

# London Protocol and London Convention: Waste Assessment Guidelines

Workshop on the development of Standards and Guidelines  
for activities in the Area

Pretoria, South Africa  
13 to 15 May 2019

# Outline of Presentation

- Introduction and overview of the London Protocol (LP)
- Relationship with the London Convention (LC)
- Waste Assessment Guidelines (WAG)
- Generic WAG Steps



# What is the London Protocol?

- **A stand-alone treaty relating to the prevention of marine pollution from dumping at sea that has been in force since 2006**
- Provides the precautionary framework needed for parties to effectively prevent pollution of the sea caused by dumping of waste and other matter, incineration, and new activities such as marine geoengineering or carbon capture and storage
- A key pillar of marine environmental protection in an important international regime that includes MARPOL, UNCLOS and Regional Seas Agreements

# Relationship with the London Convention

## The London Convention 1972 (LC)

- One of the first global conventions to protect the marine environment from human activities.
- In force since 1975.
- **87** Contracting Parties



## The London Protocol 1996 (LP)

- Will eventually replace LC.
- In force since 2006.
- Currently **53** Contracting Parties



# London Protocol Key Elements

## Reverse List

- Only eight items on the Annex 1 list are candidates for dumping.
- Emergency exceptions

## Alternatives to dumping

- Must be considered to reduce or avoid dumping

## Management of dumping

- Must have permitting regime to minimize potential impacts

## LP Annex 2

- Follow **Waste Assessment Guidance (WAG)** process

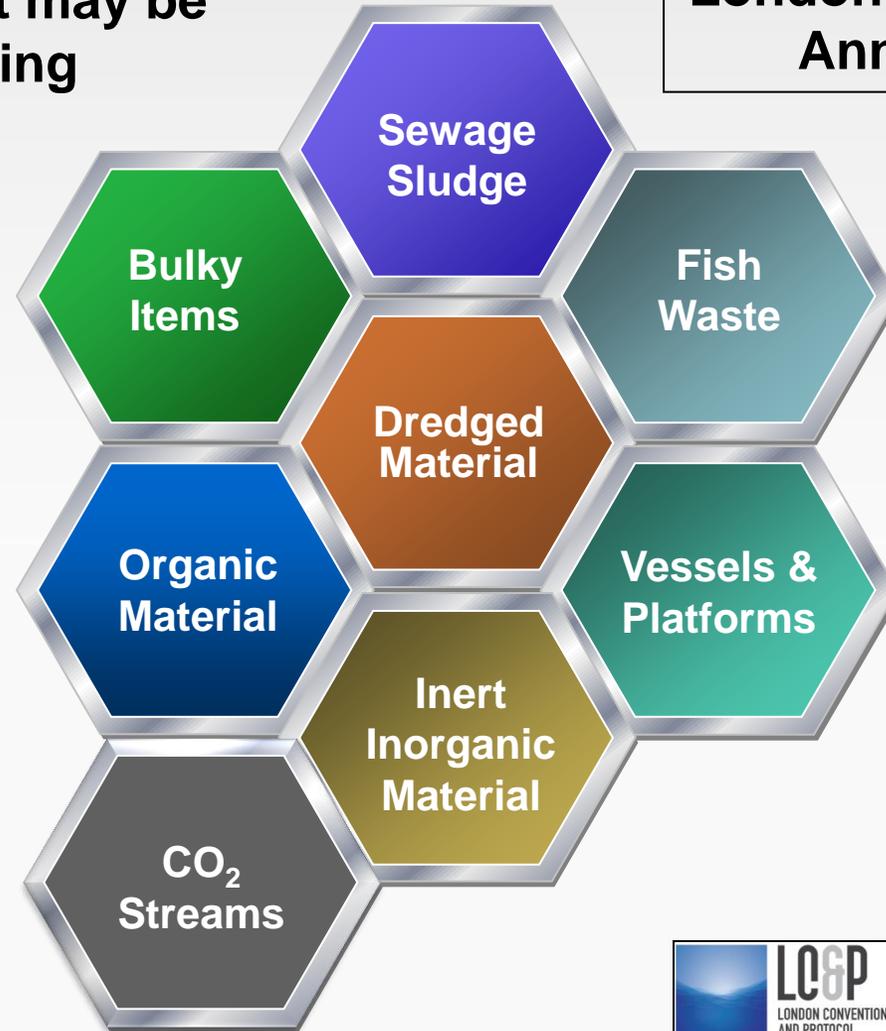
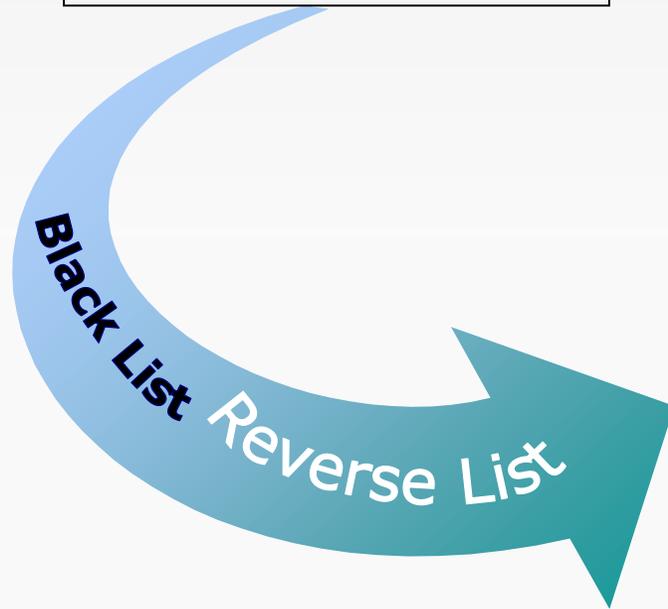
## Monitoring and Reporting

