The flyway approach to the conservation and wise use of waterbirds and wetlands

Annexes, Glossary, Acronyms & CD Contents

Mixed group of waders in the Central Marshes of Iraq (photo: Omar Fadhil/Nature Iraq)

Contents

Glossary

Afrotropical region: The biogeographical region embracing all of Africa south of the Sahara, including offshore and nearby islands (e.g. Madagascar).
Altitudinal migration: Seasonal return movement between higher and lower elevations in the same region (Newton 2008). Some birds breed in highland areas and migrate down to lower levels after breeding.
Annual cycle: The yearly cycle of key life activities, such as breeding, moult and migration occurring in a fixed order and at similar times every year.
Arctic: The region around the North Pole north of the Arctic Circle (66°33'N); there are other definitions as to the southern boundary of the Arctic.
Arrested moult: See **suspended moult**.
Bi-coordinate navigation: Navigation based on latitude and longitude enabling fixing of locations.
Biosphere Reserve: Larger protected area with a combination of natural and cultural values and sustainable use by people.
Bird strike: Any physical contact between a bird and an aeroplane on the move.
Boreal: Biogeographical/climatic region just south of the Arctic, generally equivalent to the subarctic. See also **subarctic**.
Bottleneck areas: This is a collective term used for all those sites and areas that are crucial for a migratory species and that if no longer available, would substantially affect their migration. A bottleneck can occur during the breeding season (e.g. availability of nesting places), or it can be the disappearance of suitable moulting areas. In migration studies, narrow corridors through which birds must pass (e.g. Straits of Gibraltar) are widely termed as bottleneck areas.
Botulism: Avian botulism is a paralytic disease caused by ingestion of a toxin produced by the bacteria *Clostridium botulinum,* which has the capacity to kill large numbers of waterbirds. Botulism often develops in warm stagnant waters with a low oxygen level. The disease causes paralysis followed by death. It is best treated by removing all dead birds as soon as possible.
Breeding area or **breeding range:** The area in which animals (e.g. migratory bird populations) reproduce.
Breeding dispersal: The distance between different breeding sites used in different breeding seasons.
Broad-front migration: Migration across a region with no apparent streaming or concentration by topographic or other features (Newton 2008). Recent research with satellite tagged birds and analyses of ringing recoveries have shown that birds from different geographical regions of Europe have **parallel migration** routes to their non-breeding areas, almost akin to parallel flyways within a broad-front migration.
Carbon sequestration: The process in which carbon is accumulated in organic material, for instance in peatlands.
Chain migration: This is when the southernmost breeding birds of a species or population occupy the southernmost non-breeding grounds, and the northernmost breeding birds occupy the northernmost non-breeding grounds. Populations thus retain the same latitudinal sequence.
Carrying capacity: The maximum number of animals per square unit at a site that can be present and forage successfully. In short, the maximum number of animals that a site can support.
Contracting Party: A country that has officially acceded to an international treaty by submitting a formal Instrument of Accession.
Colonisation: The (often slow) process by which species occupy new areas and/or habitats, e.g. the arrival of invasive species (exotics) or existing species extending their range due to changed circumstances in habitats or ecosystems.
Colonial breeding: This is when birds of the same or mixed species group together in small areas to breed. It is a widespread phenomenon within waterbirds. Colonies can be very large, especially breeding seabirds in islands. Colonial breeding has some advantages for species, e.g. increased colony defence against predators and social interactions. Colonies are often close to good feeding areas.
Colony: A place where a number of animals breeding gregariously; in colonial waterbirds the colony includes the grouping of nests and breeding birds (and their eggs/young).
Compass orientation: Keeping a constant angle towards an external reference system to give a straight migration direction (Newton 2008).
Connectivity: Degree of connectedness, usually between similar attributes, e.g. connection between geographically separate patches of similar habitat. See also **Migratory Connectivity** and **Population Connectivity**.

Cost Benefit Analysis: This is the most frequently used appraisal methods for quantifying wetland values. It measures the net gain or benefit from a policy or action, and entails listing and evaluating all measurable benefits and costs in a particular scenario and comparing them.

Crèche: A grouping of young animals cared for by adults that are not their parents. In some birds, a few adults may share caring of their own and others' young.

Critical Site: A site that is essential to the long-term survival of one or more waterbird populations at any life stage.

Critical Site Network: A network of critical sites which, collectively, are essential for the long-term survival of one or more waterbird populations at different life stages.

Crossover migration: This occurs when populations from different breeding areas cross over each others' flyways en route to the non-breeding destination areas.

Deferred migration: This is when younger birds travel to the non-breeding destination areas but then opt to stay there for one or more years before returning to the breeding range. This occurs especially in birds that do not reach sexual maturity until they are two or more years old. A similar situation is when younger birds do not remain in the main non-breeding destination area, but move progressively nearer to the breeding range until they reach breeding age. This is known as **graded migration**.

Density dependence: A population-regulating factor that allows numbers in a population to increase when they are low, and causes numbers to decrease when they are high. Such factors result in density-related changes in reproduction or mortality, immigration or emigration. Density dependent factors are related very closely to carrying capacity. When the density of birds at a site has reached the site's carrying capacity, density-dependent factors will result in the population decreasing. Typical density dependent factors include: competition for food and other resources, competition for breeding or nest sites, parasitism and infectious diseases, and predation.

Density independence: Density independent factors are those that may limit a population that bear no relation to the size (or density) of the population, such as severe weather events. They often result in population fluctuations.

Depletion: The removal of food items that would otherwise be available to others.

Depository: Ministry of Foreign Affairs of a country or an Intergovernmental Organisation responsible for the correct administration and procedures in relation to countries becoming Party to an international treaty. Example: UNESCO is the depositary for the Ramsar Convention, Germany for the Bonn Convention and The Netherlands for AEWA.

Differential migration: Different migration strategies adopted by distinct groups of birds. See **partial migration**.

Discount rate: A rate used in calculation of present value that accounts for time preferences.

Dispersal: Movement of an individual away from its current residence, usually with no specific direction or distance. Young birds for instance often disperse out of the breeding area but not in a fixed direction. See also **natal dispersal, breeding dispersal** and **non-breeding dispersal**.

Dynamic soaring: A form of soaring that uses a gradient of increasing wind speed upwards from the surface, usually of water.

Early Warning System: A system or procedure designed to warn of an impending problem or emergency.

East Atlantic Flyway: A migration route used by a number of bird populations (including many waterbirds) following the Atlantic coastlines of Europe and Africa.

Ecological network: A policy concept to maintain the broad integrity of environmental processes through connectivity, i.e. linking of sites that play functional roles at the ecosystem, habitat, species or flyway level. Connections between nature reserves and other areas that support natural functions enable species to move between sites and survive.

Economic valuation: An attempt to assign quantitative values to the goods and services provided by environmental resources, whether or not market prices are available to assist us.

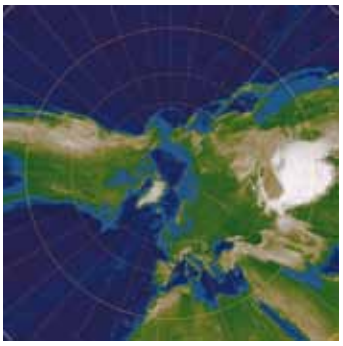
Ecosystem approach: A conservation, management or development approach that takes the whole ecosystem into account, e.g. a river basin approach.

Elasticity analysis: Measurement of changes in population growth resulting from changes in a given parameter.

Elliptical migration: See **loop migration.**

Emerald Network: The protected site network of countries Party to the Bern Convention. As this includes all EU Member States, the network in practice mainly follows the Natura 2000 criteria, with additional criteria for non-EU states which are Party to the Bern Convention.

Emigration: Dispersal or migration away from an area or population. If density is too high, some birds may opt to leave a population altogether and seek alternative areas.
Empathy, sensitivity: To be able to see problems as seen through the eyes of others, e.g. participants in a workshop or meeting; to be able to detect and understand their feelings, ideas and values.
Endorheic: A system with no outflow. An **endorheic basin** is a closed drainage basin, i.e. with no outflow. An **endorheic lake** is a large body of water that has no outflow, but only inflow; it essentially serves as an internal drainage basin. Most of the water escapes by evaporation, creating salt lakes.
Eruption: In migration terms, this refers to a mass emigration from a particular region.
EUROSITE: European organisation functioning as a network for site managers; it organises activities such as thematic workshops and site manager exchanges.
EU Directive: Legislation binding all member states of the European Union; important for conservation through the EU Birds Directive and the EU Habitats Directive.
Eutrophic lake: Water system rich with nutrients of various sources including decomposing plants.
Exoreic lake: A lake with a balanced through-flow of water; i.e. the water flowing into the lake is more-or-less equal in volume to the water flowing out.
***Ex-situ* conservation:** Conservation activities under controlled conditions, such as captive breeding programmes; (versus *in-situ*).
Fecundity: An ecological concept based on the numbers of offspring (or young) produced; the (potential) reproductive capacity of an organism or population.
Fertility: A physiological condition indicating that an individual is capable of breeding.
Flyway: A flyway is the entire range of a migratory bird species (or groups of related species or distinct populations of a single species) through which it moves on an annual basis from the breeding grounds to non-breeding areas, including intermediate resting and feeding places as well as the area within which the birds migrate (Boere & Stroud 2006).
Geographic Information System (GIS): A tool that captures, stores, analyzes, manages, and presents data that refers to or is linked to location.
Glaciations: Parts of Europe and Asia covered with land-ice during the ice ages of the Pleistocene.
Gliding: Coasting downwind on outstretched wings gradually losing height (Newton 2008).
Gnomonic projection: A map projection that displays all great circles as straight lines, such that the shortest route between two locations in reality corresponds to that on the map. See polar gnomonic projection map below with map centre at 0°E90°N (Rohwedder 2006: http://en.wikipedia.org/wiki/File:Gnomonic_Projection_Polar.jpg).



Graded migration: See **deferred migration**.
Great circle route or **Orthodrome:** The shortest (migration) route between two points at different longitudinal places. As the earth is spherical, using such a migration route assumes a capacity to frequently change direction.
Gross National Product: Total value of all production activities and services within a country.
Hopping: Migration strategy using short distance flights usually of a few hundred kilometres and many intermediate resting places.
Hop-step-and-jump or skipping: Migration strategy using medium to long distance flights, typically of around 1500-2000km, between resting places.
Ideal despotic distribution: An ecological theory in which the distribution of animals is influenced by territoriality or resource defence. The theory predicts that the quality of habitat controlled by territorial animals should vary depending on their competitive ability and the availability of resources. In environments where resources have a patchy distribution, breeding males that dominate high quality territories may require less territory area than males in low quality areas. See also ideal free distribution.
Ideal free distribution: An ecological theory stating that individual animals will aggregate in various patches of habitat proportionately to the amount of resources available in each. The theory assumes that animals can move freely between habitats and that individuals know how profitable each patch of habitat is. See also ideal despotic distribution.
Immigration: The arrival of new individuals from elsewhere and their recruitment into a population. It may occur when birds leave (emigrate from) a population of high density to a different population with a low density.

