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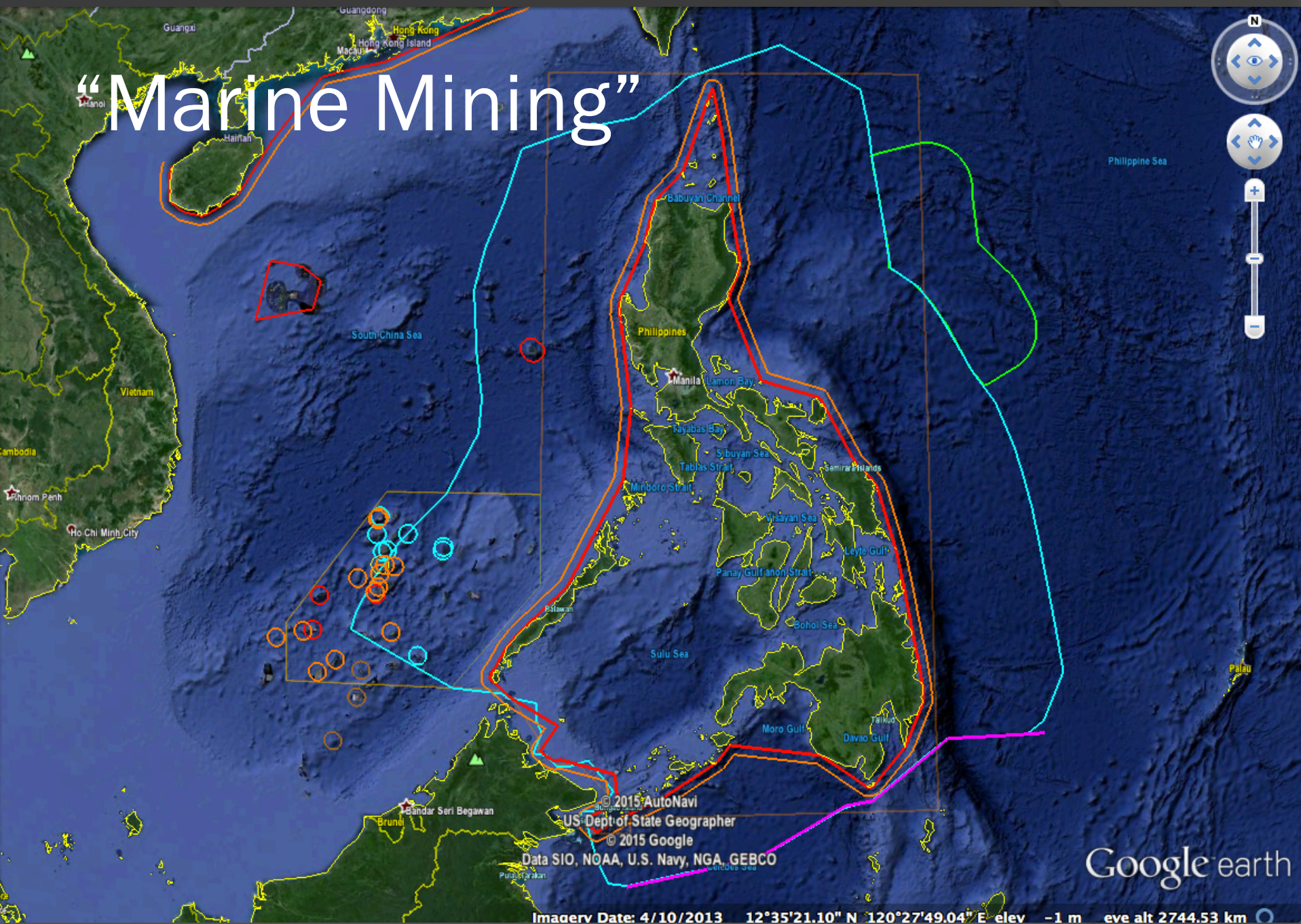
# MARINE MINING IN THE PHILIPPINES: THE CASE OF BLACK SAND