- Compliance monitoring and field monitoring
- Report on permits and monitoring annually

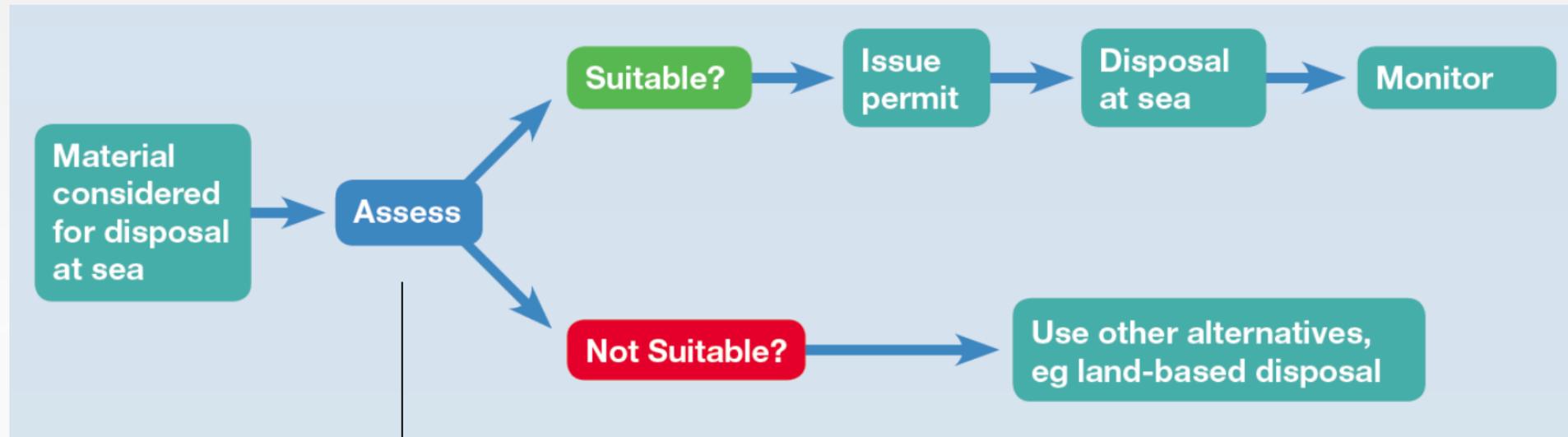
## Wastes or other Matter that may be Considered for Dumping

