

ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT, CAP 387

LEGAL NOTICE NO.

**THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION
(CONSERVATION AND MANAGEMENT OF WETLANDS) AMENDMENT
REGULATIONS, 2018**

ARRANGEMENT OF REGULATIONS

PART I – PRELIMINARY

- 1 – Citation
- 2 – Interpretation
- 3 – Application
- 4 – Objectives

**PART II – PROTECTION AND MANAGEMENT OF INLAND, COASTAL AND MARINE
WETLANDS**

- 5 – Inventory of wetlands
- 6 – Integrated Wetland Management Plans
- 7 – Protected wetlands
- 8 – Procedure for declaration of a protected wetland
- 9 – Protection of riparian reserves
- 10 – Erosion and pollution
- 11 – Permitted use of wetlands
- 12 – Wetland resource use permit
- 13 – Temporary permit
- 14 – Rejection of application
- 15 – Revocation of permit
- 16 – Duty of land owners, users and occupiers

PART III – PROTECTION AND MANAGEMENT OF TRADITIONAL INTERESTS

- 17 – Protected interests

PART IV – MISCELLANEOUS

- 18 – Requirement for Environment Impact Assessment
- 19 – The County Environment Committee
- 20 – Duties of an officer of the Authority
- 21 – Waste management
- 22 – Transition
- 23 – Environmental Restoration Orders
- 24 – Improvement notice
- 25 – Offences and penalties
- 26 – Appeals
- 27 – Delegation of powers and functions
- 28 – Operation of regulations

SCHEDULES

FIRST SCHEDULE

List of Lakes

SECOND SCHEDULE

List of Rivers

THIRD SCHEDULE

Wetland Water Quality Monitoring Form

FOURTH SCHEDULE

Rapid Assessment Protocol

FIFTH SCHEDULE

Integrated Wetland Management Plan Guidelines

PART I – PRELIMINARY

Citation

1. These Regulations may be cited as the Environmental Management and Co-ordination (Conservation and Management of Wetlands) Amendment Regulations, 2018

Interpretation

2. In these Regulations unless the context otherwise requires:

“Act” refers to the Environmental Management and Co-ordination Act Cap 387;

“agriculture” means all farming activities including cultivation, agroforestry, bee keeping, livestock management and aquaculture;

“alien species” means any exotic or non-indigenous life forms originating from outside a given ecological location, accidentally or deliberately introduced to the location by human activity or by natural means;

“Authority” means the National Environment Management Authority established under section 7 of the Act;

“Cabinet Secretary” means the Cabinet Secretary for the time being responsible for matters relating to the environment;

“coastal and marine wetlands” means wetlands found in the areas between land and open sea that include rivers, marshes, estuaries, deltas, seagrass belts, shorelines, beaches, salt flats, salt pans, mangroves and coral reefs;

“coastal zone” means any area declared a protected coastal zone under section 55 of the Act;

“community” as defined in the Constitution of Kenya means a consciously distinct and organised group of users of a wetland who share attributes of common ancestry, culture or unique mode of livelihood, socio-economic or other similar interests, geographical space or ecological space;

“conservation” means the care and management of a resource so that the resource maintains its ability to fulfill its functions and provide goods and services for present and future generations;

“county government” has the meaning assigned to it in the County Government (Amendment) Act, No. 13 of 2014;

“County Environment Committee” means the County Environment Committee established under section 29 of the Act;

“drainage of wetlands” means the removal or exclusion of water from a wetland by pumping, excavation of channels, planting of fast growing non-wetland trees or plants, abstraction of water from a river entering a wetland, channelling, or reclamation;

“endangered species” means any species which is in danger of extinction throughout all or a significant portion of its life cycle or range due to man-made or natural changes in the environment or as may be declared by the relevant national authority;

“environmentally significant areas” includes an area covered by a threatened ecological community or a fragile ecosystem that requires special management consideration due to their conservation needs;

“high water mark” means the historical recorded point of the highest level of contact between the water and the shore or bank, as the case may be;

“inland wetlands” include both seasonal or permanent wetlands such as rivers, bogs, floodplains, swamps, springs, lakes and man-made wetlands like dams, rice paddies, salt pans, fish farms and wastewater management facilities found in the hinterland;

“inspector” means an inspector designated as an environmental inspector under section 117 of the Act;

