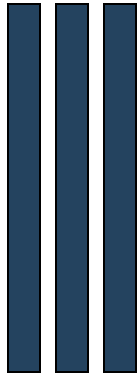


TRAINING



Integrated Environmental Management Series

Module 8 – Environmental Monitoring & Auditing Guidelines



water affairs

Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

Purpose

- **Strategic level:** internal monitoring and auditing i.t.o. policy & regulations - ensure compliance with relevant legislation & internal EMS.
- **Developer/operator:** monitoring and auditing of DWA projects (environmental impactor).
- **Regulator:** monitoring and auditing of external parties (e.g. licensees) where DWA has a management function.

Description

- Provides a generic monitoring and auditing process which can be adapted to DWA's roles at a strategic level, as an Impactor or a Regulator.



- Indicates monitoring and auditing nodes for **WRM** and **WS** development projects on project life cycle diagrams.

R&R

Development:	E&R
Implementation:	Organisation-wide (depending on monitoring and auditing objectives)
Review:	E&R
Training:	E&R

Status

Written in April 2004; revised – May 2005

1 Strategic Level

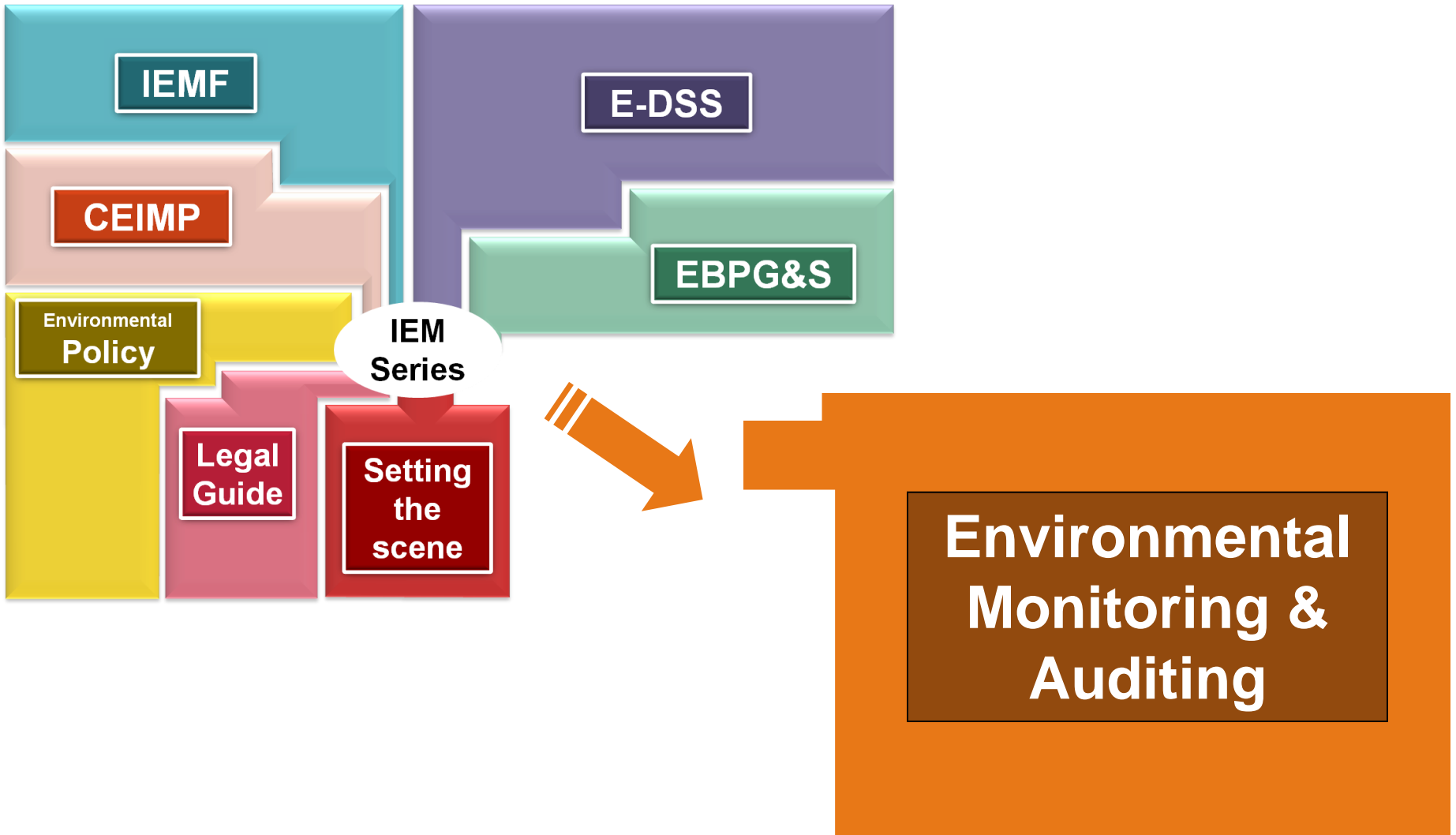
The EM&AG will be used by DWA officials to monitor and to perform internal audits on the organisation at a strategic level (i.e. at a policy and regulation level) to ensure compliance with internal systems such as an EMS and with relevant legislation.

