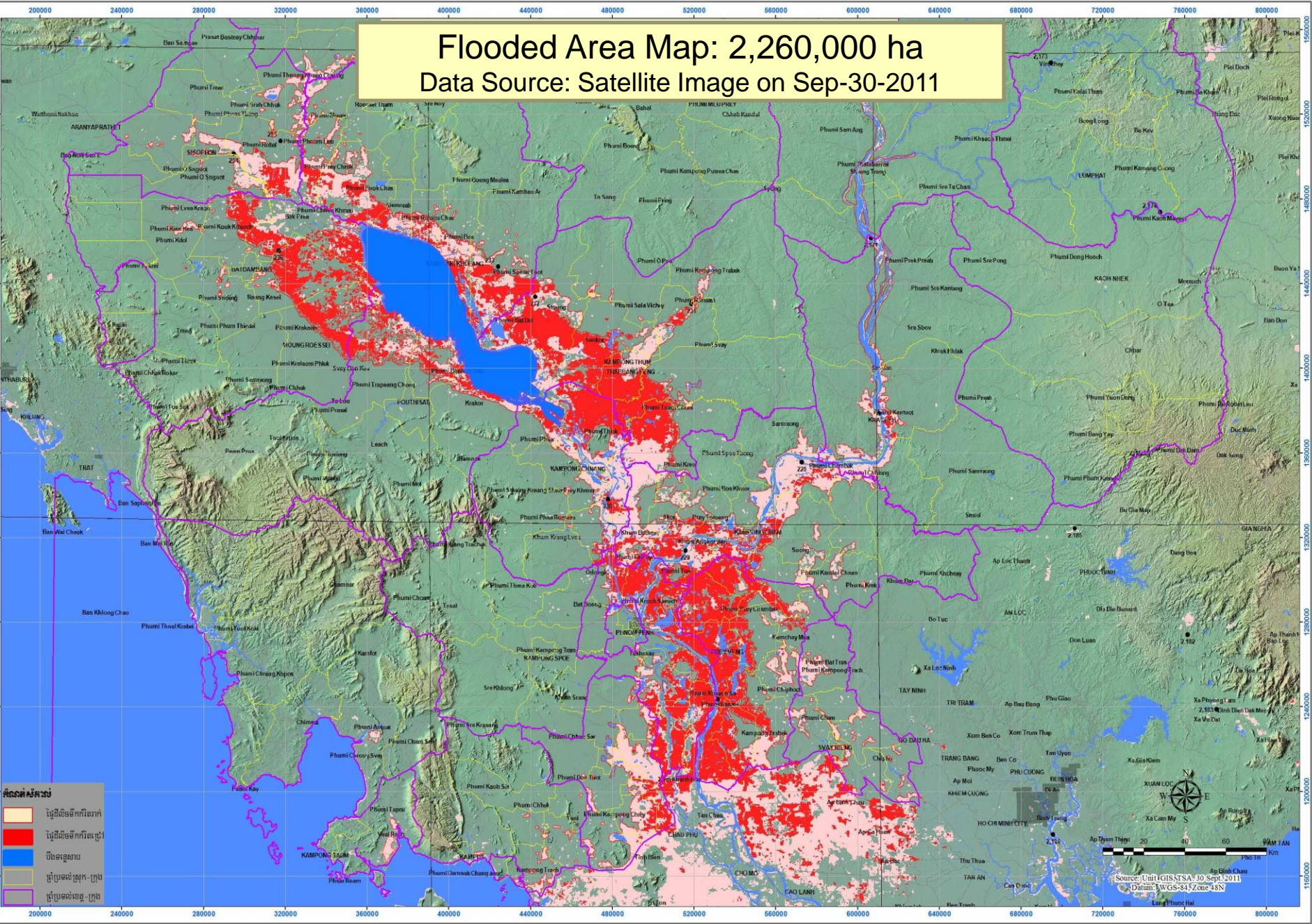
0 25 50

Kilometers

Coordinate System  
Projection: UTM  
Zone: 48N  
Datum: Everest  
Datum: Indian 1960  
Units: Meter