# “Marine Mining”

- ⦿ **Coastal** marine mining – in shorelands bordering the sea, particularly **foreshore and nearshore areas and tidal zones**
- ⦿ **Offshore** marine mining – in waters **beyond tidal areas and well into the continental shelf / seabed** within national jurisdiction
- ⦿ *Deep seabed m.m. – in International Seabed Area beyond national jurisdiction, covered by UNCLOS and Part XI Implementing Agreement*



# “Marine Mining”





# Black Sand



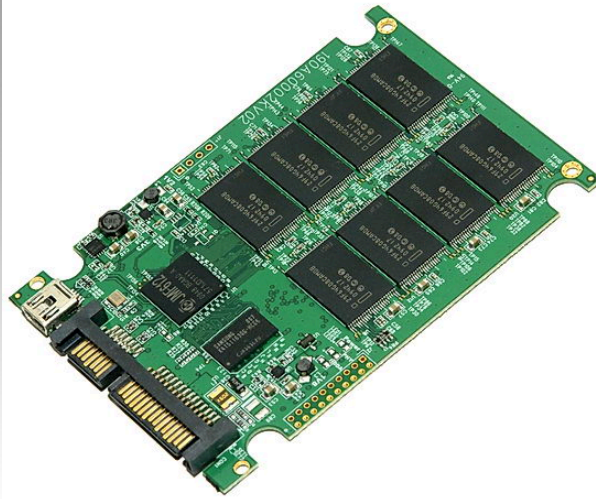


# Black Sand

- ⦿ magnetite sand ( $\text{Fe}_3\text{O}_4$ )
  - “black sand”, “iron sand”
  - very common natural iron oxide, most magnetic of all natural minerals
  - usually found in igneous or metamorphic rock (volcanic origin); in PH, esp. in river basin sediments
  - may also contain traces of more exotic metals (vanadium and titanium)

# Black Sand

- Uses:
  - Magnetic storage media (HDD, SSD)
  - Manufacture: steel, machinery, tools, electronics



# PH Legal Framework

- ◎ 1987 Const., Art. XII, s. 2 – *jura regalia*
  - Small-scale utilization by Filipinos
  - Large-scale by State alone, or joint production/co-production, or PSA's w/ Filipino-owned corp. (min. 60%)