**London Convention Annex I**

**London Protocol Annex 1**



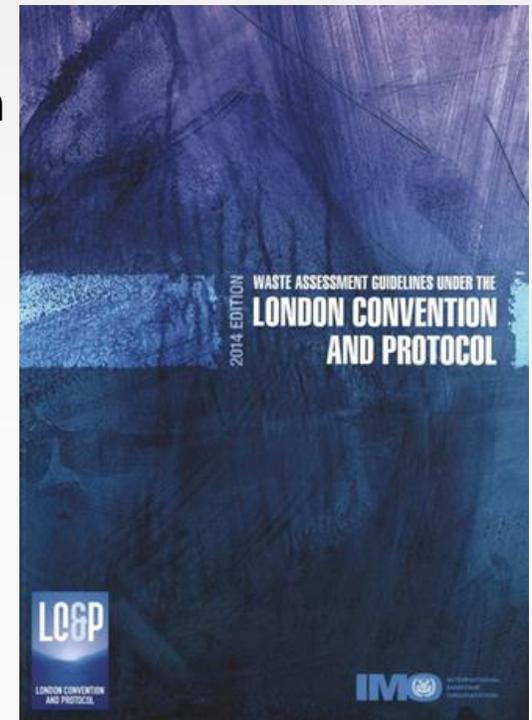
## How does it work?



To support this assessment, a series of waste assessment guidelines have been developed, both **generic guidance** and **specific guidance** for each type of waste