“integrated management plan” means a management plan for a wetland, riverbank, lakeshore or seashore, prepared by involving all the stakeholders under this Regulation;

“invasive species” exotic or indigenous life form originating from outside or within a given ecological location, accidentally or deliberately introduced by human activity or natural means that tends to over compete with existing species or spread causing damage;

“lake” means a body of fresh or saline water of considerable size, completely surrounded by land, or a natural body or pool of water;

“lake basin” refers to a land area draining into a lake; also referred to as drainage basin or watershed or catchment;

“lake shore” means the rising ground from the highest water mark, bordering or adjacent to a lake in the form of rock, mud, gravel or sand;

“lead agency” means any national and county government ministry, department, agency, state corporation in which any law vests functions of control or management of any element of the environment or natural resources;

“low water mark” means the historical record of the lowest level of interface between land and water due to seasonal fluctuations, including total dry out as the case may be;

“modification” means any man-made change in the natural state of a wetland, river, river basin or lake, lake shore or seashore;

“natural resources” as defined in the Constitution of Kenya;

“occupier” means a person or entity in possession or control of any land in which there is a wetland, river basin, lake basin, sea shore or beach front;

“protected wetlands” means an area declared as a protected wetland under these Regulations or any other written law;

“protected zone” means where the interaction of people and nature over time has produced an area of distinct character with significant ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the wetland area;

“restoration” means regeneration or putting back a wetland, river basin or lake basin or sea shore to the state it was in or near to what it was before it was modified;

“riparian reserve” means the interface between land and a river or a stream;

“river” includes a permanent and seasonal channel with flowing water draining a watershed;

“river bank” means the rising ground from the highest water mark, bordering or adjacent to a river in the form of rock, mud, gravel or sand and in cases of flood plains include the point where the water surface touches the land, that land not being the bed of the river;

“river basin” refers to a geographic land area draining into a river; also referred to as drainage basin, catchment or watershed;

“riverine wetlands” includes wetlands along rivers and streams;

“soil” includes earth, sand, rock, shale, minerals, and the flora and fauna in the soil and the derivative thereof;

“soil erosion” means, a general process whereby soil particles are worn away or removed by natural agencies or by man-made activities and degraded environments;

“sustainable use” means present use of the environment or natural resources, which does not compromise the ability to use the same by future generations nor does it degrade the carrying capacity of supporting ecosystems;

“threatened species” means any species of plant or animal likely to become an endangered species within the near future throughout or in a significant portion of its range or as declared by the relevant national authority;

“traditional interests” means the oral traditions and activities, customs, traditional knowledge and popular wisdom, and the traditional forms of social organization for utilising and managing wetland resources;

“Tribunal” means the National Environment Tribunal established under section 125 of the Act;

“wetlands” means areas of marsh, fen, peatland or water whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed 6 metres;

“wetland resources” includes all ecosystem services and produce of a wetland, derived from its flora and fauna, soils, minerals and water, notably, fish, wildlife, bird, fibre, fruit, seeds, papyrus, grass, trees, soil, stone, gravel, sand, salt, coral limestone, seaweeds, seashells, seafood, mangrove products, oil, gas and such other things as the Cabinet Secretary may by statutory instrument declare to be wetland produce;

“wetland resource use permit” means a permit granted to a person, community or organization to make extractive utilization of wetlands and other non-extractive uses such as tourism and cultural activities in accordance with the permit granted under these regulations or any other law;

“wise-use of wetlands” means sustainable use within the parameters of biological carrying capacity, all the while ensuring the maintenance of their ecological character, ecosystem functions and services, achieved through the implementation of integrated ecosystem approaches, within the context of sustainable development.

Application of the Regulations

3. These Regulations apply to the management of inland, coastal and marine, lake and river basin wetlands, both natural and man-made, whether occurring on private, public or community land.

Objectives

4. The objectives of these Regulations include-
 - (a) to provide for conservation of wetlands and their resources in Kenya;
 - (b) to promote the integration of wise-use of resources in wetlands into local, county, and national planning for, ecological, aesthetic, cultural and socio-economic development;
 - (c) to ensure the protection of the diversity of wetland habitats, flora and fauna;
 - (d) to promote awareness creation, education, research, indigenous knowledge and partnerships with other relevant institutions in the management of wetland ecosystems;
 - (e) to prepare and maintain an up to date inventory and database of wetlands and wetland resources, for prioritisation of relevant interventions, and;
 - (f) to protect wetlands within river basins, lake basins and coastal zones from pollution including siltation, agricultural and infrastructural developments, overexploitation, alien and invasive species, and other activities likely to degrade the wetland ecosystem.