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In-situ conservation: Conservation activities of wild populations in their natural habitat; (versus ex-situ).
Integrated monitoring of waterbirds: The monitoring of parameters which describe change in the distribution, abundance and composition (usually age and sex) of a waterbird population.
Interference: The short-term reduction in food intake resulting from the presence of others, including the effect of disturbing prey.
Intermittent migration: See step migration.
Inter-Tropical Convergence Zone (ITCZ): A zone of low pressure carrying rain that moves north then south of the equator during the course of the year, between about 5°N and 5°S.
Intra-African migration: Movements within Africa. The movement of birds within Africa and around its coastline according to local triggers and continental weather patterns, especially rainfall (Dodman & Diagana 2006).
Irruption: In migration terms, this is the mass immigration into a particular region.
Joint Venture: An article or entity formed between two or more parties to undertake identified and agreed activities together.
Kramer orientation cages: Experimental cages named after the German researcher, Kramer, for orientation studies. In their most simple form, these are open wire cages with a moveable floor containing a black marker material, below which is a piece of paper, so that a bird moving in the cage leaves a mark on the paper. The marked papers show the directions chosen by the birds according to different stimuli, such as light.
Lagoon: A lake or body of water formed at the coastline through the influence of estuaries and the actions of tides. Some lagoons may be connected to the sea by a small channel, others may be separated from the sea often by a thin sandbar or spit.
Leapfrog migration: A migration strategy in which birds from a migratory population of one species over-fly less migratory birds of the same species.
Limiting factor: The resource or environmental factor that most limits the size or distribution of a population (Newton 2008).
Loop migration or **elliptical migration:** Migration when birds take markedly different routes on their outward and return journeys (Newton 2008).
Long distance migration: Migration strategy using long distance flights typically of over 3000km between resting places, or non-stop flights between breeding and non-breeding destination areas; usually refers to migration between continents.
Loxodrome: See **rhumbline route**. Loxodrome is the opposite to **orthodrome**.
Montreux Record: List of designated Ramsar Sites which are monitored for possible ecological changes according to a protocol developed under the Ramsar Convention. Named after the Swiss city Montreux where the Ramsar/COP was held in 1990.
Migratory birds: Birds that, during their life-cycles, perform regular movements between separate areas, usually linked to seasonal changes.
Migratory connectivity: The geographic linking of individuals or populations between different stages of the annual cycle, including between breeding, migration and non-breeding destination stages.
Migration: The regular movement of animals between separate areas. A regular seasonal movement between separate breeding and non-breeding areas (Newton 2008).
Migration (CMS definition): 'Migratory species' means the entire population or any geographically separate part of the population of any species or lower taxon of wild animals, a significant proportion of whose members cyclically and predictably cross one or more national jurisdictional boundaries.
Migration corridors: In some species, parallel migration routes are, or have become, separate, such that there is little or no overlap between birds from the discrete parallel 'flyways'. Migration does not occur on a broad-front, as the routes are essentially parallel **corridors**, and the birds within these separate migration units may be treated as discrete populations.
Migratory species: Any species that performs regular seasonal movements between separate breeding and non-breeding areas.
Monitoring: The repeated collection of information over time, in order to detect changes in one or more variables.
Moult migration: A specific type of migration to areas where waterbirds undergo moult, in particular their wing moult. The moulting area is often not too far from the breeding area. Moult migration is especially important for Anatidae species moulting their wing feathers at once and becoming flightless Some birds undergo a **split moult** whereby moult is divided between different areas. Another strategy is to carry out complete moults of different sets of feathers in succession through a **suspended moult**. See also **split moult**, **suspended moult** and **serial moult**.

Natal dispersal: The movement of an individual from birth place to breeding place (Newton 2008).
Narrow-front migration: Migration pattern using a restricted predictable geographical area to migrate from the breeding to the non-breeding area destinations. This also occurs when migrants from a wide area are concentrated by topographic situations that channel them, such as when they pass along coastlines, peninsulas or through narrow valleys (Newton 2008).
Natura 2000: The integrated system of protected areas/nature reserves within the European Union Member States; sites identified in accordance to the requirements of the EU Wild Birds and Habitat Directives.
Navigation: Following a specific course to a distant goal.
Neolithic Subpluvial (or **Holocene Wet Phase):** A period from about 7,000-3,000 BC of wet and rainy conditions in the climate history of northern Africa, which was preceded and followed by much drier periods. It was the most recent of a number of periods of ***Wet Sahara*** or ***Green Sahara*** when the region was relatively moist and supported a richer biota and human population than the present-day desert.
Net Present Value (NPV): The expected annual benefit (e.g. of a wetland). NPV is the economic value (of a wetland) taking into account future worth. The NPV may be calculated using the following simple formula: NPV = Yearly Flow/Discount Rate.
Nomadism: Irregular movements which are largely unpredictable. Nomadism is often influenced by irregular rainfall in semi-arid areas (e.g. in parts of Africa) or by severe food shortages forcing birds to move (e.g. movement out of cold regions of northern Europe and Asia).
No net loss of wetlands policy: A physical planning policy that aims to maintain the same overall number or size of wetlands in a particular area, e.g. through the planned creation or restoration of wetlands in order to replace lost (i.e. converted/destroyed) wetlands.
Non-breeding area: The area occupied between separate breeding seasons, usually referring to the main areas used rather than the routes used to get there. This area includes the **non-breeding destination areas**.
Non-breeding destination areas: Within a migration system these are the areas where birds stay at the end of their post-breeding migration. They are, in essence, the final destination of the birds, from where they will depart once more to return to the breeding areas. These areas are widely termed as **wintering areas**, but this term is not appropriate for many birds, such as intra-African migrants.

Non-breeding dispersal: The distance between non-breeding sites used in different years.
Northern Hemisphere: Area of the globe north of the equator.
Nunatak: Ice-free areas during the ice ages, often on mountain plateaus, including areas north of the ice cap extension. They have acted as refuges for arctic fauna and flora and influenced in particular sub-species formation through isolation of populations of the same species.
Orientation: The direction in which a migrant bird heads to a non-specific goal.
Orthodrome: See **great circle route**. Orthodrome is the opposite to **loxodrome**.
Palaearctic ecozone (the Palearctic or **Palaearctic):** Biogeographical region of 'extra-tropical climates' of Eurasia and North Africa (north of the Sahara); see map below (http://en.wikipedia.org/wiki/Palaearctic).
Partial migration and **differential migration:** Partial migration occurs when some birds from a particular breeding area migrate away for the non-breeding season, while others remain in the breeding area year-round. Often, this may be due to **differential migration**, which is when the migrations of some classes of waterbirds, such as different age groups or sex groups, differ.
Pastoralism: The raising of livestock for farming. Pastoralism (or pastoral farming) often involves extensive use of grassland areas for grazing, and may involve seasonal movements of animals (e.g. in Central and Eastern Europe) or more irregular (nomadic) movements of people and animals (e.g. in parts of Africa and Central Asia where rainfall is irregular).
Pathogen: An infectious agent; a biological agent that causes disease or illness to its host.
Pathogenicity: The ability of a pathogen to produce an infectious disease in another organism.
Pelagic: Ocean-living. Many seabirds spend most of their lives at sea, only coming to shore (especially oceanic islands) to breed.
Pleistocene: A relatively recent geological period in which the ice-ages took place; followed by the present Alluvium period.

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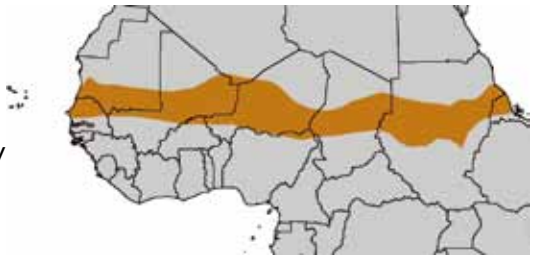
Policy: A collection of principles which indicate intended and acceptable activity or direction for an organisation or government.
Polder: Reclaimed area surrounded and protected by dikes; reclamation can be from a freshwater area or marine habitats.
Population: A distinct assemblage of individuals which does not experience significant emigration or immigration.
Population connectivity: The exchange of individuals among geographically separated subpopulations.
Post-breeding area: A specific area where larger numbers of birds build up flocks after breeding before migration to non-breeding destination areas or moult sites.
Post-fledging dispersal: Movement of newly fledged young from their natal site (the breeding area) in any direction.
Post-nuptial moult: Moult of part of the (body) feathers after the breeding season.
Pre-breeding area: An area where birds stay before migration to the breeding area. Such areas can have different aims, such as a resting area for Arctic breeding birds (already migrating north) before the breeding area conditions are good enough; or a display area used just before breeding (e.g. as used by Common Cranes).
Precautionary principle: This principle stipulates that where a potentially damaging effect cannot be quantified with sufficient certainty, decision makers should err on the side of caution. This principle is an important aspect of judging the potential effects of certain activities. If information is not sufficient or long term effects are not known, than the activity, of whatever nature, should not take place.
Pressure indicators: These are indicators used to identify and track major threats, e.g. to important bird populations at IBAs. Examples include rates of agricultural expansion, over-exploitation and pollution.
Protected area definition (IUCN): An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.
Proximate factors: Mechanisms responsible for adaptation based on external stimuli and physiology. In terms of migratory birds, proximate factors are external stimuli (such as daylength) used as cues to trigger preparation for breeding, migration or other events.
Quarry species: Any species that is hunted or pursued. Some countries define quarry species that may be hunted legally according to national legislation.
Rains migration: Migration in response to rains or rainy seasons.
Reassortment: The mixing of genetic material of two similar viruses infecting the same cell.
Recruitment: The addition of young of a given age to a population, usually considered as addition of young breeders to the population.
Resident: Remaining in the same area throughout the year.
Response indicators: These are indicators used to identify and track conservation actions, e.g. at IBAs: for example, changes in conservation designation, implementation of conservation projects and establishment of local conservation groups.



Reversed migration: Migration in an opposite direction to that used on a regular migration.
Rhumbline route or **loxodrome:** A route taken between two points by maintaining a constant direction (or heading) throughout.
Roosts: Places where birds concentrate in large numbers. They are often occupied for a relatively short time such as high tide roosts at intertidal feeding areas or sleeping places at night. Roosting can take place at any time of the year depending on the purpose.
Sahel: The geographical zone just south of the Sahara (see map below: http://en.wikipedia.org/wiki/File:Sahel_Map-Africa_rough.png); a semi-arid tropical savanna ecoregion in Africa, which forms the transition between the Sahara to the north and the slightly less arid savanna belt to the south. It is mostly only sparsely vegetated and strongly influenced by unpredictable rainfall. Some Sahelian wetlands can support millions of migratory birds, including birds that have crossed the Sahara desert regions from the Palearctic.
Senescence: The process of ageing.
Soaring: Gliding in circles with spread wings and tail while gaining altitude in a rising air current

(Newton 2008). Birds particularly make use of thermal air currents to soar.

Serial moult: A pattern of wing moult in which feathers are gradually replaced in steps, the moult progressing 'in a wave' from feather to feather.

Short-distance migrant: A bird that migrates relatively short distances, usually up to a few hundred kilometres within the same continent.

Split migration: See **step migration**.

Split moult: A moult divided into two or more parts by arrested or suspended moult, with different feathers replaced in each part of the moult. See also **suspended moult**.

Stable isotope: A chemical isotope that does not decay. Stable isotopes vary between regions, for instance in relation to soil composition. Techniques are in place and under further development to use stable isotopes of various elements to identify areas where a bird has spent time, especially during the non-breeding season. Stable isotopes may be ingested by a bird via food intake and may later pass into the body and be later detected, for instance in the bird's newly-grown feathers. Through isotopic base maps, it is possible to identify with varying degrees of accuracy where the bird spent time and, for instance, grew new feathers.