# PH Legal Framework

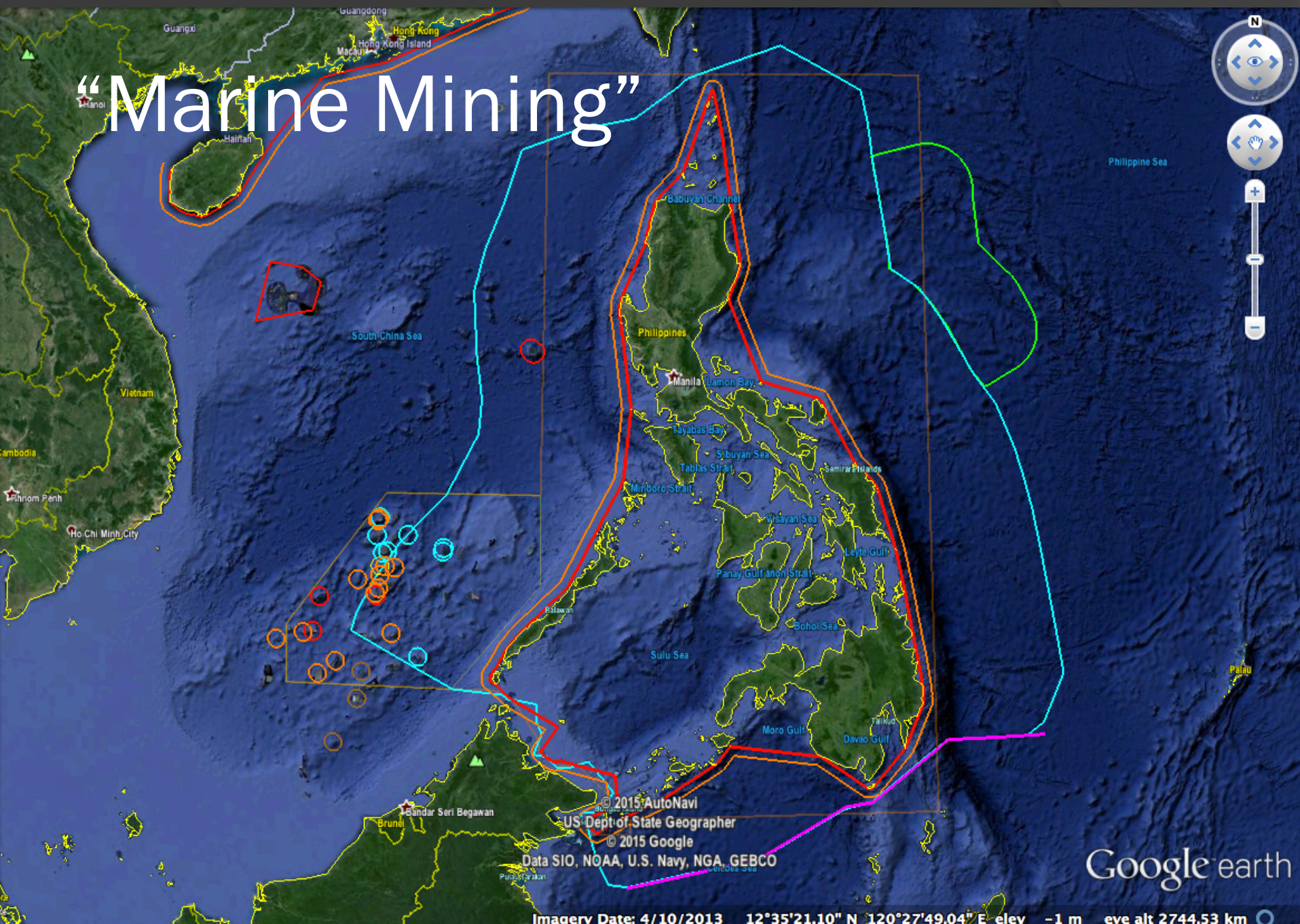
- ◎ State shall protect the nation's marine wealth in its archipelagic waters, territorial sea, and exclusive economic zone, and reserve its use and enjoyment **exclusively** to Filipinos (Art. XII, s. 2, 2<sup>nd</sup> para.)
  - Implies 100% PH equity necessary for marine mining business/activity
  - *La Bugal B'laan* ruling, permitting 100% foreign equity in FTAAAs, not necessarily applicable to “marine wealth” para.

# PH Legal Framework

## ⦿ Mining Act (RA 7942)

- Applies to all areas offshore, “the water, sea bottom, and subsurface from shore or coastline reckoned **from the mean low tide level up to the 200 nautical miles exclusive economic zone** including the archipelagic sea and contiguous zone (PMA, s. 3(a))
  - All submerged lands within the EEZ legally declared as mineral reservation