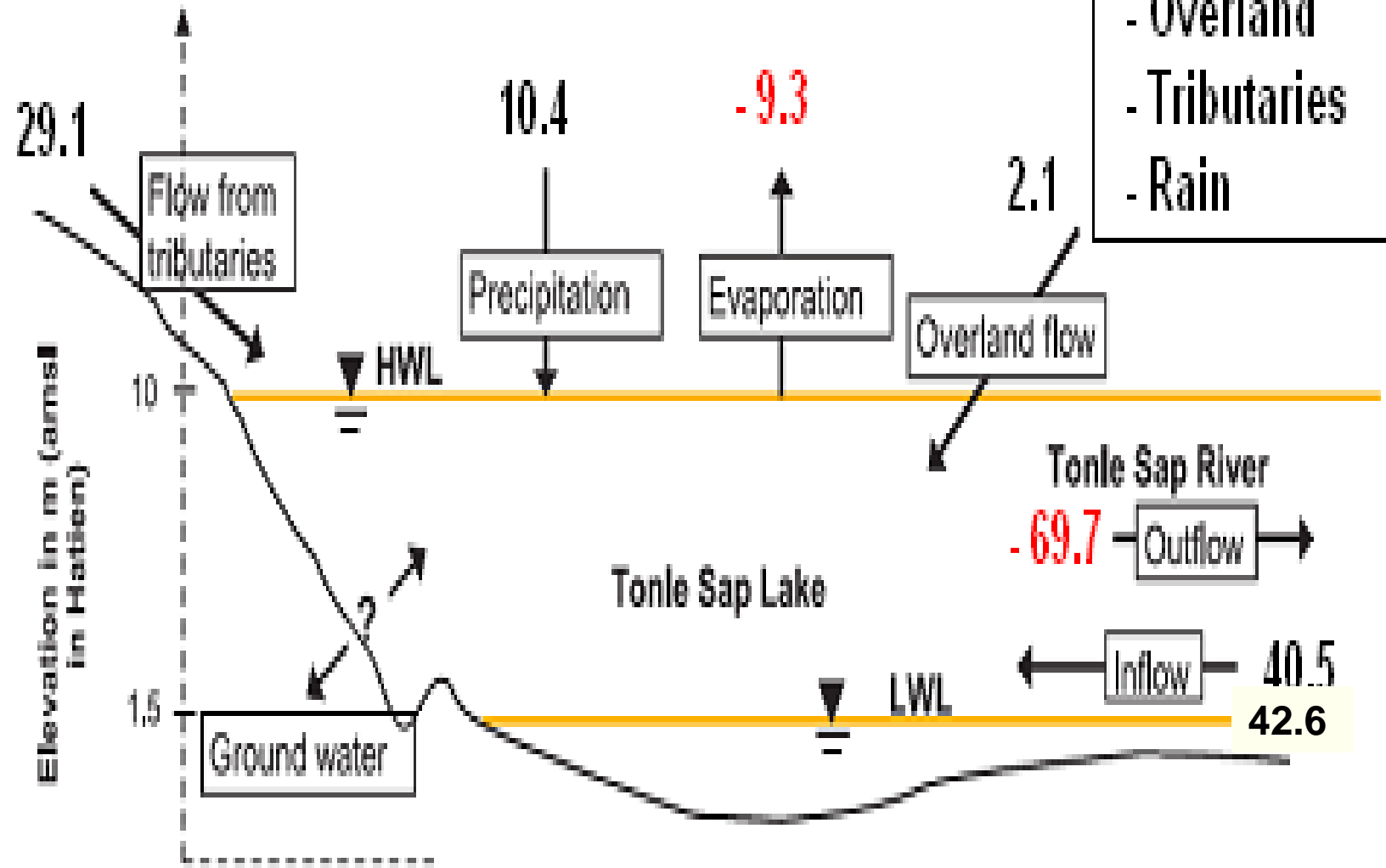
# Flooded Area Map: 2,260,000 ha

Data Source: Satellite Image on Sep-30-2011



# Tonle Sap Water Balance (in yearly averages) [km<sup>3</sup>]

Total Inflow	82.1
from:	
- Mekong	49.3 %
- Overland	2.6 %
- Tributaries	35.5 %
- Rain	12.6 %