Staging area or **passage area:** A place where birds stay for a while when on migration between breeding and non-breeding destination areas. Birds break their journeys to 'refuel' in these areas, which often attract large numbers of birds.

Stakeholder: Any person or local, regional or national organisation, including any GO or NGO, with an interest in the issue under discussion.

State indicators: These indicators refer to the condition, e.g. of an IBA, with respect to its important bird populations. State indicators might be population counts of the birds themselves, or measures of the extent and quality of the habitat required by these birds.

Step migration (or **split** or **intermittent migration):** Migration that is divided into two or more main parts, or steps, by breaks of a 'significant' period, perhaps weeks or months. These breaks are used by some birds for migratory fat deposition.

Stopover site: A place where a bird stops for a while during its migration. A stopover indicates a pause in the migration. Stopover sites include staging areas.

Strategic Environmental Assessment (SEA): A system of incorporating environmental considerations into policies, plans and programmes.

Subarctic: The region immediately south of the true Arctic, generally considered to lie between about 50°–70°N. A subarctic climate is also termed a boreal climate. See also **boreal**.

Suspended moult or **arrested moult:** A moult pattern in which only a part of the moult is completed in one place, after which it is suspended to enable the bird to perform another activity such as migration, before being resumed again. Suspended moult usually involves replacement of the primaries and secondaries.

Sustainable utilisation: The use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

SWOT Analysis: Strengths, Weaknesses, Opportunities and Threats; a way to analyse various aspects of a strategic planning process.

Thermal: A column of rising air, which birds may use to gain height by soaring.

Threshold level: In population terms, a threshold is a limit, expressed in actual numbers or more often as a percentage of a population, above or below which a certain action or criterion may be applied. For instance, the 1% criterion of the Ramsar Convention may be used to identify sites of international importance that support more than a 1% threshold of a waterbird population. In terms of sustainable use of birds, the threshold level refers to the percentage of a bird population or a given number (limit) of birds below which one should stay to take birds in a sustainable way, i.e. without negatively influencing the long term population size. Thresholds depend on many factors influencing the population.

Total Economic Value (TEV): The sum of all mutually compatible values.

Turnover: A measurement of movements into and out of a location or site in relation to the size of a population.

Twinning: Bringing two or more sites together in a joint programme to exchange experience on a broad range of management issues.

Ultimate factors: Evolutionary reasons for adaptation. In terms of migratory birds, ultimate factors are those that determine the value of a behaviour in an evolutionary sense, i.e. factors that lead birds to migrate and adapt different migratory strategies, such as moulting and when to breed.

Vagrancy: The uncommon appearance of birds outside their regular ranges, and off their usual

migration routes (Newton 2008). Some vagrancy patterns derive from reversed migration, when birds (usually young birds) migrate in essentially the opposite direction.

Venn diagram: A diagram normally consisting of overlapping circles that shows all hypothetically possible logical relations between a finite collection of sets (or groups of things).

Virulence: The degree of pathogenicity, i.e. the relative ability of a pathogen to cause disease.

Vital rates: A combination of fecundity rate (young produced over time) and mortality rate (deaths of individuals over time) of a population or (conversely) survival rate.

Wadis: Dry river beds that may rapidly flow soon after rains.

Wetland valuation: The process of determining the value of a wetland, taking into account all its different attributes and functions.

Wintering area: The area where birds spend the main part of their non-breeding season usually at lower latitudes. See also **non-breeding destination area**.

Yearly flow: The expected annual benefit (e.g. of a wetland).

Annotated list of acronyms

AAO:	l'Association "les Amis des Oiseaux"
ACAP:	Agreement on the Conservation of Albatrosses and Petrels; an Agreement under UNEP/CMS;(http://www.acap.aq/) (it is also the acronym for the Arctic Contaminants Action Programme, a Working Group of the Arctic Council)
ACBK:	Association for the Conservation of Biodiversity in Kazakhstan
ACI:	Airports Council International
ACIA:	Arctic Climate Impact Assessment
AEWA:	Agreement on the Conservation of African-Eurasian Migratory Waterbirds; often shortened to the 'African Eurasian Migratory Waterbird Agreement'. It is an Agreement under UNEP/CMS (www.unep-aewa.org)
AFRING:	African Bird Ringing Centre; coordination of ringing activities in Africa
AfWC:	African Waterbird Census, part of the International Waterbird Census (IWC)
AI:	Avian Influenza
AMAP:	Arctic Monitoring and Assessment Programme
APMWCS:	Asia-Pacific Migratory Waterbird Conservation Strategy
AWC:	Asian Waterbird Census
BASC:	The British Association of Shooting and Conservation
BFD:	Bird Flight Diverter
BTO:	British Trust for Ornithology
CAF:	Central Asian Flyway
CAFF:	Conservation of Arctic Flora and Fauna Working Group under authority of the Arctic Council (http://arctic-council.org/working_group/caff)
CAMBA:	China-Australia Migratory Birds Agreement
CBA:	Cost-Benefit Analysis
CBD:	Convention on Biological Diversity (www.cbd.int)
CEPA:	Communication, Education and Public Awareness
CES:	Constant Effort Site; a method to catch and ring birds with a standardised method (same location, same number of nets, same period of the day etc.)
CIC:	International Council for Game and Wildlife Conservation
CIRAD:	French Agricultural Research Centre for International Development
CITES:	Convention on International Trade in Endangered Species of Wild Fauna and Flora (or Washington Convention) (www.cites.org)
CMS:	Convention on the Conservation of Migratory Species of Wild Animals, or Bonn Convention (www.cms.int)
CMS IMS:	CMS Information Management System
CoE:	Council of Europe; e.g. managing authority for the Bern Convention (www.coe.int)
COP:	Meeting of the Conference of the Parties of an international treaty; it is the formal decision making body of international treaties; meeting with some frequency, usually every 3-4 years; sometimes more frequently
CPAN:	Circumpolar Protected Areas Network
CR:	Critically Endangered; a status category of IUCN Red List
CSN:	Critical Site Network
CVM:	Contingent Valuation Method
DC:	Damage Cost Avoided
DD:	Data Deficient; a status category of IUCN Red List
EAAF:	East-Asian Australasian Flyway
EARS:	East African Ringing Scheme
EC:	European Community
ECNC:	European Centre for Nature Conservation
EECONET:	European Ecological Network - a network of nature reserves, forests and natural areas within Europe under development to become a coherent site network; ('econet approach' is a general term for developing ecological networks).
EEP:	European Endangered Species Programme
EIA:	Environmental Impact Assessment
EMPRES:	Emergency Prevention System for Transboundary Plant and Animal Diseases and Pests

Annexes, Glossary, Acronyms & CD Contents

EN:	Endangered; a status category of IUCN Red List
EOW	Effects of Oil on Wildlife
EU:	European Union (the economic and political union of 27 European member states)
EURING:	Organisation of European Ringing and Bird Migration Centres
FACE:	Federation of Associations for hunting and conservation in the EU
FAO:	Food and Agriculture Organisation of the United Nations (based in Rome, Italy) (www.fao.org)
FSG:	Flamingo Specialist Group
GEF:	Global Environment Facility (www.gefweb.org); biodiversity funding instrument of e.g. the World Bank, UNDP and UNEP
GFN:	Global Flyway Network
GIS:	Geographic Information System
GLS:	Global Location Sensing
GNP:	Gross National Product
GO:	Governmental Organisation
GOPP:	Goal Oriented Project Planning
GROMS:	Global Register Of Migratory Species
GTZ:	Gesellschaft für Technische Zusammenarbeit (German international development organisation)
HPAI:	High Pathogenic Avian Influenza
IAEA:	International Atomic Energy Agency (www.iaea.org)
IAIA:	International Association for Impact Assessment
IAGNBI:	International Advisory Group for the Northern Bald Ibis
IASC:	International Arctic Science Committee
IBA:	Important Bird Area
IBIS:	ICAO Bird Strike Information System
IBSC:	International Bird Strike Committee
ICAO:	International Civil Aviation Organization (www.icao.int)
ICAWM:	International Course on African Wetland Management
ICF:	International Crane Foundation
IEA:	Institute of Environmental Assessment
ICZM:	Integrated Coastal Zone Management
IPM:	Integrated Population Monitoring
IRBM:	Integrated River Basin Management
ISSAP:	International Single Species Action Plan
ITCZ:	Inter-Tropical Convergence Zone
IUCN:	The World Conservation Union or International Union for the Conservation of Nature
IWC:	International Waterbird Census: a global site-based counting scheme for monitoring waterbird numbers, organised since 1967; the primary focus is an annual coordinated waterbird census held in mid-January; (the same acronym stands for the International Whaling Commission)
IWMI:	International Water Management Institute (formal partner of the Ramsar Convention)
IWRB:	International Waterfowl and Wetlands Research Bureau (one of the founding organisations that became Wetlands International)
IWSG:	International Wader Study Group; one of the leading organisations in the field of global flyway developments
JAMBA:	Japan-Australia Migratory Birds Agreement
KAP:	Knowledge, Attitude and Practices
KISS AIDA:	Keep It Short and Simple in order to catch the audience's Attention, raise its Interest and instigate Desire that will lead to Action
KWSTI:	Kenya Wildlife Service Training Institute
LEK:	Local Environmental Knowledge
LPAI:	Low Pathogenic Avian Influenza
MBC:	Migratory Birds Commission; a commission of the CIC
M&E:	Monitoring and Evaluation
MEA:	Multinational Environment Agreement; collective name for the group of international conservation treaties like Ramsar, CBD, CMS and many others.
METT:	Management Effectiveness Tracking Tool
MoU:	Memorandum of Understanding; a much-used administrative tool to arrange for

	international cooperation and formulating the general principles, aims and goals of such a cooperation
MSY:	Maximum Sustainable Yield (the maximum number of individuals that can be taken sustainably without negatively influencing population trends)
NABU:	Naturschutzbund Deutschland; German nature conservation NGO and BirdLife International partner
NAWMP:	North American Waterfowl Management Plan
NBA:	Niger Basin Authority
NBI:	Nile Basin Initiative
NGO:	Non Governmental Organisation
NMBCA:	Neotropical Migratory Birds Conservation Act
NPV:	Net Present Value (see 'Glossary')
NT:	Near Threatened; a status category of IUCN Red List
NWC:	Neotropical Waterbird Census
NWP:	National Wetlands Policy
ONCFS:	Office National de la Chasse et de la Faune Sauvage; National Wildlife and Hunting Agency of France
PAME:	Protection of the Arctic Marine Environment Working Group
PoWER:	Partnership of Water Education and Research
PRCM:	Regional Coastal and Marine Conservation Programme for West Africa
PRA:	Participatory Rapid Appraisal
PTT:	Platform Terminal Transmitter
Ramsar:	Convention on Wetlands (Ramsar, Iran, 1971), (www.ramsar.org); (not an acronym as such, but a widely used shortened name for the convention)
RECCEE:	Regional Environmental Centre for Central and Eastern Europe
RIZA:	Dutch Research Institute on freshwater and wetlands
RPC:	Replacement Cost
RRS:	Radar Remote Sensing
RSIS:	Ramsar Sites Information Services (managed by Wetlands International)
SAFRING:	South African Bird Ringing Unit
SAP:	Species Action Plan
SbCWG:	Slender-billed Curlew Working Group
SBSTTA:	Subsidiary Body on Scientific, Technical and Technological Advice; an advisory body of the CBD
SEA:	Strategic Environmental Assessment
SIA:	Strategic Impact Assessment
SMART:	Specific, Measurable, Achievable/Appropriate, Realistic/Relevant, Time-bound/Timely; a way to analyse the specifics of a project and its possible achievements
SoC:	Statement of Cooperation
SOVON:	Dutch Organisation for Field Ornithology
SPA:	Special Protection Area
SSAP:	Single Species Action Plan
SSC:	Species Survival Commission; an IUCN commission
SSG:	Site Support Group
STRP:	Scientific and Technical Review Panel of the Ramsar Convention; an advisory body
SWOT:	Analysis of Strengths, Weaknesses, Opportunities and Threats (e.g. of a project or organisation)
TEV:	Total Economic Value
TIES:	The International Ecotourism Society
UK:	United Kingdom
UN:	United Nations (www.un.org)
UNDP:	United Nations Development Programme (www.undp.org)
UNECE:	United Nations Economic Commission for Europe (www.unece.org)
UNEP:	United Nations Environment Programme (www.unep.org)
UNEP-WCMC:	The UNEP World Conservation Monitoring Centre
UNESCO:	United Nations Educational, Scientific and Cultural Organisation; based in Paris, it is the official Depository of the Ramsar Convention (http://portal.unesco.org)
UNFSA:	United Nations Fish Stock Agreement (administered by the FAO)
UNOPS:	United Nations Office for Project Services (www.unops.org)