# Waste Assessment Guidelines (WAG)

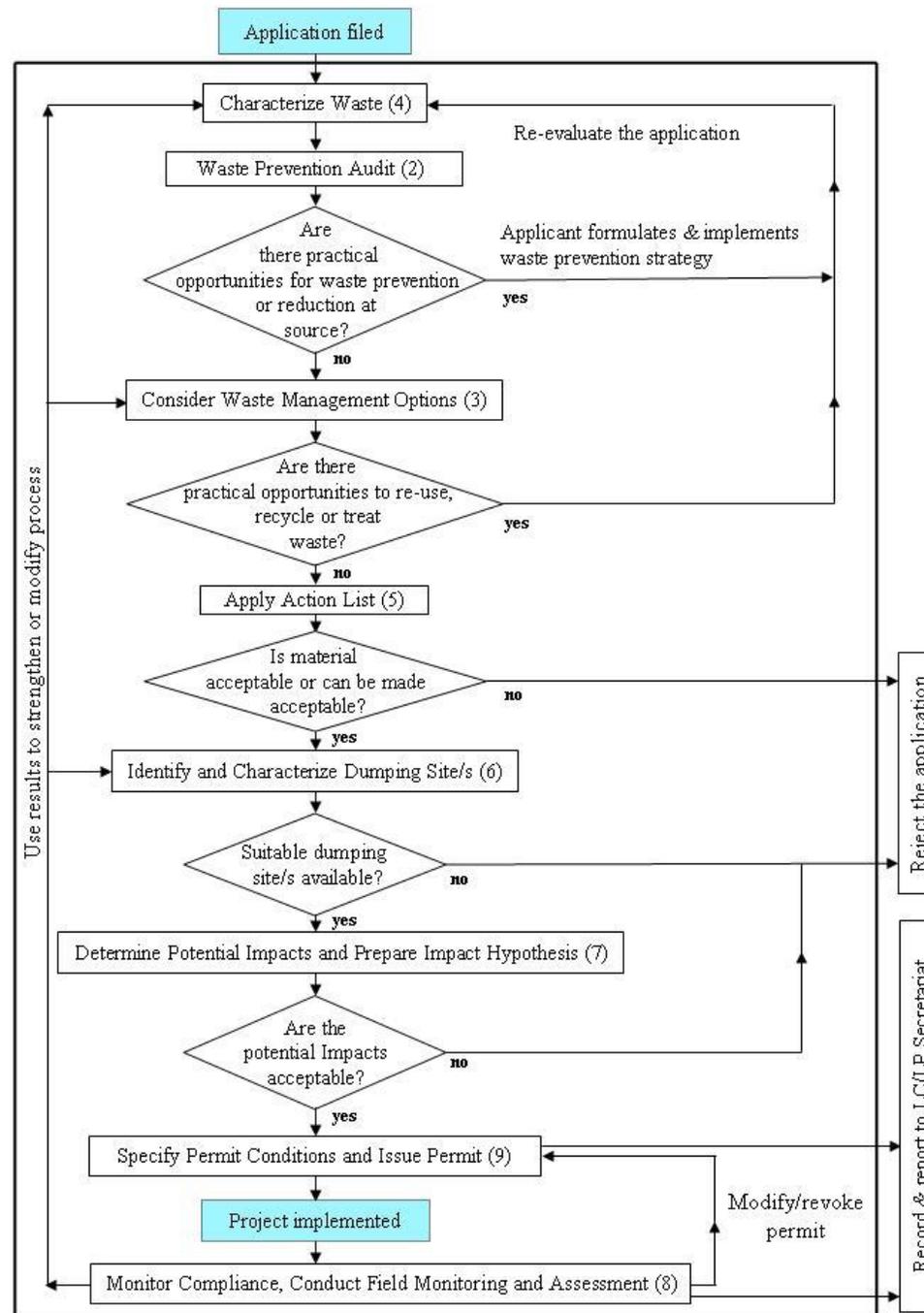
- Guides implementation of Annex 2 of the London Protocol.
- Provides a framework useful in many areas of waste prevention and management.
- Provides a process for assessing wastes, issuance of permits, and monitoring.
- Consists of eight steps with several decision points that are not necessarily taken in sequential order.
  - Not a linear process – many feedback loops
  - Applications may be withdrawn or re-formulated early in the process.
  - Applicants may be asked for additional information before proceeding.
  - Options other than ocean disposal may be identified.
  - Applications may be rejected at several stages.