# “Marine Mining”





# PH Legal Framework

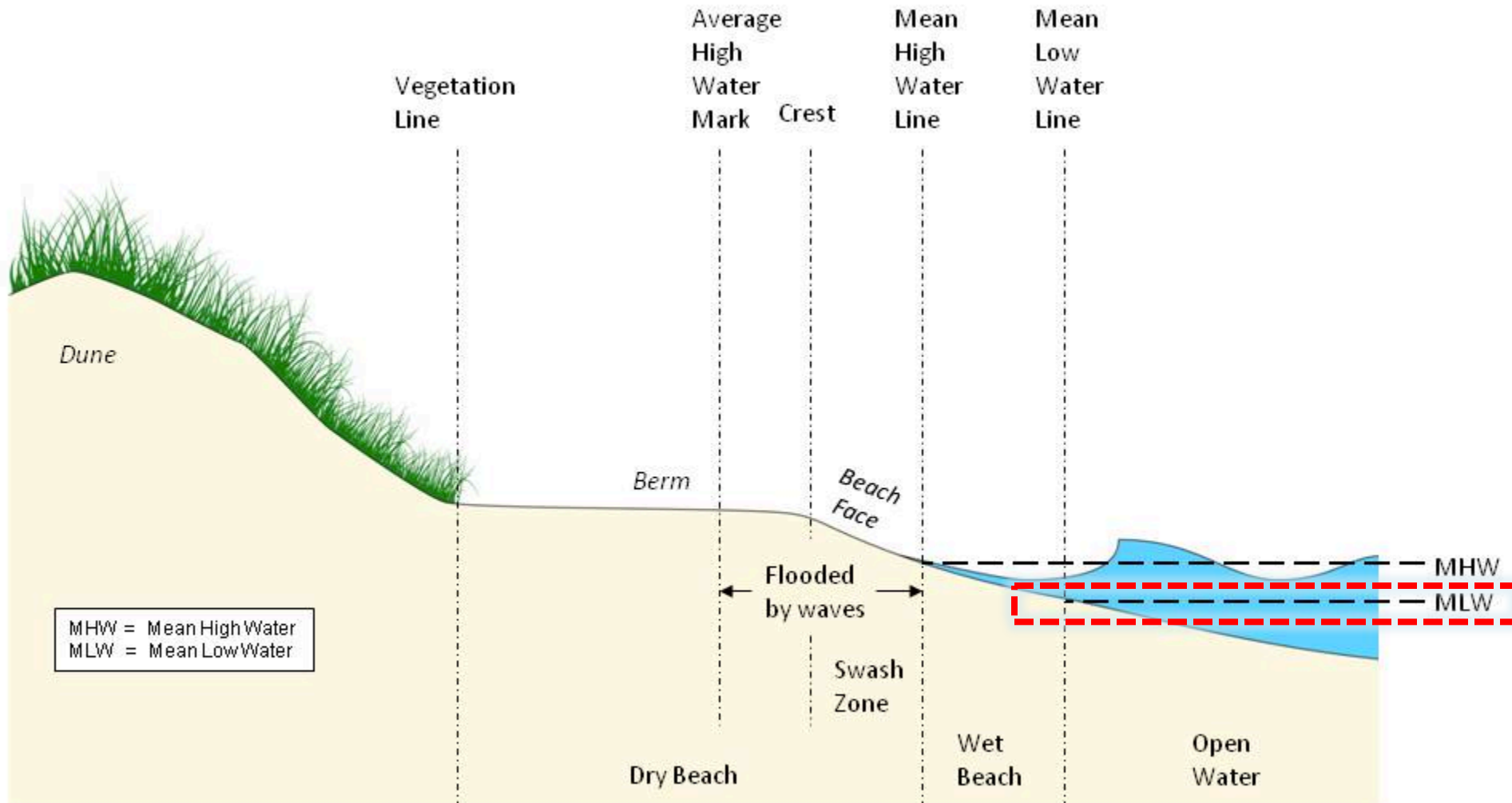
- ⦿ Mining Act (RA 7942)
  - Expressly excludes following areas:
    - Mangrove areas on coast (s. 19[f])
    - Marine waters within declared national parks (s. 19[f])
    - Marine waters included ancestral domain of IP's (s. 16)