PART II – PROTECTION AND MANAGEMENT OF INLAND, COASTAL AND MARINE WETLANDS

Inventory of wetlands

5. (1) Within three (3) years from the date of amendment of these Regulations, the Authority shall, in consultation with relevant lead agencies and stakeholders, prepare and maintain an inventory of all wetlands in Kenya and shall cause such measures, including the development of integrated wetland management plans, to prevent and control degradation of such wetlands.
- (2) The inventory in sub-regulation (1) shall show for each wetland –
 - (a) the location;
 - (b) the area of the wetland;
 - (c) the type and number of fauna and flora;
 - (d) the soil characteristics;
 - (e) the discharge, volume fluctuations and quality of water where possible;
 - (f) the potential and existing uses;
 - (g) threats to the wetland;
 - (h) the density of human population in the wetland and its catchment, drawing attention especially to those most dependant on the wetland;
 - (i) the conservation status;
 - (j) the land tenure system in the wetland catchment; and
 - (k) any other factor relevant to the wetland.
- (3) The boundaries of such wetlands shall be shown on all official boundary maps of Kenya.
- (4) The Authority in collaboration with other lead agencies shall periodically and as the need arises, inspect wetlands using a rapid assessment protocol as per the Fourth Schedule to determine the necessity for revision or correction of the inventory maintained under this Regulation.
- (5) The Authority may, register any changes in the boundaries of wetlands on maps in the inventory referred to in sub-regulation (1) and such changes shall be registered in consultation with the relevant lead agencies.
- (6) In preparing an inventory of wetlands, the Authority shall consult with the County Environment Committees, lead agencies and relevant stakeholders with a view to involving the public in determining whether a wetland should be included in the list of wetlands of national or international importance.
- (7) The Authority shall in consultation with the relevant lead agencies, publish a national inventory of wetlands after every five (5) years, reflecting the current state of wetlands included in the inventory.

*Integrated Wetland
Management Plans*

6. (1) The Authority shall in consultation with all stakeholders, cause such measures, including the development of integrated wetland management plans, to prevent and control further degradation of such wetlands.
- (2) The integrated wetland management plans should include, but not limited to the list set out in the Fifth Schedule.

Protected Wetlands

7. (1) The Cabinet Secretary may, by notice in the Gazette, declare an area to be a protected wetland where such area has national or international significance due to its-
 - (a) biological diversity;
 - (b) ecological and hydrological importance;
 - (c) landscape;
 - (d) natural and cultural heritage; or
 - (e) aesthetic value.
- (2) Upon declaration of an area to be a protected wetland, the following activities may be permitted in the area-
 - (a) research;
 - (b) eco-tourism;
 - (c) restoration or enhancement of the wetland;
 - (d) cultural uses; or
 - (e) any activities identified in the integrated wetland management plan.

*Procedure for
Declaration of a
Protected Wetland*

8. (1) The Cabinet Secretary may in consultation with the relevant lead agency, county government, a registered civil society organization, an individual person or corporation and on the recommendation of the Authority, declare a protected wetland or area of sensitive ecological nature that needs protection under regulation 7, by-
 - (a) notice in the Gazette;
 - (b) publishing in at least one newspaper with wide circulation in the local area to notify the public of its intention to declare the area to be a protected wetland, which notice shall mandate the preparation of the integrated wetland management plan;
 - (c) and prepare an integrated wetland management plan by, incorporating the views of the people inhabiting the areas contiguous to the wetland in accordance to sub-regulation 7 (1);
- (2) Where the Authority is satisfied with the findings under sub-regulation (1) (c), it shall submit its recommendations to the Cabinet Secretary for the gazettment of the wetland;
- (3) Where a lead agency, county government, a member of the public or a registered civil society organization petitions the Authority to initiate the process for declaration of an area as a protected wetland, the Authority shall consider the petition and may initiate the process as set out in sub-regulation (1);

- (4) Where the Authority declines to initiate the process of declaring an area to be a protected wetland, it shall communicate its decision together with its reasons, to the petitioner within thirty (30) days of the decision to decline;
- (5) Where the petitioner is not satisfied by the decision of the Authority in sub-regulation (4), he or she may appeal to the Tribunal.