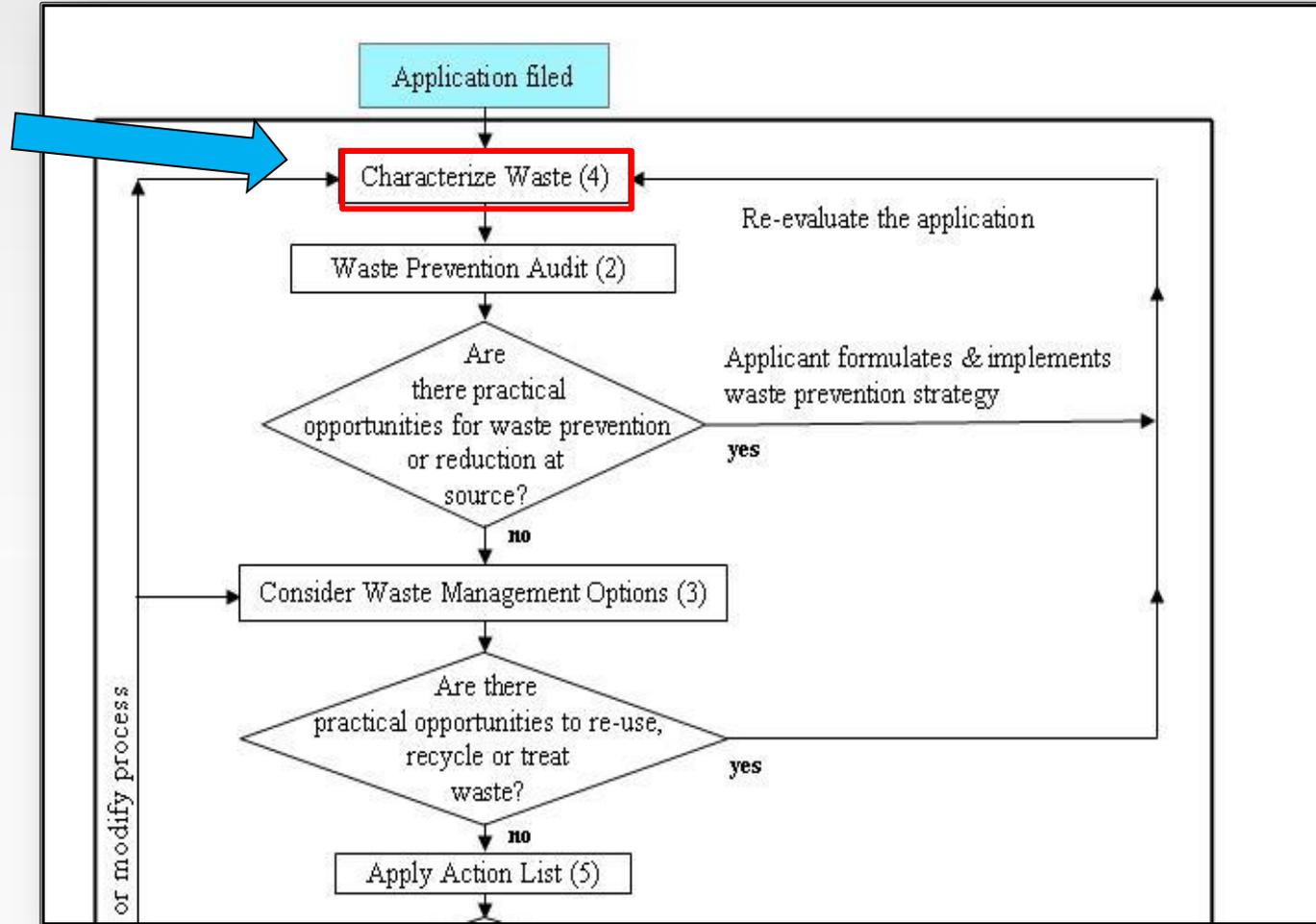
# Generic WAG Steps

- Step 1 - Characterize Waste
- Step 2 - Waste Prevention Audit
- Step 3 - Waste Management Options
- Step 4 – Apply Action List
- Step 5 – Identify and Characterize Dump Site(s)
- Step 6 - Determine Potential Impacts and Develop Impact Hypothesis
- Step 7 – Specify Permit Conditions and Issue Permit
- Step 8 - Monitor Compliance, Conduct Field Monitoring and Assessment

# Schematic Diagram Of the Waste Assessment Guidance (WAG) Process



**WAG  
Step 1**



## Characterize the Waste

- Assess any potential impacts of ocean disposal of a waste on the environment or human health.
- Is the waste or other matter suitable for disposal at sea?

### Characterization factors:

- Origin, total amount, form and composition
- Properties - physical, chemical, biochemical and biological
- Persistence, toxicity, accumulation and biotransformation



## Waste Prevention Audit *(WAG Step 2)*

Assessing alternatives should include evaluation of:

- Types, amounts and relative hazards of wastes;
- Details of the production process and the sources of wastes within that process; and
- Feasibility of waste reduction/prevention techniques



For dredged material and sewage sludge, the goal should be to identify and control sources of contamination.