# PH Legal Framework

## ⦿ Mining Act (RA 7942)

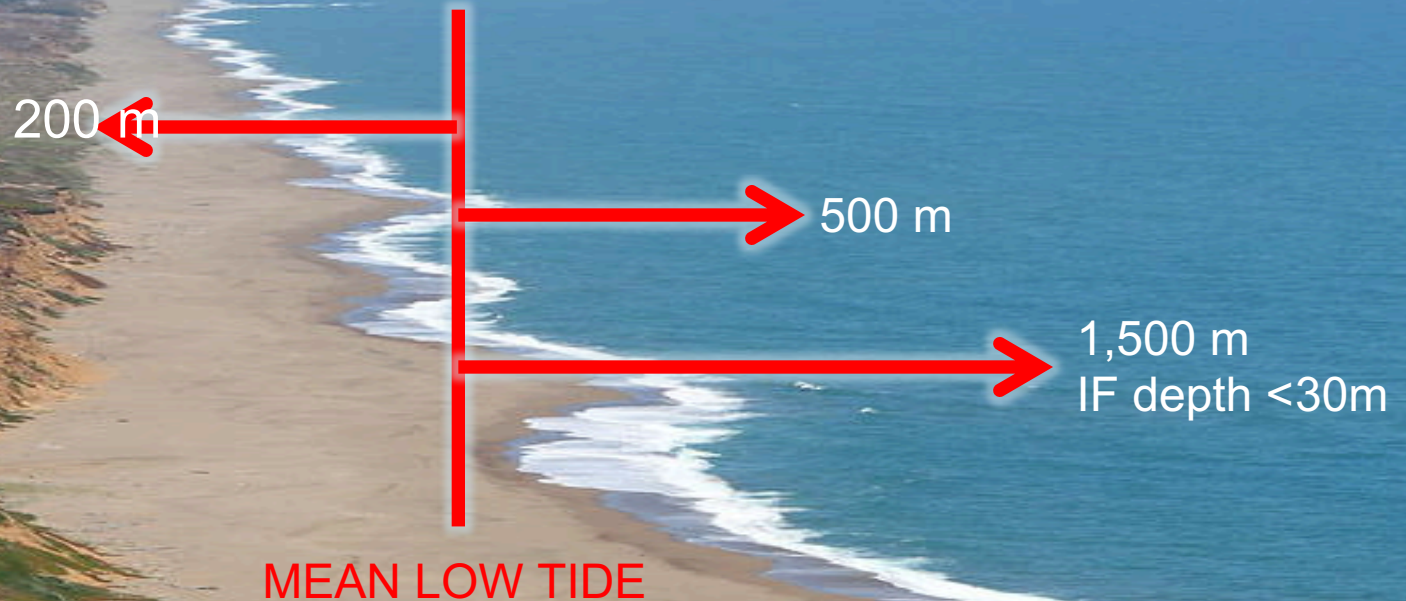
- Expressly excludes following areas:
  - Offshore areas within 500m, onshore areas within 200m, of mean low tide level along coast (DENR DAO 2007-15)
  - Offshore areas within 1,500m of mean low tide level where seabed <30m deep (DENR DAO 2007-15)

# Mean Low Tide





# “No Go” for marine mining!



# PH Legal Framework

## ⦿ Mining Act (RA7942)

- Standardized process for large-scale mining
  - Exploration permit for 2 years
  - If favorable & viable, one of 4 types of mineral agreements (MPSA, JVA, CPA, FTAA)
  - Area coverage
    - Offshore: 8,100 ha. max for individuals, 81,000 ha. max for juridical entities, BUT 162,000 ha. If FTAA
  - 2% excise tax

# PH Legal Framework

## ⦿ Mining Act (RA 7942)

- Quarry resources

- “building and construction materials such as marble, basalt, andesite, conglomerate, tuff, adobe, granite, gabbro, serpentine, inset filling materials, clay for ceramic tiles and building bricks, pumice, perlite, and other similar materials extracted by quarrying from the ground” including “cement raw materials, marble, granite, sand and gravel”