*Protection of
Riparian Reserves*

- 9. (1) All shores of lakes specified in the First Schedule to these Regulations shall have a protected zone of fifty (50) metres measured inland from the high water mark.
- (2) All shores of lakes not specified in the First Schedule shall have a protected zone of thirty (30) metres measured inland from the high water mark.
- (3) The shore of the ocean shall have a protection zone of sixty (60) metres measured inland from the high water mark.
- (4) The Rivers specified in the Second Schedule to these Regulations shall have a protection zone of thirty (30) metres measured inland from the highest water mark of the river.
- (5) Rivers not specified in the Second Schedule shall have a protected zone of twice the rivers width measured inland from the high water mark of the river.
- (6) Springs shall have a protected zone of a minimum of 6 metres measured from the eye of the spring.
- (7) Swamps and marshes with an average size of one acre and above a protected zone of 30m measured inland from the high water mark shall be maintained. For swamps less than an acre in size, a protected zone of 15m measured inland from the high water mark shall be maintained.
- (8) No activity shall be permitted within protected zones without the written approval of the Authority, except those listed under regulation 11.
- (9) Each County Environment Committee shall determine and designate watering points in each wetland.
- (10) The Authority in consultation with the relevant lead agency will identify and demarcate the high water mark.

*Erosion and
Pollution*

10. (1) Every person shall refrain from any act, which directly or indirectly causes, or may cause immediate or subsequent water pollution or erosion of the wetland or of its shoreline, banks or catchment.
- (2) No person shall throw or cause to flow into or near a wetland or its catchment any liquid, solid, gaseous or any other hazardous substance or deposit any such substance in or near it, as to cause pollution.
- (3) No person shall modify or encroach on a wetland and/or its catchment including the removal of wetland vegetation, rock, gravel or sand deposits so as to cause degradation of the ecosystem.
- (4) The Authority shall, in consultation with the county government and relevant lead agencies, initiate appropriate measures to prevent, reduce and control erosion, pollution or other form of environmental damage in wetland ecosystems by-
 - (a) monitoring the water quality in the wetland as set out in the Third Schedule;
 - (b) enforcing the EMCA (Waste Management and Water Quality) Regulations;
 - (c) implementing Coastal pollution prevention and control guidelines for wetlands; and
 - (d) implementing the national oil and gas spill contingency plan.
- (5) Where there arises a grave and imminent threat or danger of damage due to catchment or river bank erosion, discharge, release or escape of polluting or hazardous substances into the wetland any person responsible causing erosion or management of the polluting or hazardous substances shall be liable for-
 - (a) the cost of any measures reasonably taken for the purpose of preventing, minimizing or controlling any such damage; and
 - (b) any damage caused by any measures so taken.

*Permitted Use of
Wetlands*

1. The fol

11. The following uses of wetland resources may be permitted subject to wise-use and sustainable use principles -
 - (a) subsistence harvesting of papyrus and other grasses, medicinal plants, thatch, fodder, trees and reeds;
 - (b) any cultivation where the cultivated area is not likely to adversely affect the wetland;
 - (c) fishing and aquaculture, subject to the provisions of the Fisheries Management and Development Act Cap 378
 - (d) abstraction of water for domestic use;
 - (e) harvesting of sand as prescribed under the National sand harvesting guidelines;
 - (f) wildlife utilization, subject to the provisions of the Wildlife (Conservation and Management) Act Cap 376
 - (g) small-scale fish farming, subject to the provisions of the Fisheries Management and Development Act Cap 378
 - (h) artisanal mining, subject to the provisions of the Mining Act Cap 306
 - (i) controlled grazing of livestock;
 - (j) recreation and sports; and
 - (k) cultural, religious use and offtake for research.

Wetland Resource Use Permit

12. Subject to the provisions of Section 42 of the Act, no person shall carry out any of the activities stipulated therein without-
- (a) a permit issued by the relevant lead agency; and
 - (b) an Environmental Impact Assessment License issued by the Authority where applicable.

Temporary Permit

13. (1) The relevant lead agency may, after consultation with the Authority, grant a temporary permit to an applicant for the use of a wetland in case –
- (a) of an emergency situation; or
 - (b) of a special research project that requires the use of the wetland for a specified period of time.
- (2) The temporary permit issued under this Regulation shall be valid for a maximum period of three (3) months, and may be renewed for a further period of three (3) months upon application by the holder with reasons to the satisfaction of the Authority.