- Quality can be improved over time by control and reduction of sources of contamination

## Waste Management Options *(WAG Step 3)*

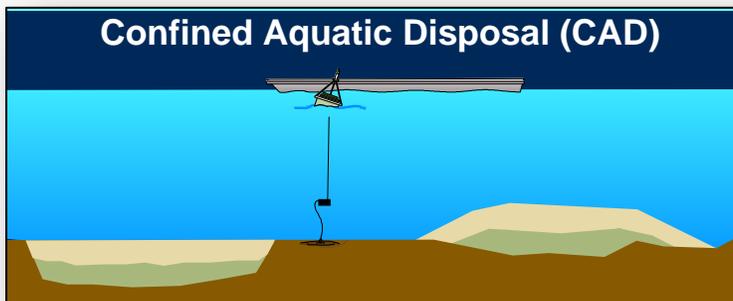
Applications to dump shall demonstrate appropriate consideration of following hierarchy of waste management options:

- Re-use;
- Off-site recycling;
- Destruction of hazardous constituents;
- Treatment to reduce or remove hazardous constituents; and
- Disposal on land, into air and into water.

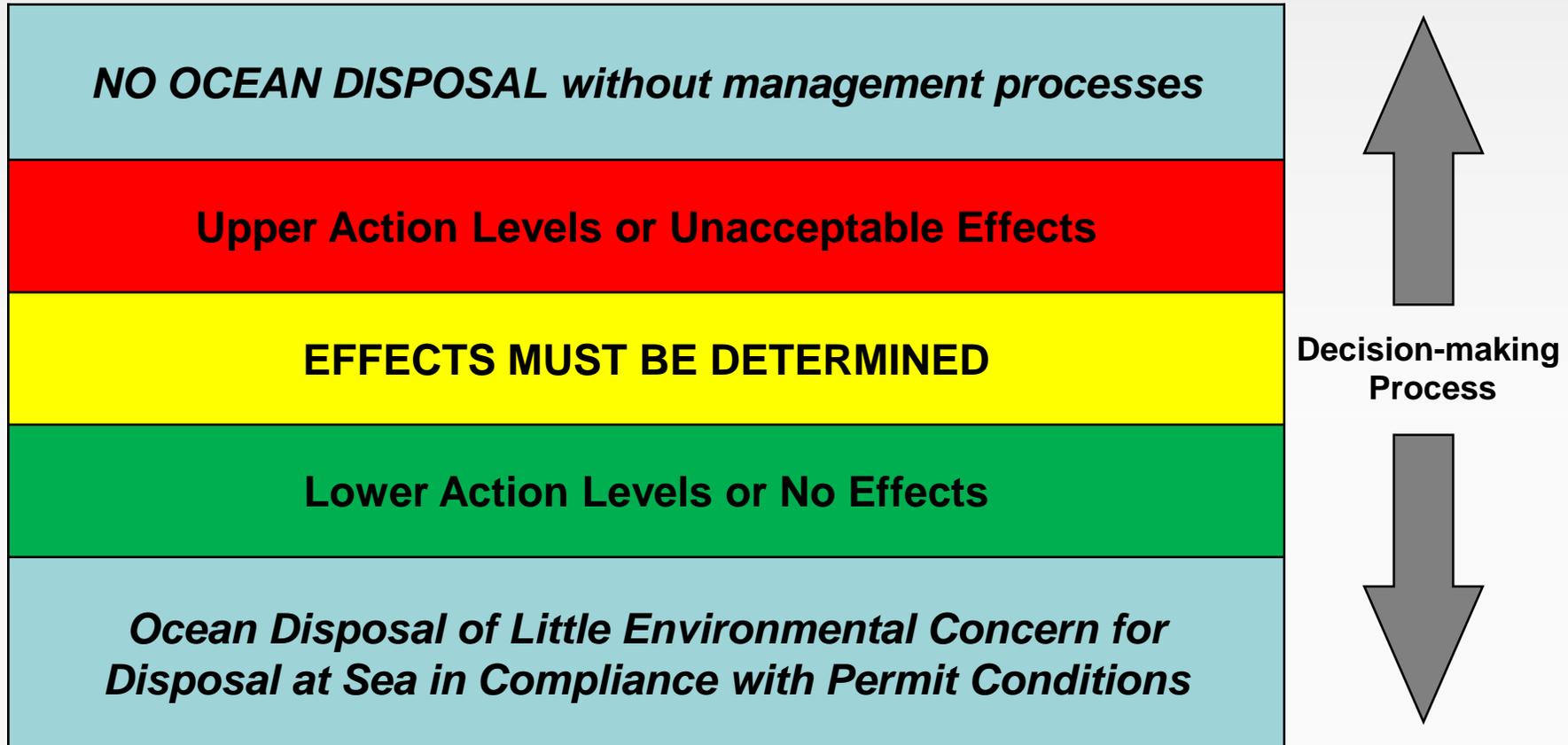
# Management Options

**For Dredged Material include:**

- Beneficial use
- Level Bottom Capping
- Confined Aquatic Disposal (CAD) Cell
- Confined Upland Disposal [disposal on land] including confined disposal facilities or landfills



## Apply Action List *(WAG Step 4)*



# Identify and Characterize Dumping Site(s)

*(WAG Step 5)*

## Site selection considerations

- Physical, chemical and biological characteristics of the water column and the seabed,
- Location of amenities, values and other uses of the sea in the area(s) under consideration,
- Assessment of the constituent fluxes associated with dumping in relation to existing fluxes of substances in the marine environment, and
- Economic and operational feasibility

## Site characteristics

- Size of the dump-site
- Site capacity
- Evaluation of potential impacts
- Contaminant mobility

# Determine Potential Impacts and Prepare Impact Hypothesis *(WAG Step 6)*

**Emphasis should be placed on biological effects, habitat modification, and physical/chemical changes:**

- Estimates of statistically significant increases of substances in seawater, sediments or biota.
- Estimate of the contribution made by substances that may pose threats or adverse effects on the marine environment or human health.