USA:	United States of America
USFWS:	United States Fish and Wildlife Service
USSR:	United Soviet Socialist Republics; the former Soviet Union
VU:	Vulnerable; a status category of IUCN Red List
WATC:	Wetland Advisory and Training Course; a well-known international course provided by the RIZA Institute in Lelystad The Netherlands, though no longer operating
WBDB:	World Bird Data Base (BirdLife International database on species and sites)
WBMS:	Wetland Biodiversity Monitoring Scheme for Eastern Africa
WCPA:	World Commission on Protected Areas; a commission of IUCN
WeBS:	Wetland Bird Survey (UK monitoring scheme for wetland birds)
WDPA:	World Database of Protected Areas (prepared by UNEP-WCMC, supported by IUCN WCPA)
WHMSI:	Western Hemisphere Migratory Species Initiative
WHSRN:	Western Hemisphere Shorebird Reserve Network (www.whsrn.org)
WISER:	Water Isotope System for data analysis, visualization and Electronic Retrieval
WLI:	Wetland Link International
WMBD:	World Migratory Bird Day; celebrated in the first half of May
WOW:	Wings Over Wetlands; a UNEP/GEF project to support the implementation of AEWA
WPE:	Waterbird Population Estimates; regular publication by Wetlands International with the world populations of all waterbird species, subspecies and populations
WSSD:	World Summit on Sustainable Development
WTP:	Willingness To Pay
WWD:	World Wetlands Day
WWF:	World Wide Fund for Nature
WWT:	Wildfowl and Wetlands Trust
YSPW:	Yemeni Society for the Protection of Wildlife

Annex 1. Complete list of all species under AEWA

Scientific name	English name
SPHENISCIDAE	
Spheniscus demersus	African Penguin
GAVIIDAE	
Gavia stellata	Red-throated Diver
Gavia arctica	Black-throated Diver
Gavia immer	Great Northern Diver
Gavia adamsii	White-billed Diver
PODICIPEDIDAE	
Tachybaptus ruficollis	Little Grebe
Podiceps cristatus	Great Crested Grebe
Podiceps grisegena	Red-necked Grebe
Podiceps auritus	Slavonian Grebe
Podiceps nigricollis	Black-necked Grebe
PHAETHONTIDAE	
Phaethon aethereus	Red-billed Tropicbird
Phaethon rubricauda	Red-tailed Tropicbird
Phaeton lepturus	White-tailed Tropicbird
PELECANIDAE	
Pelecanus onocrotalus	Great White Pelican
Pelecanus rufescens	Pink-backed Pelican
Pelecanus crispus	Dalmatian Pelican
SULIDAE	
Sula (Morus) bassana	Northern Gannet
Sula (Morus) capensis	Cape Gannet
Sula dactylatra	Masked Booby
PHALACROCORACIDAE	
Phalacrocorax coronatus	Crowned Cormorant
Phalacrocorax pygmeus	Pygmy Cormorant
Phalacrocorax neglectus	Bank Cormorant
Phalacrocorax carbo	Great Cormorant
Phalacrocorax nigrogularis	Socotra Cormorant
Phalacrocorax capensis	Cape Cormorant
FREGATIDAE	
Fregata minor	Great Frigatebird
Fregata ariel	Lesser Frigatebird
ARDEIDAE	
Egretta ardesiaca	Black Heron
Egretta vinaceigula	Slaty Egret
Egretta garzetta	Little Egret
Egretta gularis	Western Reef Egret
Egretta dimorpha	Mascarene Reef Egret
Ardea cinerea	Grey Heron
Ardea melanocephala	Black-headed Heron
Ardea purpurea	Purple Heron
Casmerodius albus	Great Egret
Mesophoyx intermedia	Intermediate Egret
Bubulcus ibis	Cattle Egret
Ardeola ralloides	Squacco Heron
Ardeola idae	Madagascar Pond-Heron
Ardeola rufiventris	Rufous-bellied Heron
Nycticorax nycticorax	Black-crowned Night-Heron
Ixobrychus minutus	Little Bittern
Ixobrychus sturmii	Dwarf Bittern
Botaurus stellaris	Great Bittern
CICONIIDAE	
Mycteria ibis	Yellow-billed Stork
Anastomus lamelligerus	African Openbill
Ciconia nigra	Black Stork
Ciconia abdimii	Abdim's Stork
Ciconia episcopus	Woolly-necked Stork
Ciconia ciconia	White Stork
Leptoptilos crumeniferus	Marabou Stork
BALAENICIPITIDAE	
Balaeniceps rex	Shoebill
THRESKIORNITHIDAE	
Plegadis falcinellus	Glossy Ibis
Geronticus eremita	Waldrapp
Threskiornis aethiopicus	Sacred Ibis

Annexes, Glossary, Acronyms & CD Contents

Scientific name	English name
Platalea leucorodia	Eurasian Spoonbill
Platalea alba	African Spoonbill
PHOENICOPTERIDAE	
Phoenicopterus ruber	Greater Flamingo
Phoenicopterus minor	Lesser Flamingo
ANATIDAE	
Dendrocygna bicolor	Fulvous Whistling Duck
Dendrocygna viduata	White-faced Whistling Duck
Thalassornis leuconotus	White-backed Duck
Oxyura leucocephala	White-headed Duck
Oxyura maccoa	Maccoa Duck
Cygnus olor	Mute Swan
Cygnus cygnus	Whooper Swan
Cygnus columbianus	Bewick's Swan
Anser brachyrhynchus	Pink-footed Goose
Anser fabalis	Bean Goose
Anser albifrons	Greater White-fronted Goose
Anser erythropus	Lesser White-fronted Goose
Anser anser	Greylag Goose
Branta leucopsis	Barnacle Goose
Branta bernicla	Brent Goose
Branta ruficollis	Red-breasted Goose
Alopochen aegyptiacus	Egyptian Goose
Tadorna ferruginea	Ruddy Shelduck
Tadorna cana	South African Shelduck
Tadorna tadorna	Common Shelduck
Plectropterus gambensis	Spur-winged Goose
Sarkidiornis melanotos	Comb Duck
Nettapus auritus	African Pygmy-goose
Anas penelope	Eurasian Wigeon
Anas strepera	Gadwall
Anas crecca	Common Teal
Anas capensis	Cape Teal
Anas platyrhynchos	Mallard
Anas undulata	Yellow-billed Duck
Anas acuta	Northern Pintail

Scientific name	English name
Anas erythrorhyncha	Red-billed Duck
Anas hottentota	Hottentot Teal
Anas querquedula	Garganey
Anas clypeata	Northern Shoveler
Marmaronetta angustirostris	Marbled Teal
Netta rufina	Red-crested Pochard
Netta erythrophthalma	Southern Pochard
Aythya ferina	Common Pochard
Aythya nyroca	Ferruginous Pochard
Aythya fuligula	Tufted Duck
Aythya marila	Greater Scaup
Somateria mollissima	Common Eider
Somateria spectabilis	King Eider
Polysticta stelleri	Steller's Eider
Clangula hyemalis	Long-tailed Duck
Melanitta nigra	Common Scoter
Melanitta fusca	Velvet Scoter
Bucephala clangula	Common Goldeneye
Mergellus albellus	Smew
Mergus serrator	Red-breasted Merganser
Mergus merganser	Goosander
GRUIDAE	
Balearica pavonina	Black Crowned Crane
Balearica regulorum	Grey Crowned Crane
Grus leucogeranus	Siberian Crane
Grus virgo	Demoiselle Crane
Grus paradisea	Blue Crane
Grus carunculatus	Wattled Crane
Grus grus	Common Crane
RALLIDAE	
Sarothrura elegans	Buff-spotted Flufftail
Sarothrura boehmi	Streaky-breasted Flufftail
Sarothrura ayresi	White-winged Flufftail
Rallus aquaticus	Water Rail
Rallus caerulescens	African Rail
Crecopsis egregia	African Crake
Crex crex	Corncrake
Amaurornis flavirostris	Black Crake

Scientific name	English name
Porzana parva	Little Crake
Porzana pusilla	Baillon's Crake
Porzana porzana	Spotted Crake
Aenigmatolimnas marginalis	Striped Crake
Porphyrio alleni	Allen's Gallinule
Gallinula chloropus	Common Moorhen
Gallinula angulata	Lesser Moorhen
Fulica cristata	Red-knobbed Coot
Fulica atra	Common Coot
DROMADIDAE	
Dromas ardeola	Crab Plover
HAEMATOPODIDAE	
Haematopus ostralegus	Eurasian Oystercatcher
Haematopus moquini	African Black Oystercatcher
RECURVIROSTRIDAE	
Himantopus himantopus	Black-winged Stilt
Recurvirostra avosetta	Pied Avocet
BURHINIDAE	
Burhinus senegalensis	Senegal Thick-knee
GLAREOLIDAE	
Pluvianus aegyptius	Egyptian Plover
Glareola pratincola	Collared Pratincole
Glareola nordmanni	Black-winged Pratincole
Glareola ocularis	Madagascar Pratincole
Glareola nuchalis	Rock Pratincole
Glareola cinerea	Grey Pratincole
CHARADRIIDAE	
Pluvialis apricaria	Eurasian Golden Plover
Pluvialis fulva	Pacific Golden Plover
Pluvialis squatarola	Grey Plover
Charadrius hiaticula	Common Ringed Plover
Charadrius dubius	Little Ringed Plover
Charadrius pecuarius	Kittlitz's Plover
Charadrius tricollaris	Three-banded Plover
Charadrius forbesi	Forbes's Plover
Charadrius pallidus	Chestnut-banded Plover