# PH Legal Framework

## ⦿ Mining Act (RA 7942)

- Process for quarry resources
  - Only quarry permit of LGU required
    - Valid for 5 years, renewable for successive 5 year periods, max. 25 years
  - “Sand and gravel permits”
    - Commercial sand and gravel permit (Prov. Governor)
    - Industrial sand and gravel permit (DENR)
    - Exclusive sand and gravel permit (Prov. Governor)
    - Government gratuitous permit (Prov. Governor)
    - Private gratuitous permit (Prov. Governor)

# PH Legal Framework

- ⦿ People's Small-scale Mining Act (RA 7076)
  - **Manual** labor, simple implements, **no explosives or heavy equipment**, only within declared **SSM areas**
  - Definitely **not** applicable to **offshore** marine mining; **but arguably applicable to coastal** marine mining (beachfront? foreshore?)

# PH Legal Framework

- ⦿ People's Small-scale Mining Act (RA 7076)
  - Regulated at local level by Prov/City Mining Regulatory Boards
  - Non-transferable right to extract mineral ores and dispose of them commercially for a term of 2 years in an area not more than 20 hectares

# PH Legal Framework

## ⦿ Other related legislation

- EIS System Law (req. EIA)
- Clean Water Act (pollution control)
- Fisheries Code (pollution control)
- LGC (consultation requirements, benefit sharing... but only cf. large-scale mining)
- IPRA (FPIC, benefit-sharing)

# Current Status: Marine Mining

## ◉ Existing Mineral Production Sharing Agreements (MPSA)

- 9 agreements for magnetite and associated mineral deposits
  - 3 already in commercial exploitation
  - remainder in exploration stage
- Arra covered: 70,327.43 ha.
- Locations:
  - Abra (1)
  - Leyte (4)
  - Cagayan (4)



# Current Status: Marine Mining

- ◎ Existing Financial & Technical Assistance Agreements (FTAA)
  - 1 agreement for magnetitite sand and other associated materials, exploration stage
  - Area covered: 9,588.24 ha.
  - Location: Ilocos Norte & Pangasinan

# Current Status: Marine Mining

- ⦿ Existing Mineral Processing Permits (MPP) *-needs to be checked*
  - 10 MPP for magnetite sand
  - Locations
    - Ilocos Sur (1)
    - Ilocos Norte (1)
    - La Union (1)
    - Cagayan (7)

# Current Status: Marine Mining

- ◎ Existing Industrial Sand & Gravel Permits --- *need verification!*
  - 149 industrial sand & gravel permits as of 1.31.2016
  - Total area: 1,936.21 ha.
  - Locations
    - Leyte (28)
    - Ilocos Norte (23)
    - Pangasinan (21)
    - Cagayan (16)
    - La Union (9)
    - Ilocos Sur (9)
    - Cebu (8)
    - Pampanga (7)

# Current Status: Marine Mining

- Existing ISGP
  - Zamboanga del Norte (5)
  - Bago City (5)
  - Zamboanga del Sur (3)
  - Batangas (3)
  - Benguet (2)
  - Negros Occidental (2)
  - Quezon (2)
  - Isabela (1)
  - Bataan (1)
  - Tuguegarao City (1)
  - Zambales (1)
  - Samar (1)
  - Misamis Oriental (1)



# Known Case: Cagayan coast



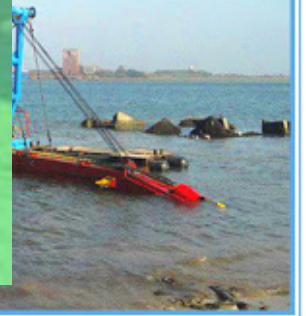
# Known Case: Cagayan



# Present & future?



ction Dredger





# Impacts

- ⦿ Coastal erosion, when extraction rate exceeds natural replenishment
- ⦿ Saltwater intrusion into water table
- ⦿ Increased turbidity/lower water quality
- ⦿ Loss of lagoons' / estuaries' delicate salinity balance
- ⦿ Loss of beach quality
- ⦿ Loss of access



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**Thank you very much!**