## Prepare Impact Hypothesis *(WAG Step 6 cont.)*

Assessment of potential effects should lead to a concise statement of the expected consequences of the sea disposal options – the “impact hypothesis”

In constructing an impact hypothesis, particular attention should be given, but not limited to, potential impacts on”

- Amenities (e.g., presence of floatables)
- Sensitive areas (e.g., spawning, nursery or feeding areas)
- Habitat (e.g., biological, chemical or physical modification)
- Migratory patterns
- Marketability of resources
- Other uses of the sea (e.g., fishing, navigation, engineering uses, areas of special concern or value, and traditional uses)

## Example of Environmental Conditions

- ***Predicted*** waste material would form a mound of 700 m diameter x 4 m high maximum.
- ***Predicted*** that benthic invertebrate community composition will be similar to reference sites three years after disposal
- ***Permit Conditions:*** monitor to confirm both events happened as predicted.



# Permit and Permit Conditions *(WAG Step 7)*

The provisions of the permit shall ensure, as far as practicable, that environmental disturbance and detriment are minimized and the benefits maximized. Any permit issued shall contain data and information specifying:

- The types, amounts and sources of materials to be dumped
- The location of the dump-site(s)
- The method of dumping
- Monitoring and reporting requirements

# Monitoring *(WAG Step 8)*

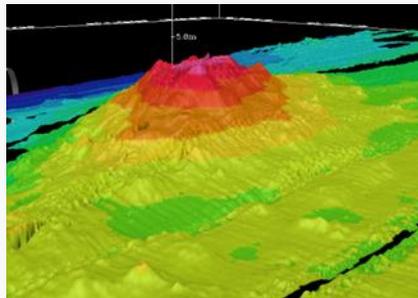


- **Compliance Monitoring**

- Ensure basic conditions of permits are followed as disposal occurs

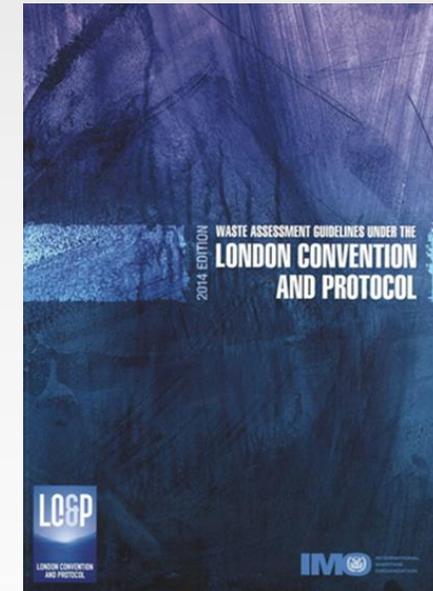
- **Field Monitoring**

- Test assumptions and hypotheses to ensure that unacceptable environmental effects have not developed at the dump site