Scientific name	English name
Charadrius alexandrinus	Kentish Plover
Charadrius marginatus	White-fronted Plover
Charadrius mongolus	Mongolian Plover
Charadrius leschenaultii	Greater Sandplover
Charadrius asiaticus	Caspian Plover
Eudromias morinellus	Eurasian Dotterel
Vanellus vanellus	Northern Lapwing
Vanellus spinosus	Spur-winged Plover
Vanellus albiceps	White-headed Lapwing
Vanellus senegallus	Wattled Lapwing
Vanellus lugubris	Senegal Lapwing
Vanellus melanopterus	Black-winged Lapwing
Vanellus coronatus	Crowned Lapwing
Vanellus superciliosus	Brown-chested Lapwing
Vanellus gregarius	Sociable Plover
Vanellus leucurus	White-tailed Plover
SCOLOPACIDAE	
Scolopax rusticola	Eurasian Woodcock
Gallinago stenura	Pintail Snipe
Gallinago media	Great Snipe
Gallinago gallinago	Common Snipe
Lymnocryptes minimus	Jack Snipe
Limosa limosa	Black-tailed Godwit
Limosa lapponica	Bar-tailed Godwit
Numenius phaeopus	Whimbrel
Numenius tenuirostris	Slender-billed Curlew
Numenius arquata	Eurasian Curlew
Tringa erythropus	Spotted Redshank
Tringa totanus	Common Redshank
Tringa stagnatilis	Marsh Sandpiper
Tringa nebularia	Common Greenshank
Tringa ochropus	Green Sandpiper
Tringa glareola	Wood Sandpiper
Tringa cinerea	Terek Sandpiper
Tringa hypoleucos	Common Sandpiper
Arenaria interpres	Ruddy Turnstone
Calidris tenuirostris	Great Knot
Calidris canutus	Red Knot

Annexes, Glossary, Acronyms & CD Contents

Scientific name	English name
Calidris alba	Sanderling
Calidris minuta	Little Stint
Calidris temminckii	Temminck's Stint
Calidris maritima	Purple Sandpiper
Calidris alpina	Dunlin
Calidris ferruginea	Curlew Sandpiper
Limicola falcinellus	Broad-billed Sandpiper
Philomachus pugnax	Ruff
Phalaropus lobatus	Red-necked Phalarope
Phalaropus fulicaria	Grey Phalarope
STERCORARIIDAE	
Catharacta skua	Great Skua
Stercorarius longicaudus	Long-tailed Skua
LARIDAE	
Larus leucophthalmus	White-eyed Gull
Larus hemprichii	Sooty Gull
Larus canus	Common Gull
Larus audouinii	Audouin's Gull
Larus marinus	Great Black-backed Gull
Larus dominicanus	Kelp Gull
Larus hyperboreus	Glaucous Gull
Larus glaucoides	Iceland Gull
Larus argentatus	Herring Gull
Larus heuglini	Heuglin's Gull
Larus armenicus	Armenian Gull
Larus cachinnans	Yellow-legged Gull
Larus fuscus	Lesser Black-backed Gull
Larus ichthyaetus	Great Black-headed Gull
Larus cirrocephalus	Grey-headed Gull
Larus hartlaubii	Hartlaub's Gull
Larus ridibundus	Common Black-headed Gull
Larus genei	Slender-billed Gull
Larus melanocephalus	Mediterranean Gull
Larus minutus	Little Gull
Xema sabini	Sabine's Gull
Rissa tridactyla	Black-legged Kittiwake

Scientific name	English name
STERNIDAE	
Sterna nilotica	Gull-billed Tern
Sterna caspia	Caspian Tern
Sterna maxima	Royal Tern
Sterna bengalensis	Lesser Crested Tern
Sterna bergii	Great Crested Tern
Sterna sandvicensis	Sandwich Tern
Sterna dougallii	Roseate Tern
Sterna vittata	Antarctic Tern
Sterna hirundo	Common Tern
Sterna paradisaea	Arctic Tern
Sterna albifrons	Little Tern
Sterna saundersi	Saunders's Tern
Sterna balaenarum	Damara Tern
Sterna repressa	White-cheeked Tern
Sterna anaethetus	Bridled Tern
Sterna fuscata	Sooty Tern
Chlidonias hybridus	Whiskered Tern
Chlidonias leucopterus	White-winged Tern
Chlidonias niger	Black Tern
Anous stolidus	Brown Noddy
Anous tenuirostris	Lesser Noddy
RYNCHOPIDAE	
Rynchops flavirostris	African Skimmer
ALCIDAE	
Alle alle	Little Auk
Uria aalge	Common Guillemot
Uria lomvia	Brunnich's Guillemot
Alca torda	Razorbill
Cepphus grylle	Black Guillemot
Fratercula arctica	Atlantic Puffin

Annex 2. List of bird species mentioned in the modules

English name	Scientific name
Abdim's Stork	*Ciconia abdimii*
African Darter	*Anhinga rufa*
African Openbill	*Anastomus lamelligerus*
African Penguin	*Spheniscus demersus*
African Pochard	*Netta erythropthalma*
African Snipe	*Gallinago nigripennis*
African Spoonbill	*Platalea alba*
Alaotra Little Grebe	*Tachybaptus rufolavatus*
Allen's Gallinule	*Gallinula alleni*
Aquatic Warbler	*Acrocephalus paludicola*
Arctic Tern	*Sterna paradisaea*
Banded Stilt	*Cladorhynchus leucocephalus*
Bar-tailed Godwit	*Limosa lapponica*
Barnacle Goose	*Branta leucopsis*
Barn Swallow	*Hirundo rustica*
Bean Goose	*Anser fabilis*
Bewick Swan	*Cygnus bewicki*
Blackcap	*Sylvia atricapilla*
Black Crowned Crane	*Balearica pavonina*
Black-crowned Night Heron	*Nycticorax nycticorax*
Black-tailed Godwit	*Limosa limosa*
Blacksmith Lapwing	*Vanellus armatus*
Black Stork	*Ciconia nigra*
Black Tern	*Chlidonias niger*
Black-winged Stilt	*Himantopus himantopus*
Black-winged Pratincole	*Glareola nordmanni*
Bar-headed Goose	*Anser indicus*
Blue Crane	*Grus paradisea*
Brent Goose, Dark-bellied	*Branta bernicla bernicla*
Brent Goose, Light-bellied	*Branta bernicla hrota*
Bronze-winged Courser	*Rhinoptilus chalcopterus*
Brown-headed Gull	*Larus brunnicephalus*
Brown-chested Lapwing	*Vanellus supercilliosus*
Canada Goose	*Branta canadensis*
Cape Gannet	*Morus capensis*
Caspian Tern	*Sterna caspia*
Cattle Egret	*Bubulcus ibis*
Chaffinch	*Fringilla coelebs*

English name	Scientific name
Chestnut-banded Plover	*Charadrius pallidus*
Collared Pratincole	*Glareola pratincola*
Comb Duck	*Sarkidiornis melanotos*
Common Crane	*Grus grus*
Common Eider	*Somateria mollissima*
Common Greenshank	*Tringa nebularia*
Common Pochard	*Aythya ferina*
Common Redshank	*Tringa totanus*
Common Ringed Plover	*Charadrius hiaticula* (*hiaticula:* Europe breeding; *tundrae:* high Arctic breeding)
Common Sandpiper	*Actitis (Tringa) hypoleucos*
Common Snipe	*Gallinago gallinago* (*faeroeensis:* Icelandic race)
Common Starling	*Sturnus vulgaris*
Common Tern	*Sterna hirunda*
Corncrake	*Crex crex*
Curlew Sandpiper	*Calidris ferruginea*
Dalmatian Pelican	*Pelecanus crispus*
Damara Tern	*Sterna balaenarum*
Demoiselle Crane	*Grus virgo*
Dunlin	*Calidris alpina*
Egyptian Goose	*Alopochen aegyptiacus*
Eurasian Golden Plover	*Pluvialis apricaria*
Eurasian Oystercatcher	*Haematopus ostralegus*
Eurasian Spoonbill	*Platalea leucorodia leucorodia*
Eurasian Spoonbill	*Platalea leucorodia balsaci* (Mauritania)
Eurasian Spoonbill	*Platalea leucorodia archeri* (Red Sea)
Fairy Tern	*Gygis alba*
Ferruginous Duck	*Aythya nyroca*
Fulvous Whistling Duck	*Dendrocygna bicolor*
Garden Warbler	*Sylvia borin*
Garganey	*Anas querquedula*
Glossy Ibis	*Plegadis falcinellus*
Greater Flamingo	*Phoenicopterus roseus*
Great Bustard	*Otis tarda*
Great Cormorant	*Phalacrocorax carbo*
Great Crested Grebe	*Podiceps cristatus*
Great Snipe	*Gallinago media*
Great Tit	*Parus major*
Greater White-fronted Goose	*Anser albifrons*
Great White Pelican	*Pelecanus onocrotalus*

Annexes, Glossary, Acronyms & CD Contents

English name	Scientific name
Green Sandpiper	*Tringa ochropus*
Greenland White-fronted Goose	*Anser albifrons flavirostris*
Grey Crowned Crane	*Balearica regulorum*
Grey Heron	*Ardea cinerea*
Grey-headed Gull	*Larus cirrocephalus*
Greylag Goose	*Anser anser*
Grey Plover	*Pluvialis squatarola*
Hottentot Teal	*Anas hottentota*
House Crow	*Corvus splendens*
Ivory Gull	*Pagophila eburnea*
Kentish Plover	*Charadrius alexandrinus*
Kittlitz's Plover	*Charadrius pecuarius*
Knot	*Calidris canutus*
Lesser Flamingo	*Phoeniconaias minor*
Lesser Moorhen	*Gallinula angulata*
Lesser Noddy	*Anous tenuirostris*
Lesser White-fronted Goose	*Anser erythropus*
Little Stint	*Calidris minuta*
Maccoa Duck	*Oxyura maccoa*
Madagascar Pond-Heron	*Ardeola idae*
Madagascar Pratincole	*Glareola ocularis*
Mallard	*Anas platyrhynchos*
Manx Shearwater	*Puffinus puffinus*
Marbled Teal	*Marmaronetta angustirostris*
Marabou Stork	*Leptoptilos crumeniferus*
Montagu's Harrier	*Circus pygargus*
Mute Swan	*Cygnus olor*
Northern Bald Ibis	*Geronticus eremita*
Northern Fulmar	*Fulmarus glacialis*
Northern Gannet	*Sula (Morus) bassanus*
Northern Lapwing	*Vanellus vanellus*
Northern Shoveler	*Anas clypeata*
Northern Wheatear	*Oenanthe oenanthe*
Oriental Pratincole	*Glareola maldivarum*
Osprey	*Pandion haliaetus*
Pallas's Gull	*Larus ichthyaetus* (or Great Black-headed Gull)
Pied Flycatcher	*Ficedula hypoleuca*

English name	Scientific name
Pink-footed Goose	*Anser brachyrhynchus*
Purple Heron	*Ardea purpurea*
Purple Sandpiper	*Calidris maritima*
Red-billed Teal	*Anas erythrorhyncha*
Red-breasted Goose	*Branta ruficollis*
Red-necked Phalarope	*Phalaropus lobatus*
Reed Cormorant	*Phalacrocorax africana*
Roseate Tern	*Sterna dougallii*
Royal Tern	*Sterna maxima*
Ruddy Duck	*Oxyura jamaicensis*
Ruddy Shelduck	*Tadorna ferruginea*
Ruddy Turnstone	*Arenaria interpres*
Ruff	*Philomachus pugnax*
(African) Sacred Ibis	*Threskiornis aethiopicus*
Saddle-billed Stork	*Ephippiorhynchus senegalensis*
Sanderling	*Calidris alba*
Sandwich Tern	*Sterna sandvicensis*
Shoebill	*Balaeniceps rex*
Siberian Crane	*Grus leucogeranus*
Sociable Lapwing	*Vanellus gregarius*
Slaty Egret	*Egretta vinaceigula*
Slender-billed Curlew	*Numenius tenuirostris*
Slender-billed Gull	*Larus genei*
Sooty Tern	*Sterna fuscata*
Temminck's Stint	*Calidris temminckii*
Terek Sandpiper	*Xenus cinerea*
Tristan Albatross	*Diomedea dabbenena*
Western Sandpiper	*Calidris mauri*
Whimbrel	*Numenius phaeopus*
White-backed Duck	*Thalassornis leuconotus*
White-breasted Cormorant	*Phalacrocorax carbo lucidus* (a subspecies of Great Cormorant)
White-faced Whistling Duck	*Dendrocygna viduata*
White-headed Duck	*Oxyura leucocephala*
White Stork	*Ciconia ciconia*
White-rumped Sandpipe	*Calidris fuscicollis*
White-winged Black Tern	*Chlidonias leucopterus*
White-winged Flufftail	*Sarothrura ayresi*
Wood Sandpiper	*Tringa glareola*
Yellow-billed Duck	*Anas undulata*
Yellow-billed Stork	*Mycteria ibis*

Annex 3. Sites & wetland regions mentioned in the modules

The locations of selected sites are shown in the map below.