2 DWA as Developer and/or Operator

The EM&AG will be used to monitor and audit DWA projects were DWA assumes the role of a Developer and/or Operator of schemes. DWA as a developer or operator (also referred to as an Impactor) will have an impacting function on the environment.

3 DWA as Regulator

The EM&AG will be used by DWA officials to monitor and audit external parties (such as water use licencees) were DWA assumes the role of a Regulator in which case DWA will have a management function.



What is the difference between Monitoring and Auditing?



What is the difference between Monitoring and Auditing?

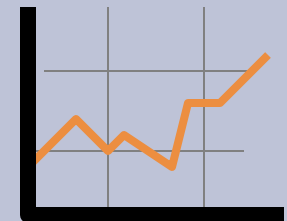
Environmental Monitoring :

Repetitive observation & evaluation of environmental control measures

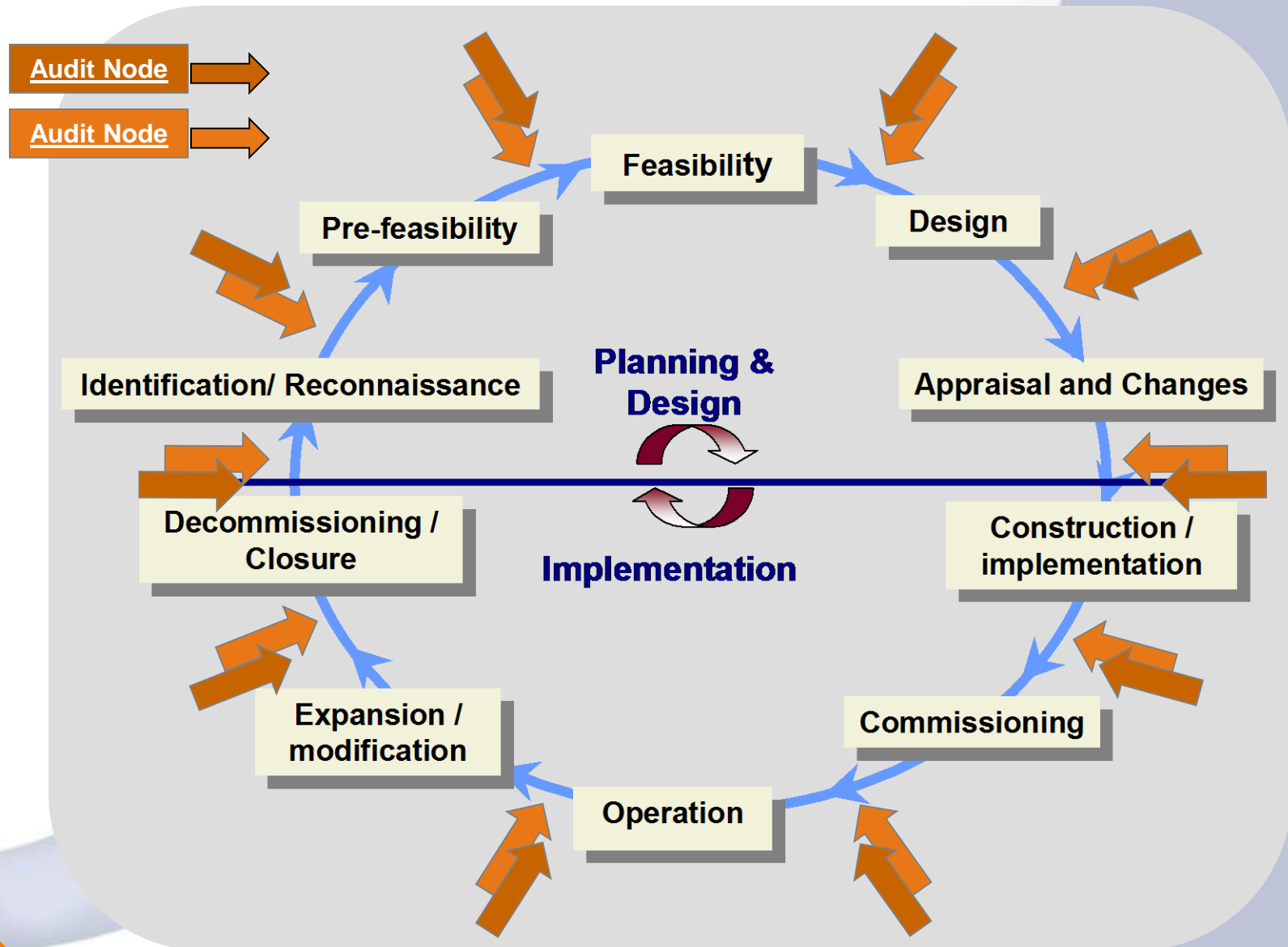


Environmental Auditing:

Periodic & documented review to meet environmental requirements



Monitoring & Auditing Nodes for a Typical WRM Development Project



Definition:

“The repetitive and continued observation, measurement and evaluation of environmental data in order to follow changes over time and assess efficiency of control measures”.

Purpose:

- Determine baseline.
- Measure the impacts.
- Check compliance with agreed conditions and standards.
- Facilitate impact management.
- Determine the accuracy of impact predictions and the effectiveness of mitigation measures.



Types of Monitoring

Programme Evaluation Monitoring

E.g. National Water Resource Strategy; Water for Growth & Development



Inspection Monitoring

Physical (e.g. invertebrate sampling) or contaminants (e.g. water quality tests)



Compliance Monitoring

E.g. asses whether the conditions in the Water Use Licences are being met.