## Objectives of Tonle Sap Authority

- ❖ Protection and management of this particular ecosystem
- ❖ Balance between development and conservation
- ❖ Coordinate future projects around the area (ecotourism, agriculture, urbanisation...)
- ❖ Integrated management of the reiver basin around the Tonle

Sap Lake

# Some pictures of Tonle Sap Lake







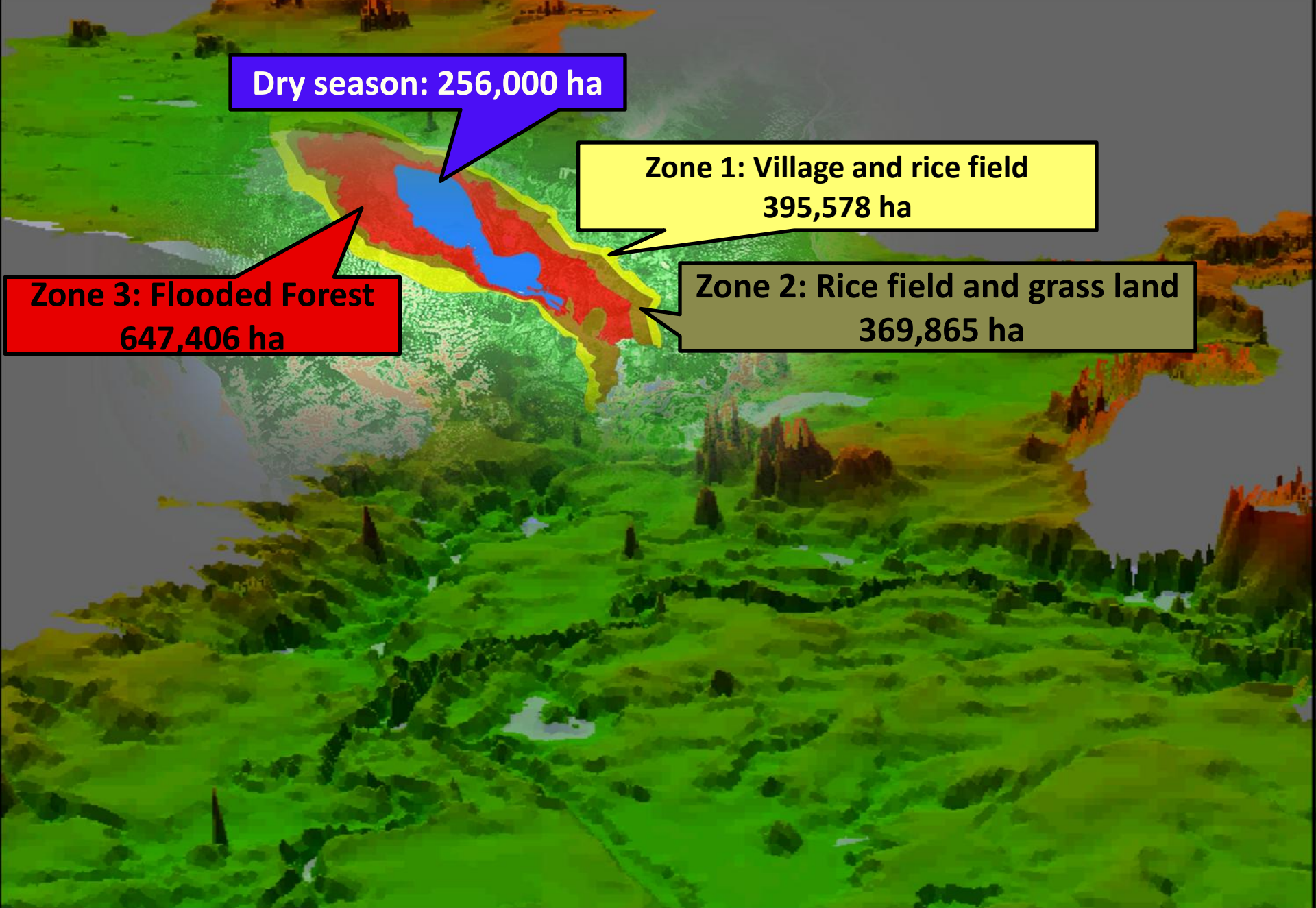
# Some pictures of rivers



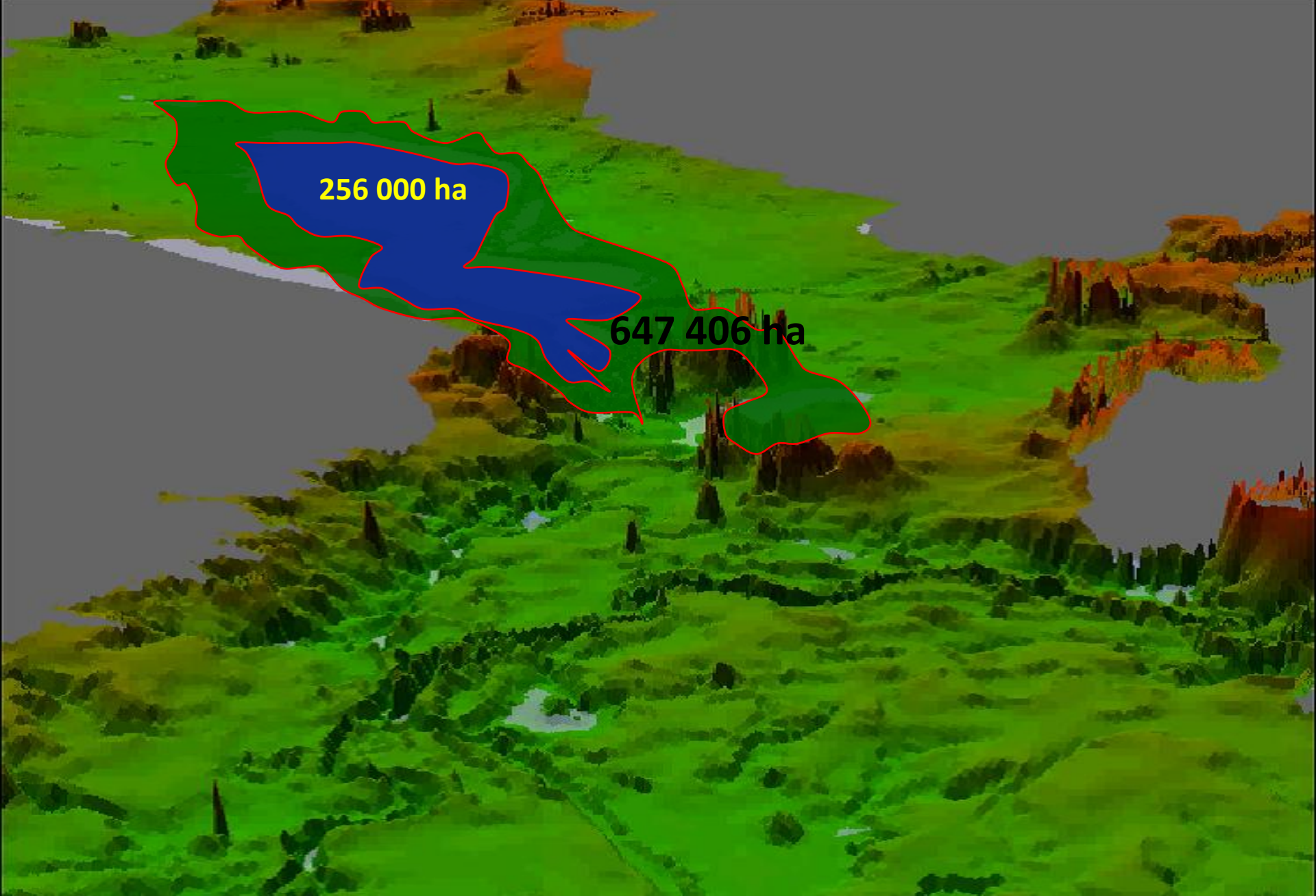


and the fishes





Different zone around Tonle Sap Lake



**Flooded forest protected**



Merci  
Thank you