Rejection of Application

14. (1) Where the Authority rejects an application made under sub-regulation (2) of regulation 20, the Authority shall-
- (a) state reasons, in writing, to the applicant; and
 - (b) give the applicant the right to be heard either orally, or in writing, or both.
- (2) Any person aggrieved may appeal at the Tribunal within a period of sixty (60) days of the decision.

Revocation of Permits

15. The Authority may, at any time, after consultation with the relevant lead agency revoke a permit granted under these Regulations if it is satisfied that the conditions of the grant of the permit have not been complied with or that the continued use of the wetland is likely to be injurious to the community and the environment.

Duties of Land Owners, Users and Occupiers

16. (1) Every owner, occupier or user of land that is adjacent to a wetland is obligated to prevent the degradation or destruction of the wetland.
- (2) A person or a group of persons may make an application to the court for the grant of one or more environmental easements to use a wetland as stipulated in the Act.

PART III – PROTECTION AND MANAGEMENT OF TRADITIONAL INTERESTS

Protected Interests

17. (1) In preparing an inventory of wetlands under regulation 5, the Authority shall consult with the County Environment Committees to involve the public in determining whether a wetland or its resources should be included in the list of protected traditional interests of national or international importance.
- (2) In preparing records on wetlands with traditional interests, the Authority shall work in consultation with the relevant lead agency, county government, civil society organisations and local communities to:
- (a) identify procedures for acquisition and sharing of indigenous knowledge;
 - (b) document indigenous knowledge; and
 - (c) patent relevant indigenous knowledge and innovations

PART IV– MISCELLANEOUS

Requirements of an Environmental Impact Assessment and Audit

18. (1) A person shall be required to carry out an Environmental Impact Assessment in accordance with the provisions of the Act.
- (2) A person shall ensure that any-
- (a) drainage;
 - (b) conversion;
 - (c) burning;
 - (d) modification of a wetland and wetland resources;
 - (e) introduction of alien and invasive species;
 - (f) extraction of wetland resources which includes but not limited to mining, sand harvesting and coral block mining;
 - (g) dredging; and
 - (h) Infrastructural development such as jetties, roads, railways, pipelines and buildings.

Shall be subjected to approved standard procedures including Environmental Impact Assessment.

(3) Where a development has been approved, every person referred to in sub-regulation (1) shall carry out an environmental audit as provided for by the Act, and the Authority shall monitor such activities in accordance with the Act.

County Environment Committee

19. The Authority in collaboration with the County Environment Committee shall be responsible for coordinating, monitoring, advising, and supervision of implementation on all aspects of wetland resource management within the County for which it is appointed.

Duties of an Officer of the Authority

20. An officer of the Authority within whose jurisdiction activities likely to degrade or are degrading wetlands are taking place, shall ensure that the communities living near such areas participate in conservation activities and assist them in implementing these Regulations and any other law that protects.

Waste Management

21. (1) Each county government shall in consultation with the Authority, take adequate measures to manage and minimise solid waste and wastewaters in wetlands in accordance with the Water Quality Regulations and other relevant laws.
- (2) Where two or more counties share a wetland, minimum waste management standards as prescribed by the Authority shall be applied.

Transition

22. Any person carrying out any activity on a wetland, immediately before the coming into force of these Regulations, shall within six (6) months from the coming into force thereof, take all necessary measures to ensure full compliance with these Regulations.

Environmental Restoration Orders

23. The Authority may issue environmental restoration orders pursuant to the provisions of the Act in order to allow a wetland area which has been degraded to regenerate and the offender bears the burden of regeneration.

Improvement notice

24. Where an environmental inspector has reasonable cause to believe that any person is violating the provisions of these Regulations, the environmental inspector may –
- (a) issue against such person an improvement notice in accordance with the provisions of the Act; or
 - (b) take such measures as are provided for under the Act.

Offences and Penalties

25. Any person who contravenes the provisions of these Regulations, commits an offence and shall be liable on conviction to imprisonment for such term and such fine as are provided for in the Act.

Appeals

26. A person aggrieved by a decision of the Authority under these Regulations may appeal to the Tribunal in the manner as prescribed in the Act.

Delegation of powers and functions

27. The Authority may where necessary, delegate any of the functions and powers provided for within these Regulations to any officer of the Authority, County or to a lead agency.