Baseline Monitoring

Regular Measurement of specific indicators; Situation Assessment



Some activities that require Monitoring



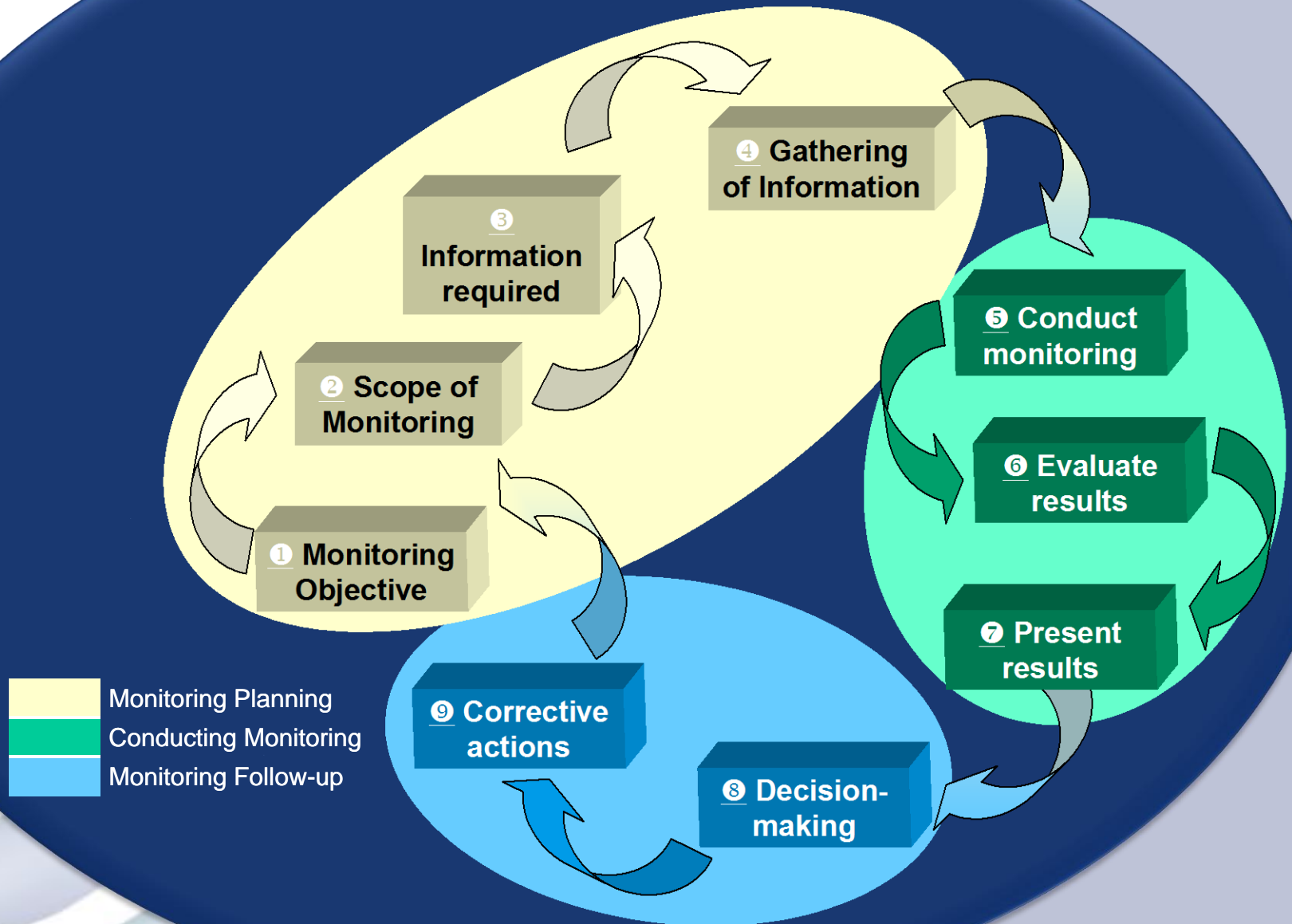
Monitoring Process (Overview)



TYPICAL FORMAT OF AN ENVIRONMENTAL MONITORING REPORT

Dept./Company where monitoring will be carried out: <input type="text"/>		FORM NO.: <input type="text"/>
Monitoring date: <input type="text"/>	Monitoring leader and team: <input type="text"/>	
Project/Programme/Activity monitored: <input type="text"/>	Responsible manager: <input type="text"/>	
Monitoring type: <input type="text"/>	Indicators measured: <input type="text"/>	
Purpose of monitoring: <input type="text"/>		
Objectives/targets of the monitoring: <input type="text"/>		
Scope of the monitoring: <input type="text"/>		
Main checklists to be used during the monitoring: <input type="text"/>		
Description of the project/programme/activity to be monitored: <input type="text"/>		
Monitoring technique and evaluation of monitoring results: <input type="text"/>		
Description of non-compliance noted during the monitoring: (Was a non-compliance report completed?) <input type="text"/>		
List of supporting documents: <input type="text"/>		
Recommendations and Conclusions <input type="text"/>		
Signed/date: <input type="text"/>	<input type="text"/>	Responsible manager/licence holder <input type="text"/>
Monitoring leader: <input type="text"/>	<input type="text"/>	<input type="text"/>

Generic Monitoring Process



Monitoring Procedure – Worked Example

Scenario:

A water use licence was granted for the proposed widening of a culvert as part of a road upgrade. Environmental monitoring is required to assess whether the conditions of the authorisation are being met.