Aden Lagoons (Yemen)
Ahero rice scheme (Kenya)
Aldabra (Seychelles, Indian Ocean)
Al-Hawizeh marshes (Iraq)
Al-Hiswah (Yemen)
Amu Darya Delta (Uzbekistan)
Arabian Gulf (Middle East)
Aral Sea Basin (Central Asia)
Aride Island (Seychelles, Indian Ocean)
Armash Fish Farm, Ararat Valley (Armenia)
Ash Shuaibah (Saudi Arabia)
Awara (Japan)
Azov Sea (Ukraine)
Azores (Portugal, Atlantic Ocean)
Azraq Marshes (Jordan)
Babina polder (Danube Delta, Romania)
Bahi Swamp (Tanzania)
Baie de Somme (France)
Baltic republics (Estonia, Latvia, Lithuania)
Banc d'Arguin (Mauritania)
Bangweulu Swamps (Zambia)
Berg 3 mudflats (South Africa)
Berga wetlands (Ethiopia)
Breede River (South Africa)
Biharugra Fishponds (Hungary)
Black Sea (Eurasia)
Blue Lagoon National Park (Kafue Flats, Zambia)
Bijagós Archipelago (Guinea-Bissau)
Bolama Bijagós (Guinea-Bissau)
Bosporus (Turkey)
Bunyala rice scheme (Kenya)
Burdur Gölü (Turkey)
Cadiz Bay (Spain)
Camargue (France)
Caspian Sea (Central Asia/Caucasus)
Chari-Logone River (Chad)
Col de Bretolet (Switzerland)
Conkouati Lagoon (Congo)
Courland Spot (Baltic Republics/Russian Federation)
Danube Delta (Romania)
Dar Es Salaam Wetlands (Tanzania)
Dassen Island (South Africa)
Dee River (UK)
Deelpan (South Africa)
Diama Dam (Senegal/Mauritania)
Diawling National Park (Mauritania)
Dvina River (Estonia)
Djoudj National Park/Parc National des Oiseaux du Djoudj (Senegal)
Dyer Island (South Africa)
Eilat (Israel)
Elna marshes (Belorussia)
Etosha (Namibia)
Euphrates and Tigris Delta (Iraq)
Falsterbö (Sweden)
Fereydoon Kenar (Iran)
Fochteloerveen (The Netherlands)
Gibraltar
Gilan Provice (Iran)
Gotland (Sweden)
Gough Island (Tristan da Cunha)
Grand Affluents Ramsar site (Congo Basin)
Great Arctic Reserve, Taimyr (Russian Federation)
Haapsalu-Noarootsi Bays (Estonia)
Hadejia-Nguru Wetlands (Nigeria)
Holm of Papay (Orkney, Scotland, UK)
Hyde Park, London (UK)
IJsselmeer (The Netherlands)
IJsel River (The Netherlands)
Iles Tristao (Guinea)
Inaccessible Island (Tristan da Cunha)
Inner Niger Delta (Mali)
Iraqi Marshlands (or Mesopotamian Marshes, Iraq)
Islay (Scotland)
Jonglei Canal (Sudan)
Jordan Valley (Middle East)
Kafue Flats (Zambia)
Kamfers Dam (South Africa)
Kanin Peninsula (Russian Federation)
Keta Lagoon (Ghana)
Khartoum (Sudan)
Khuran Straits (Iran)
Korgalzhyn-Tengiz lakes (Kazakhstan)
Lac Alaotra (Madagascar)
Lac Faguibine (Mali)
Lac Fitri (Chad)
Lac Togo (Togo)
Lac Wouye (Senegal)

Annexes, Glossary, Acronyms & CD Contents

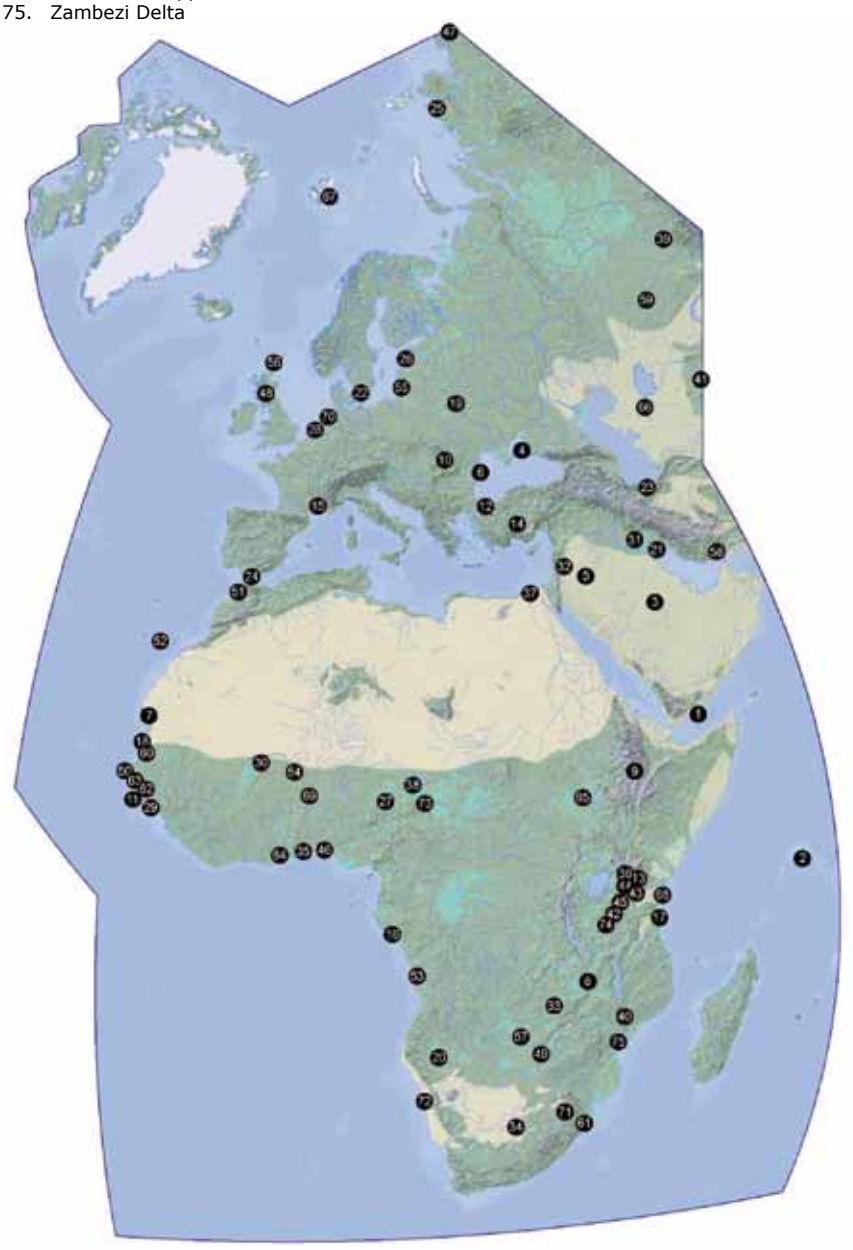
Lake Bogoria National Reserve (Kenya)
Lake Burullus (Egypt)
Lake Chad (Chad/Cameroon/Niger/Nigeria)
Lake Chany (West Siberia, Russian Federation)
Lake Chilwa (Malawi)
Lake Gilli (Armenia)
Lake Dengizkul (Uzbekistan)
Lake Eyasi (Tanzania)
Lake Malawi (Malawi/Mozambique)
Lake Manyara (Tanzania)
Lake Naivasha (Kenya)
Lake Nakuru (Kenya)
Lake Natron (Tanzania/Kenya)
Lake Sevan (Armenia)
Lake Victoria (Uganda/Kenya/Tanzania)
Langue de Barbarie (Senegal River Delta, Senegal)
Lekki wetlands (Lagos, Nigeria)
Lena Delta (Sakha Republic, Russian Federation)
Loch Garten (Scotland, UK)
Lochinvar National Park (Kafue Flats, Zambia)
Maga Dam (Cameroon)
Marais de Séné (France)
Marais de Moëze (France)
Makgadikgadi Pans (Botswana)
Malika (Senegal)
Mazandaran (Iran)
Merja Zerga (Morocco)
Montana Roja Reserve (Tenerife, Canary Islands, Spain)
Mopti (Mali)
Mujib River (Jordan)
Mussulo Lagoon (Angola)
Mwea rice Scheme (Kenya)
Namga-Kokorou (Niger)
Naurzum Lakes (Kazakhstan)
Nemunas River Delta (Lithuania)
Ngorongoro Crater (Tanzania)
Nile River (including White Nile and Blue Nile, Northeast Africa)
Niumi National Park (The Gambia)
North Hill, Papa Westray (Orkney, Scotland, UK)
Okavango Delta (Botswana)
Oostvaarders Plassen (The Netherlands)
Pani Bankhi Island (Iles Tristao, Guinea)
Plaine de Monchon (Guinea)
Qeshm Island (Iran)
Qinghai Lake (China)
Red Sea (Middle East/Northeast Africa)
Ria Formosa (Portugal)
Rift Valley (Eastern Africa & the Middle East)
Robben Island (South Africa)
Rysana Pan (Botswana)
Sandwich Harbour (Namibia)
Sardinia (Italy)
Saryarka Steppe and Lakes area (Kazakhstan)
Schouwen kust (The Netherlands)
Sea of Azov/Sivash (Ukraine)
Senegal River Delta (Senegal)
Serengeti (Tanzania)
Shire River (Malawi)
Shambe and Zeraf (Southern Sudan)
Siberia (part of the Russian Federation, though the name is not formally recognised internally)
iSimangaliso Wetland Park (formerly Greater St Lucia Wetland Park, South Africa)
Sine Saloum Delta (Senegal)
Sivash (Ukraine)
Skoppan (South Africa)
Snettisham Reserve (UK)
Somone Lagoon (Senegal)
Songor Lagoon (Ghana)
Spitsbergen (or Svalbard, Norway)
Sudd Swamps (Southern Sudan)
Sudochie Wetlands (Uzbekistan)
Swakopmund (Namibia)
Svalbard (=Spitsbergen)
Tana River Delta (Kenya)
Taimyr (northern Russia)
Tara (West Siberia)
Tobseda (Russian Federation)
Valdak marshes (Norway)
Volta River (Ghana, Burkina Faso)
W Park (transfrontier park of Benin, Burkina Faso and Niger)
Wadden Sea (The Netherlands, Germany and Denmark)
Wakkerstroom Wetlands (South Africa)
Walvis Bay (Namibia)
Waza Logone (Cameroon)
Wembere Steppe (Tanzania)
West Bank and Gaza Strip (Middle East)
White Sea (Russian Federation)
Zambezi Delta (Mozambique)

Location of selected sites in the AEWA region mentioned in the modules

Please note that these sites have not been selected on the basis of site importance, and the locations of many key sites for migratory waterbirds are not shown. The map is simply provided to indicate to readers the location of the main sites mentioned in the text.