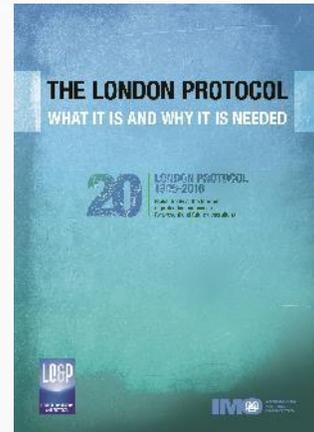
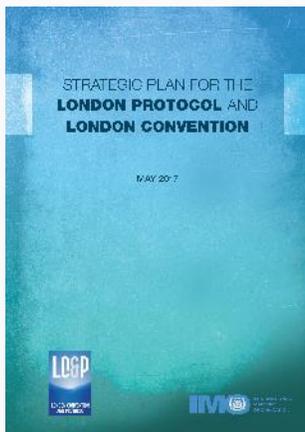
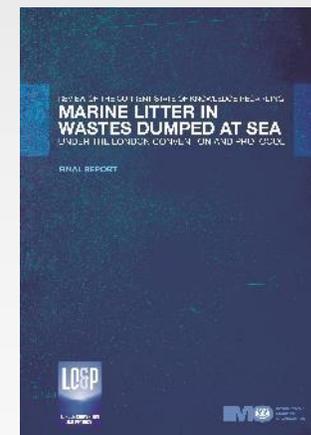
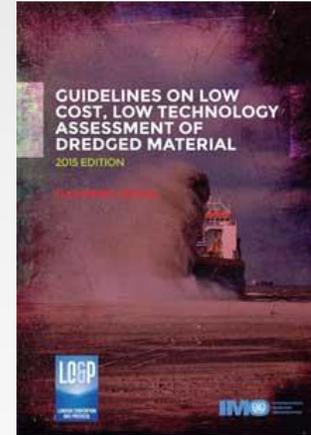
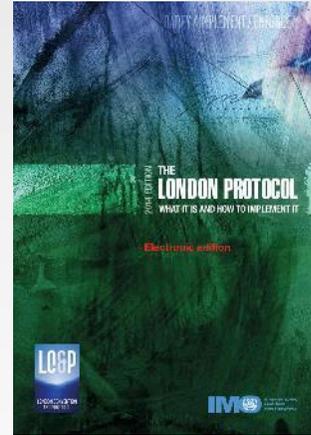
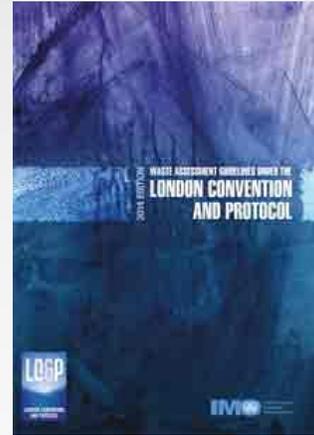
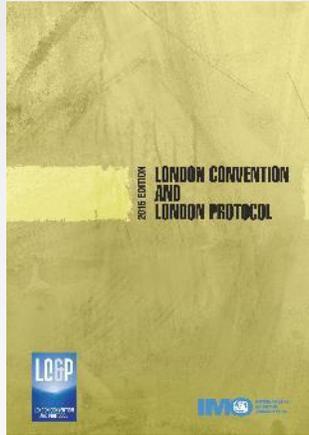


# Summary of Generic WAG

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# HOW TO DO IT?



## Contact:

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