Generic Steps to Conducting Monitoring (Programme Evaluation Monitoring):

Step 1: What is the objective for monitoring ?	To assess whether the conditions of the authorisation are met
Step 2: What is the scope of the monitoring?	Section 21(c) & (i)
Step 3: What Information is required ?	Copy of Water Use Licence that was issued; licensing procedure
Step 4: How will the information be gathered?	Monitoring type; interval (every 3 months in this case); who will conduct the monitoring)
Step 5: Conduct Monitoring	Complete checklist & monitoring report
Step 6: Evaluate the Monitoring	% non-compliance for each licence condition
Step 7: Present the monitoring results	Compliance Checklist & trends analysis
Step 8: Decision-Making	Recommend Corrective Actions
Step 9: Institute Corrective Actions	Detailed in the corrective action section of the non-compliance report.

Definition:

“Documented, periodic and objective review of practices related to meeting environmental requirement”.

Purpose:

- To quantify environmental performance.
- To check if environmental standards are met.
- To verify compliance with laws
- To determine the effectiveness of an EMS.

Types of Audits

- a) Environmental Management Programme Audit
- b) Environmental Management System Audit
- c) Compliance Audit
- d) Technical audits
- e) Due Diligence Environmental Audit
- f) Environmental Marketing Audit
- g) Environmental Management Tools Audit
- h) Life cycle audit
- i) Post project Audit

Note:

Activities that require monitoring also require auditing.