Location of Sites

1. Aden Lagoons
2. Aride Island
3. Ash Shuaibah
4. Azov Sea/Sivash
5. Azraq Marshes
6. Babina polder (Danube Delta)
7. Banc d'Arguin
8. Bangweulu Swamps
9. Berga wetlands
10. Biharugra Fishponds
11. Bijagós Archipelago
12. Bosporus
13. Bunyala rice scheme
14. Burdur Gölü
15. Camargue
16. Conkouati Lagoon
17. Dar Es Salaam Wetlands
18. Diawling & Djoudj National Parks
19. Elna marshes
20. Etosha
21. Euphrates and Tigris Delta
22. Falsterbö
23. Fereydoon Kenar
24. Gibraltar
25. Great Arctic Reserve, Taimyr
26. Haapsalu-Noarootsi Bays
27. Hadejia-Nguru Wetlands
28. IJsselmeer
29. Iles Tristao
30. Inner Niger Delta
31. Iraqi Marshlands
32. Jordan Valley
33. Kafue Flats
34. Kamfers Dam
35. Lac Togo
36. Lake Bogoria National Reserve
37. Lake Burullus
38. Lake Chad
39. Lake Chany
40. Lake Chilwa
41. Lake Dengizkul
42. Lake Eyasi
43. Lake Naivasha
44. Lake Nakuru
45. Lake Natron
46. Lekki wetlands
47. Lena Delta
48. Loch Garten
49. Makgadikgadi Pans
50. Malika
51. Merja Zerga
52. Montana Roja Reserve
53. Mussulo Lagoon
54. Namga-Kokorou
55. Nemunas River Delta
56. North Hill, Papa Westray
57. Okavango Delta
58. Qeshm Island
59. Saryarka: Korgalzhyn-Tengiz/Naurzum
60. Senegal River Delta
61. iSimangaliso Wetland Park
62. Sine Saloum Delta/Saloum-Niumi
63. Somone Lagoon
64. Songor Lagoon
65. Sudd Swamps
66. Sudochie Wetlands
67. Svalbard/Spitsbergen
68. Tana River Delta
69. W Park
70. Wadden Sea
71. Wakkerstroom Wetlands
72. Walvis Bay/Sandwich Harbour
73. Waza Logone
74. Wembere Steppe
75. Zambezi Delta



The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever of the authors concerning the legal status of any country, territory, city or area of of its authorities, or concerning the delimitation of its frontiers or boundaries.

Annex 4. Edinburgh declaration

The Edinburgh Declaration

An international conference on waterbirds, their conservation and sustainable use was held in Edinburgh, Scotland, from 3–8 April 2004, and was attended by 456 participants from 90 countries.

Conscious that waterbird flyways are biological systems of migration paths that directly link sites and ecosystems in different countries and continents;

Recalling that the conservation and wise-use of waterbirds is a shared responsibility of nations and peoples and a common concern of human-kind;

Recalling also the long history of international co-operation for waterbird conservation developed over a hundred years with treaties such as that concerned with migratory birds in 1916 between USA and UK (on behalf of Canada), and that over 40 years ago, the first European Meeting on Wildfowl Conservation held in St. Andrews, Scotland in 1963, started a process leading to the establishment of the Convention on wetlands especially as waterfowl habitat in Ramsar, Iran, in 1971;

Noting that major international conferences in Noordwijk aan Zee, The Netherlands (1966), Leningrad, USSR (1968), Ramsar, Iran (1971), Astrakhan, USSR (1989), St. Petersburg Beach, Florida, USA (1992), Kushiro, Japan and Strasbourg, France (1994), have further developed international technical exchanges on waterbird conservation;

Aware of the development of further inter-governmental co-operation through the establishment and implementation of further treaties, agreements, strategies and programmes; and of the development of considerable non-governmental national and international co-operation in waterbird conservation and monitoring;

Conscious that at the World Summit on Sustainable Development, Johannesburg, South Africa, in 2002, world leaders expressed their desire to achieve *"a significant reduction in the current rate of loss of biological diversity"* by 2010, and that in February 2004 this target was further developed by the Seventh Conference of the Parties to the Biodiversity Convention, and **aware that** achieving this target will require significant investments and highly focused and co-ordinated conservation activity on all continents, and **recognising that** communication, education and public awareness and capacity building will play a key role in achieving this target;

Further conscious of the urgent need to strengthen international co-operation and partnerships between governments, inter-governmental and non-government organisations, local communities and the private sector;

Alarmed at the perilous state of many populations of waterbirds, in both terrestrial and marine ecosystems, and at the continued decline in quality and extent of the world's wetlands;

Noting the conclusions and priorities for further action identified by the many technical workshops and presentations made at this conference, and recorded subsequently in this Declaration.

Welcoming the joint initiative of Wetlands International, and government authorities in the United Kingdom and The Netherlands, with the support also of Australia, Denmark, USA, Japan, Germany, Sweden, Ireland, Belgium, Switzerland, UNEP/CMS, UNEP/AEWA, FACE, and CIC and with the input of many other organisations and individuals, in convening the conference *Waterbirds Around the World* in Edinburgh so as to review the current status of the world's waterbirds;

The Conference Participants, assembled together in Edinburgh —

Consider that although significant progress has been made to conserve waterbirds and their wetland habitats leading to some major successes, overall there remain important challenges, which, together with uncertainties about implications of future changes, requires further efforts and focused actions;

Reaffirm that, in the words of the Ramsar Convention, "*waterbirds, in their seasonal migrations may transcend frontiers and so should be regarded as an international resource*" and "*that the conservation of wetlands and their flora and fauna can be ensured by combining far-sighted national policies with co-ordinated international action*" and accordingly **urge that** efforts between countries to conserve waterbird populations and their wetland habitats are extended, not only for the values that waterbirds have in sustaining human populations, but also for their own sakes;

Consider that flyway conservation should combine species- and ecosystem-based approaches, internationally co-ordinated throughout migratory ranges;

Acknowledge that the conservation and sustainable use of waterbirds and wetland resources require co-ordinated action by public and private sectors, dependent local communities and other stakeholders;

Call in particular for urgent action to:

- Halt and reverse wetland loss and degradation;
- Complete national and international wetland inventories, and promote the conservation of wetlands of importance to waterbirds in the context of surrounding areas, especially through the participation of local communities;
- Extend and strengthen international networks of key sites for waterbirds along all flyways;
- Establish and extend formal agreements and other co-operation arrangements between countries to conserve species, where possible within the frameworks provided by the Conventions on Migratory Species, Biological Diversity and Wetlands;
- Fund and implement recovery plans for all globally threatened waterbird species;
- Halt and reverse recently revealed declines of long-distance migrant shorebirds through sustainable management by governments and others of human activities at sites of unique importance to them;
- Restore albatross and petrel populations to favourable conservation status through urgent and internationally co-ordinated conservation actions, especially through the framework provided by the Agreement on the Conservation of Albatrosses and Petrels;
- Substantially reduce pollution in the marine environment and establish sustainable harvesting of marine resources;
- Underpin future conservation decisions with high-quality scientific advice drawn from co-ordinated, and adequately funded, research and monitoring programmes notably the International Waterbird Census, and to this end, urge governments and other partners to work together collaboratively and supportively;
- Develop policy-relevant indicators of the status of the world's wetlands, especially in the context of the 2010 target, using waterbird and other data generated from robust and sustainable monitoring schemes;
- Invest in communication, education and public awareness activities as a key element of waterbird and wetlands conservation;
- Assess disease risk, and establish monitoring programmes in relation to migratory waterbird movements, the trade of wild birds, and implications for human health.

Urge that particular priority be given to capacity building for flyway conservation in countries and territories with limited institutions and resources, given that the wise-use of waterbirds and wetlands is important for sustainable development and poverty alleviation;

Strongly encourage countries to ratify and implement relevant conventions, agreements and treaties so as to encourage further international co-operation, and to make use of available resources including the Global Environment Facility in order to finance action required under this Declaration;

Consider that, with the long history of co-operative international assessments, waterbirds provide excellent indicators by which to evaluate progress towards achievement of the 2010 target established by world leaders in 2002, and to this end **Call on** the Conventions on Migratory Species, Biological Diversity and Wetlands, and other international agreements to work together and with other partners on such assessments, and in particular with Wetlands International to further develop the analytical content, of the triennial publication *Waterbird Population Estimates* and its use;

Stress the need for wide international dissemination of this Declaration and the technical outcomes of this Conference[1]; and

Agree to meet again as a conference in ten years time to review progress.