Operation of Regulations

28. These Regulations shall be in addition and not in derogation from any other regulations relating to the environment made under the Act.

FIRST SCHEDULE

LIST OF LAKES

Amboseli
Baringo
Bogoria
Chala
Elementaita
Jipe
Kamnarok
Kanyaboli
Kenyatta
Kwenia
Logipi
Magadi
Moa
Nakuru
Naivasha
Nyamboyo
Ol Bolossat
Sare
Simbi
Solai
Turkana
Victoria

SECOND SCHEDULE

LIST OF RIVERS

Athi- Galana-Sabaki
Chania (Nyeri)
Daua
Ewaso Ng'iro North
Ewaso Ng'iro South
Gucha – Kuja - Migori
Kerio
Lumi
Malewa
Mara
Mbagathi (Ngong)
Mogonga
Mukurumudzi
Nairobi
Naromoru
Njoro
Nyando
Nzoia
Ramisi
Ruiru
Sio
Sonde Miriu
Suam
Tana
Tharaka
Thika
Tiva
Tsavo
Turkwel
Umba
Yala

THIRD SCHEDULE

WETLAND WATER QUALITY MONITORING FORM

Wetland Name: Wetland type/classification:

Date: Location (GPS):

Person collecting data:

Parameter	Measured value	Ideal value	Interpretation/comments	Recommended action
Physio-Biochemical				
Temperature ($^{\circ}\text{C}$)				
Ph				
Dissolved Oxygen (mgL^{-1})				
Biological Oxygen Demand				
Colour				
Turbidity (NTU)				
Total Suspend Solids				
Conductivity ($\mu\text{S cm}^{-1}$)				
Depth (M)				
Transparency (Secchi depth)				
Nutrients				
Total phosphorous (mgL^{-1})				
Total nitrogen (mgL^{-1})				
Heavy metals				
Lead ($\mu\text{glg DW}$)				
Mercury ($\mu\text{glg DW}$)				
Chromium ($\mu\text{glg DW}$)				
Cadmium ($\mu\text{glg DW}$)				
Silver ($\mu\text{glg DW}$)				
Other parameter				
Coliforms (counts/100ml)				
Colour				
Fluorine (mg/L)				
Odour (smell type)				
Biological (flora and fauna)				
Species diversity (types)				
Species abundance (counts)				

Notes: Wetland water quality monitoring will be done in conjunction with Rapid Assessment Protocol parameters

FOURTH SCHEDULE **RAPID ASSESSMENT PROTOCOL FORM**

Name of wetland: Location (GIS location):

Name of person recording data:

Date.....

Biophysical features	Particulars	Recommended Action
1. Site name: <ul style="list-style-type: none"> • Official name of site • Catchment name • Village name/s • Sub-county name/s • County name/s 		
2. Type of wetland: <ul style="list-style-type: none"> <input type="checkbox"/> River <input type="checkbox"/> Swamp <input type="checkbox"/> Lake <input type="checkbox"/> Dam <input type="checkbox"/> Mangrove <input type="checkbox"/> Floodplain <input type="checkbox"/> Seasonal pool <input type="checkbox"/> Any other, specify _____ 		
3. Area and boundary: <ul style="list-style-type: none"> <input type="checkbox"/> Original size (Km²) <input type="checkbox"/> Current size (Km²) <input type="checkbox"/> Variation (km² m² or %) 		
4. Water permanence <ul style="list-style-type: none"> <input type="checkbox"/> Static <input type="checkbox"/> Flowing <input type="checkbox"/> Seasonal 		
5. Location: <ul style="list-style-type: none"> i. Projection system ii. Map coordinates iii. Map centroid iv. GPS and elevation 		
6. Geomorphic setting: <ul style="list-style-type: none"> i. Where it occurs within the landscape: <ul style="list-style-type: none"> <input type="checkbox"/> Upper catchment <input type="checkbox"/> Middle catchment <input type="checkbox"/> Lower catchment 		