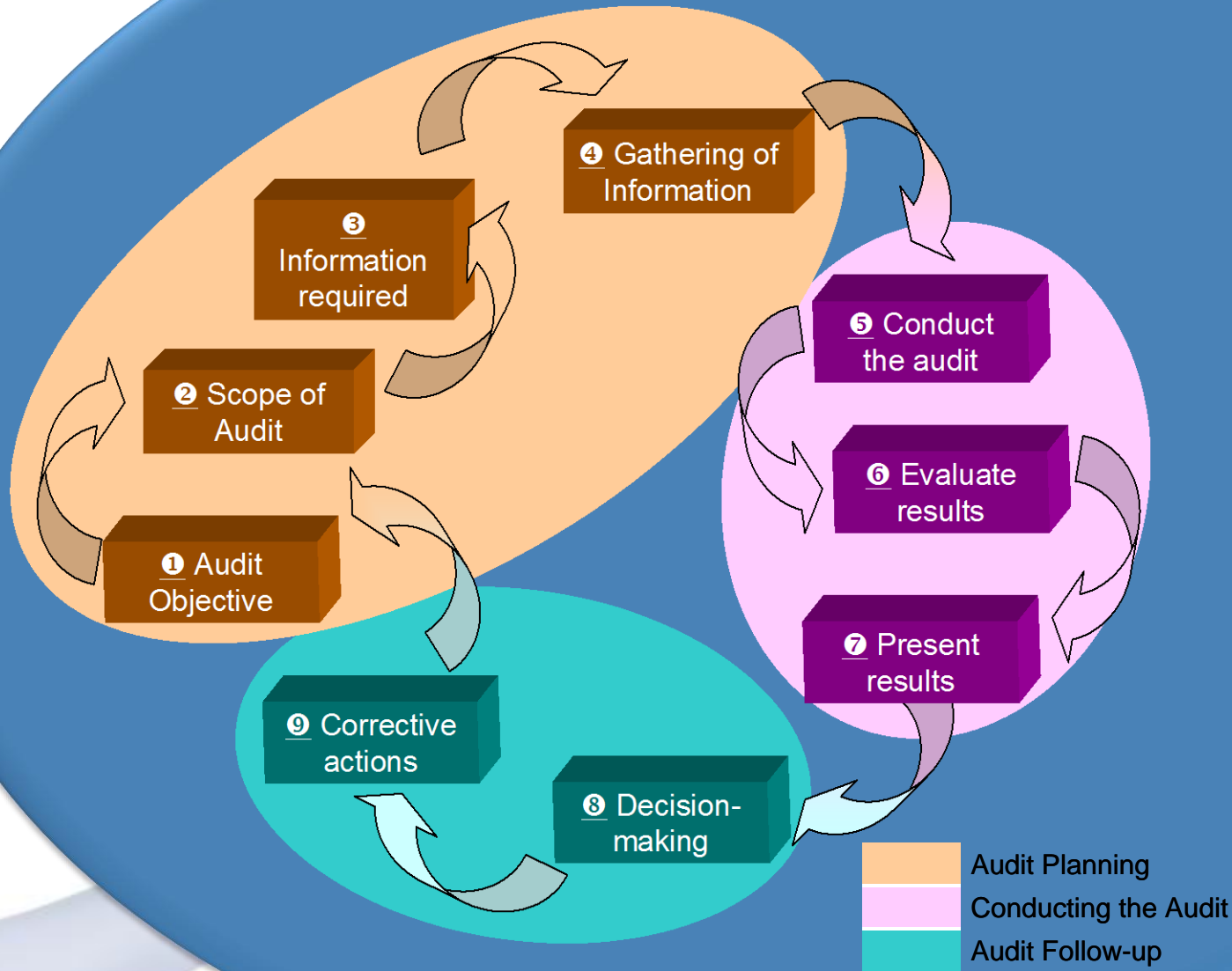


Compliance Auditing – EMP Checklist

TYPICAL FORMAT OF AN ENVIRONMENTAL AUDITING REPORT

COMPANY/DEPT AUDITED: <input type="text"/>	FORM NO.: <input type="text"/>
Audit date: <input type="text"/>	Audit leader and team: <input type="text"/>
Project/Programme/Activity audited: <input type="text"/>	Responsible manager: <input type="text"/>
Audit type: <input type="text"/>	List of interviewees (including responsibilities and information reviewed): <input type="text"/>
Objectives of the audit: <input type="text"/>	
Scope of the audit: <input type="text"/>	
Tools used during the audit: <input type="text"/>	
Description of the project/programme/activity audited: <input type="text"/>	
Audit Techniques: <input type="text"/>	
Evaluation of Audit Results: <input type="text"/>	
Description of non-compliance noted during the audit: <input type="text"/>	
List of supporting documents: <input type="text"/>	
Recommendations and Conclusions: <input type="text"/>	
Signed/date: <input type="text"/>	<input type="checkbox"/> Responsible Manager/Licence Holder
Lead Auditor: <input type="text"/>	<input type="checkbox"/> <input type="text"/>

Generic Auditing Process



Audit Checklist - EMP

NO.	AUDIT QUESTION	RELEVANT?	HAS THE TARGET/ OBJECTIVE BEEN MET	PREVIUOS AUDIT RESULTS	NON-COMPLIANCE DETAILS AND RECOMMENDATIONS
1	Is the EMP practical and implementable?				
2	Does the EMP cover all phases of the project?				
3	3 Does the EMP provide enough detail for each project phase, to ensure that the environmental objectives are met (e.g. legislative compliance)?				
4	Does the EMP address all components of the environment – biophysical and social?				
5	Does the EMP indicate who is responsible for each section of the plan, and what communication channels should be followed?				
6	Are all the environmental standards, both legislated and best practise, current and accurate?				
7	Are all the measures for mitigating impacts, remedying pollution and rehabilitation, feasible, necessary and cost-effective?				
8	Would the implementation of the EMP ensure legislative compliance and adherence to organisational environmental policies				

Exercise

- For this task you will be split into 2 groups.
- A case study for a development (i.e. DWA as Developer) will be given to each group.

Task:

- Group 1: Evaluate the results of the monitoring conducted for the scenario provided.
- Group 2: Evaluate the results of the auditing conducted for the scenario provided.

End – Module 8