<p>ii. Linkage with other aquatic habitat:</p> <p> <input type="checkbox"/> Tributary <input type="checkbox"/> Ox bow lake <input type="checkbox"/> Satellite lake <input type="checkbox"/> Lagoon <input type="checkbox"/> Creek <input type="checkbox"/> Delta <input type="checkbox"/> Floodplain <input type="checkbox"/> Lake/River basin <input type="checkbox"/> Any other, specify _____ </p> <p>iii. Biogeographical region/ecological zone:</p> <p> <input type="checkbox"/> East African Montane forest <input type="checkbox"/> East African Montane moorlands <input type="checkbox"/> Eastern Arc forests <input type="checkbox"/> East African Coral Coast <input type="checkbox"/> East African mangroves <input type="checkbox"/> East African halophytics <input type="checkbox"/> Coastal Delta/estuary <input type="checkbox"/> Lake Victoria <input type="checkbox"/> Soda lakes <input type="checkbox"/> Inland freshwater lakes <input type="checkbox"/> Any other, specify _____ </p> <p>iv. Lake/river basin:</p> <p> <input type="checkbox"/> Tana <input type="checkbox"/> Athi/Galana/Sabaki <input type="checkbox"/> Ewaso Ng'iro <input type="checkbox"/> Mara <input type="checkbox"/> Yala <input type="checkbox"/> Nzoia <input type="checkbox"/> Turkwell <input type="checkbox"/> Victoria <input type="checkbox"/> Turkana <input type="checkbox"/> Any other, specify _____ </p>		
<p>7. General description:</p> <p> <input type="checkbox"/> Shape <input type="checkbox"/> Cross-section <input type="checkbox"/> Plain view </p>		
<p>8. Climate – zone and major features:</p> <p> <input type="checkbox"/> Humid <input type="checkbox"/> Semi-arid <input type="checkbox"/> Arid </p>		

<p>9. Soil:</p> <ul style="list-style-type: none"> i. Structure ii. Colour iii. Type: <ul style="list-style-type: none"> <input type="checkbox"/> Clay <input type="checkbox"/> Sandy <input type="checkbox"/> Loam 		
<p>10. Water regime:</p> <ul style="list-style-type: none"> i. Seasonality: <ul style="list-style-type: none"> <input type="checkbox"/> Permanent <input type="checkbox"/> Seasonal ii. Extent of flooding iii. Depth iv. Source of surface water v. Links with groundwater 		
<p>11. Water chemistry:</p> <ul style="list-style-type: none"> i. Salinity ii. pH iii. Colour iv. Transparency v. Temperature vi. Oxygen vii. Odour viii. Any other, specify _____ 		
<p>12. Biota:</p> <ul style="list-style-type: none"> i. Vegetation type ii. Vegetation zonation (%) <ul style="list-style-type: none"> • Floating macrophytes • Riparian papyrus/reeds • Shrubs • Trees iii. Animal species present, habitat and populations <ul style="list-style-type: none"> <input type="checkbox"/> Birds <input type="checkbox"/> Mammals <input type="checkbox"/> Fish <input type="checkbox"/> Reptiles <input type="checkbox"/> Amphibians iv. Special features including rare/endangered species <ul style="list-style-type: none"> • Name • Migratory • Resident • Endemic • Common • Any other, specify _____ 		

<i>Management features</i>			
13. Land use: i. Cultivation <input type="checkbox"/> Subsistence farming <input type="checkbox"/> Commercial farming ii. Grazing iii. Settlements: iv. Commercial livestock v. Pastoralism <input type="checkbox"/> Rural <input type="checkbox"/> Urban <input type="checkbox"/> Hotel <input type="checkbox"/> Campsite/eco-lodge <input type="checkbox"/> Any other, specify <hr/>			
14. Pressures on the wetland: <input type="checkbox"/> Water pollution <input type="checkbox"/> Industrial <input type="checkbox"/> Urban waste water <input type="checkbox"/> Domestic waste water <input type="checkbox"/> Agricultural effluent <input type="checkbox"/> Solid wastes <input type="checkbox"/> Siltation/ Erosion/ Sedimentation <input type="checkbox"/> Dredging <input type="checkbox"/> Draining <input type="checkbox"/> Invasive species <input type="checkbox"/> Overgrazing <input type="checkbox"/> Clearing of vegetation <input type="checkbox"/> Burning <input type="checkbox"/> Reclamation <input type="checkbox"/> Conversion <input type="checkbox"/> Any other, specify <hr/>			
15. Land tenure <input type="checkbox"/> Private land <input type="checkbox"/> Community land <input type="checkbox"/> Public land 16. Administrative authority <input type="checkbox"/> County government (Specify) <input type="checkbox"/> National			
17. Conservation and management status of the wetland: i. Protected <input type="checkbox"/> National Reserve <input type="checkbox"/> National Park <input type="checkbox"/> Community Sanctuary <input type="checkbox"/> Ramsar site <input type="checkbox"/> Sacred site	(✓)		

<div> <input type="checkbox"/> World heritage site <input type="checkbox"/> International Bird Area <input type="checkbox"/> Any other, specify _____ </div> <div> ii. Unprotected (specify) _____ </div> <div> 18. Social or cultural traditions that influence the management of the wetland </div> <div> <input type="checkbox"/> Circumcision site <input type="checkbox"/> Shrine <input type="checkbox"/> Kaya <input type="checkbox"/> Any other, specify _____ </div>		
<div> 19. Ecosystem benefits/services derived from the wetland </div> <div> i. Provisioning services <div> <input type="checkbox"/> Domestic water <input type="checkbox"/> Irrigation water <input type="checkbox"/> Fishing <input type="checkbox"/> Hunting <input type="checkbox"/> Fodder <input type="checkbox"/> Reeds/papyrus <input type="checkbox"/> Medicinal plants <input type="checkbox"/> Thatch <input type="checkbox"/> Urban water supply <input type="checkbox"/> Hydropower <input type="checkbox"/> Any other, specify _____ </div> </div> <div> ii. Supporting services <div> <input type="checkbox"/> Nutrients recycling <input type="checkbox"/> Transport <input type="checkbox"/> Habitat for flora and fauna <input type="checkbox"/> Buffering <input type="checkbox"/> Water storage <input type="checkbox"/> Shoreline protection <input type="checkbox"/> Breeding sites for fauna <input type="checkbox"/> Protection <input type="checkbox"/> Tourism and recreation <input type="checkbox"/> Any other, specify _____ </div> </div> <div> iii. Regulating services <div> <input type="checkbox"/> Carbon sequestration <input type="checkbox"/> Water storage and release <input type="checkbox"/> Soil formation <input type="checkbox"/> Flood regulation <input type="checkbox"/> Wastewater treatment <input type="checkbox"/> Any other, specify _____ </div> </div>		

<p>20. Management plans and monitoring programmes – in place and planned within the inland water and in the river basin and/or coastal zone</p> <p>i. Management plans and programmes in place (specify)</p> <p>ii. Coverage</p> <p>iii. Particular programmes in management plan (list)</p>		
---	--	--

FIFTH SCHEDULE

INTEGRATED WETLAND MANAGEMENT PLAN GUIDELINES

The Integrated Wetland Management Plans should include, but not limited to the following:

a) Title of the plan, participants and direct users

b) Preamble

- i. statement(s) on the reason(s) for integrated plan development as well as location and users;
- ii. statement(s) on the justification of plan development;
- iii. statement(s) on the objectives/benefits of the plan; and
- iv. statement(s) on the main methodological framework and time plan used.

c) Location map of the wetland, showing boundaries, and administrative authorities; and the area of the wetland

d) Description of the wetlands resources, produce, goods and services

- i. description of fauna and flora;
- ii. description of the soil characteristics;
- iii. data on the discharge, volume fluctuations, flow and quality of water where possible;
- iv. the potential and existing uses of the wetland, and economic value; and
- v. the density of the human population in the wetland catchment drawing attention especially to those user group most dependent on the wetland.

e) Objectives and mitigating actions to overcome the anthropogenic pressures

f) Analysis of the wetland

- i. the conservation status and any impaired and non-impaired areas;
- ii. the ecological and economic importance to development, poverty reduction and local livelihoods;
- iii. the driving forces, pressure, state, ownership, impact and response indicators under strengths, weaknesses, opportunities, threats;
- iv. contingency plans; and
- v. any other factor relevant to the wetland.

g) Stakeholder analysis

- i. Institutional framework on who will be responsible to implement the plan
- ii. Prepare the plan in a participatory manner and shall include such information as may be prescribed in the respective sector law.

h) Implementation Plan

- i. in a format that can be mainstreamed into county and national plans e.g. inception stakeholders meetings, literature sourcing, implementation framework, report writing and reporting, sensitization, validation, adoption and inclusion in integrated county/national plans;
- ii. anticipated budgets and time plan.

i) Annexes

- i. Additional appendices used in the implementation plan e.g. meeting minutes and records.