In support of the recommendations above, the Conference concluded the following:

- For the Flyways of the Americas, collaboration between North, Central and South America and Caribbean nations is developing, based on conclusions of the conference of nations to consider the status of migratory birds held during the VIIIth Neotropical Congress in Chile, and in the recent completion of a Waterbird Conservation Plan for the Americas. Despite more than a century of conservation efforts in North America and emergence of a shared vision for biologically-based, landscape orientated partnerships, it is clear that international co-operation amongst Pan-American countries sharing migratory birds should increase.
- In African-Eurasian Flyways, the generally good knowledge of waterbirds is not being effectively transferred into necessary national and local actions. Nor have conservation efforts led to maintaining or restoring the health of many waterbird populations, including globally threatened species. There are urgent needs to integrate waterbird conservation as part of sustainable development, to the greater benefit of local communities and other stakeholders dependent on wetlands as well as benefiting biodiversity. The African-Eurasian Waterbird Agreement (UNEP/AEWA) provides a good basis to achieve this.
- Intra-African Flyways are extremely poorly known and would benefit from greater attention.
- Many of the waterbirds of the Central Asian Flyway appear to be declining, although information on status and trends is generally poor. In most countries there has been little previous investment in conservation and low involvement of local stakeholders in the sustainable management of wetlands. An international framework for the development of conservation initiatives for migratory waterbirds in Central Asia is urgently required to promote co-operative action. Better information is needed to identify priority conservation issues and responses.
- The waterbirds of Asian-Australasian Flyways are the most poorly known, and the greatest number of globally threatened waterbirds occur here. This flyway extends across the most densely populated part of the world, where there are extreme pressures not only on unprotected wetlands but also on protected sites. Effective protection of wetlands of major importance is a critical need, as in other regions of the world. There are huge, and crucial, challenges in ensuring effective wise-use of key sites, as well as ensuring that consumptive uses of waterbirds are sustainable.
- Conservation of pelagic waterbirds in the open oceans gives a range of unique challenges. The entry into force of the Agreement on the Conservation of Albatrosses and Petrels is a most welcome development, and its full implementation is an urgent need. Addressing issues of seabird by-catch, especially by illegal and unregulated fisheries remains a critical need to reverse the poor conservation status of many species, as is the general need to achieve sustainable marine fisheries.
- Most of the world's known flyways originate in the Arctic. The recent development of international co-operation between arctic countries is welcome, as is the recognition of the crucial need to involve local communities and their traditional local knowledge in waterbird management. Austro-tropical Flyways also require research.
- Climate changes are already affecting waterbirds. The consequences of climate change for waterbirds will be multiple, and will greatly exacerbate current negative impacts such as habitat loss and degradation. There is a need for wide-scale planning, at landscape and flyway scales, to reduce or mitigate the impacts on waterbird populations and their habitats. Research that explores a range of potential future scenarios will be required to underpin this planning and will need data from long-term monitoring and surveillance.
- The conservation status of non-migrant waterbird populations around the world in many cases is poorer than that of migrants, and these waterbirds generally have less focused international attention than migrants. Addressing conservation requirements of non-migrant waterbirds should also be given national and international priority.
- On a densely populated planet it is crucial that waterbird conservationists focus on their relationships with communities and governments as the means both of reversing the causes of poor conservation status, and of resolving conflicts with protected species. Adequately funded

1 All papers published and available at www.jncc.gov.uk/worldwaterbirds

programmes of communication, education and public awareness need to be the core of all waterbird conservation initiatives.

- Science has identified the critical importance of a small number of key sites to long-distance migrant shorebirds and that human activities at some of these are responsible for recent dramatic declines in certain shorebird populations.
- Recent research has highlighted the genetic and demographic risks incurred by species that have small populations. These have implications for the design of species recovery programmes.
- The frequency and magnitude of disease losses among waterbirds (from emerging or re-emerging disease agents) have increased to the extent that they demand attention. These diseases not only affect waterbirds but have impacts on humans. Solutions require a multi-disciplinary approach.
- An integrated approach to the monitoring of waterbirds gives cost-effective identification of the reasons for waterbird population changes. There are good examples of the collection of demographic information and its integration with census data. Further such national and especially international schemes should be strongly encouraged and funded.
- Systematic analyses for atlases confirm the value of ringing studies in assessing the conservation status of breeding, wintering and stop-over sites within flyways. To this end, there should be integration of data from conventional ringing and colour-marking, telemetry, stable isotope analyses and genetic markers.

Opening session of the global flyway conference 'Waterbirds Around the World' in Edinburgh, April 2004 (photo: Dougie Barnett). With close to 500 participants, this was the largest flyways conference to ever take place, following in a tradition of flyways conferences held every 10 years or so, since the first one took place in St Andrews, Scotland in 1964. The ground-breaking proceedings of the conference (Boere *et al.* 2006) are a major source of references for this training kit.

Annex 5. List of flyway initiatives in the Western Hemisphere (North, Central and South America)

a. North American Waterfowl Management Plan (NAWMP)

The 'founding father' of the flyway concept, this plan concentrates on the conservation and sustainable management of migratory waterfowl in Canada, the USA and Mexico and is managed by four flyway councils. Originally signed in 1986 (after a long process of consultations and negotiations), it was updated in 1994 and 1998 and is being updated again.

b. Western Hemisphere Shorebird Reserve Network (WHSRN)

This is a network of larger wetlands, coastal areas and other sites in North, Central and South America selected on the basis that they support at least 5% of a flyway population. This is higher than the more commonly used Ramsar criterion of 1% of a flyway population. This means that the WHSRN aims at conserving the most important sites for migratory shorebirds. The WHSRN could form the backbone of a full flyway agreement for the Americas under the Bonn Convention if ever such an instrument were developed.

c. National Plans: e.g. US Shorebird Conservation Plan and Canadian Shorebird Plan

These are new initiatives at a national level but with wide ranging international implications, given the long distance migrations of the species that they cover and as activities often taken place on a flyway level.

d. Neotropical Migratory Bird Conservation Act (NMBCA)

This act came into force in the USA just before President Clinton finalised his term. The NMBCA is presently an important tool to finance projects to conserve North American migratory birds in their stop-over and wintering areas south of Mexico. The NMBCA also supports conservation projects for migratory passerine birds, birds of prey and others, as well as waterbirds.

e. Western Hemisphere Convention (Washington, 1940)

This is convention is not generally used anymore, although it could still serve as a tool for USA support for various programmes in Latin America. It could also form the international legal basis for a major flyway agreement covering the Americas, if a flyway Agreement under the Bonn Convention is not a way forward, given that key countries like Canada and the USA are not Parties to the Bonn Convention.

f. Partners in Flight (PIF, 1991) and the North American Bird Conservation Initiative (NABCI, 1999/2000)

These are mainly platforms to protect migratory birds in the whole of the Western Hemisphere involving a large number of stakeholders including governmental organisations, NGOs, private landowners and the corporate world.

g. Migratory Birds Convention Canada–USA (1906) and with Mexico (1936)

One of the oldest legal instruments, this convention includes substantive arrangements for the sustainable harvest of waterbird populations. A system of "flyway councils" is in place and facilitates many research projects on migratory species. It was amended in 1978.

h. Western Hemisphere Migratory Species Initiative (WHMSI)

This initiative brings together and stimulates migratory bird conservation activities in North, Central and South America (the Western Hemisphere). The WHMSI also embraces other migratory species, such as marine turtles, fish and butterflies.

Annex 6. International Waterbird Census Count Forms

For the AEWA region, there are regional count forms for the following regions:

- Western Africa (French & English)
- Central Africa (French)
- Eastern Africa (English)
- Madagascar & Indian Ocean (French)
- Southern Africa (English)
- Southwest Asia (English)
- Western Palearctic (English)
- Southwest Asia (English)

All these forms are available on CD1, and can be downloaded from the Wetlands International website: www.wetlands.org. All forms are designed to be concise, listing the most likely species to be encountered, as well as providing space for basic information about the count and site, such as name of site and observer(s), date, time and count condition.

It is recommended that users of the Training Kit print out a form appropriate for their region and insert it into the kit. As examples, the Southern Africa and Western Palearctic census forms are shown below:

Counting waterbirds at Tengiz Lake, Kazakhstan (photo: Edith Mayer).

COMPILER'S name and address:			**AFRICAN WATERBIRD CENSUS (AfWC) COUNT FORM**		WETLANDS INTERNATIONAL **BP 25581 Dakar-Fann, Senegal**
Other participants (names):			**SOUTHERN AFRICA**		afwc@wetlands.sn Fax. +221 338 251292
DATE OF COUNT:			**COUNTRY:**		
TIME OF DAY:		**VISIBILITY:** %			
NAME OF SITE:					
SITE COORDINATES (or GPS readings):					
PROVINCE/STATE:			**SITE CODE:**		
NEAREST LARGE TOWN:			(Wetlands International can supply this code)		
WAY OF COUNTING:			**HAS THE SITE BEEN COUNTED BEFORE?**		
Aerial	On Foot	Vehicle Boat Mixed	**YES**	**NO**	**If YES as part of a larger site, name below:**
CONDITION OF THE WETLAND (e.g. wet, dry, polluted, modified):			**COVERAGE OF THE WETLAND (APPROX.):** %		
			If less then 100%, show area covered on added sketch-map		
			TYPE OF COUNT:		**TOTAL COUNT** **SAMPLE COUNT**
SITE STATUS (protection / management / IBA / Ramsar Site):			**ACCURACY:**		**ACTUAL COUNT** **ESTIMATES**
National Park	Nature Reserve	Private No Status	Please mark species estimates with an 'E' after name		
IBA		Ramsar Site	**PRESENCE/ABSENCE:**		
Other (please specify):			If no counts are made, please record Presence with a 'Tick' (✓) or 'p'		
DISTURBANCE: LOW-FLYING AIRCRAFT MOTOR BOATS FISHING HUNTING/TRAPPING OTHER (specify):					
BREEDING BIRDS: Please mark any currently breeding species with a 'B' after name (and indicate number of pairs if known)					

Total	0	***GREBES***	*Total*	0	***STORKS***
TACRU		Little Grebe / Dabchick - *Tachybaptus ruficollis*	MYCIB		Yellow-billed Stork - *Mycteria ibis*
PODCR		Great Crested Grebe - *Podiceps cristatus*	ANALA		African Openbill - *Anastomus lamelligerus*
PODNI		Black-necked Grebe - *Podiceps nigricollis*	CICNI		Black Stork - *Ciconia nigra*
Total	0	***PELICANS***	CICAB		Abdim's Stork - *Ciconia abdimii*
PELON		Great White Pelican - *Pelecanus onocrotalus*	CICEP		Woolly-necked Stork - *Ciconia episcopus*
PELRU		Pink-backed Pelican - *Pelecanus rufescens*	CICCI		White Stork - *Ciconia ciconia*
PELEC		unidentified pelicans - *Pelecanus spp.*	EPHSE		Saddle-billed Stork - *Ephippiorhynchus senegalensis*
Total	0	***CORMORANTS & DARTER***	LEPCR		Marabou Stork - *Leptoptilos crumeniferus*
PHACA		White-breasted Cormorant - *Phalacrocorax carbo*	STORK		unidentified storks - *Ciconidae spp.*
PHACS		Cape Cormorant - *Phalacrocorax capensis*	*Total*	0	***IBISES & SPOONBILLS***
PHANE		Bank Cormorant - *Phalacrocorax neglectus*	THRAE		Sacred Ibis - *Threskiornis aethiopicus*
PHAAF		Reed Cormorant - *Phalacrocorax africanus*	GERCA		Southern Bald Ibis - *Geronticus calvus*
PHACO		Crowned Cormorant - *Phalacrocorax coronatus*	HAGHA		Hadada Ibis - *Bostrychia hagedash*
PHALA		unidentified cormorants - *Phalacrocorax spp.*	PLEFA		Glossy Ibis - *Plegadis falcinellus*
ANHRU		African Darter - *Anhinga rufa*	PLAAL		African Spoonbill - *Platalea alba*
Total	0	***HERONS & EGRETS***	*Total*	0	***HAMERKOP & SHOEBILL***
ARDCI		Grey Heron - *Ardea cinerea*	SCOUM		Hamerkop - *Scopus umbretta*
ARDME		Black-headed Heron - *Ardea melanocephala*	BALRX		Shoebill - *Balaeniceps rex*
ARDGO		Goliath Heron - *Ardea goliath*	*Total*	0	***FLAMINGOS***
ARDPU		Purple Heron - *Ardea purpurea*	PHORO		Greater Flamingo - *Phoenicopterus roseus*
EGRAL		Great White Egret - *Casmerodius albus*	PHOMI		Lesser Flamingo - *Phoenicopterus minor*
EGRVI		Slaty Egret - *Egretta vinaceigula*	PHOEN		unidentified flamingos - *Phoenicopteridae spp.*
EGRAR		Black Egret - *Egretta ardesiaca*	*Total*	0	***CRANES***
EGRIN		Yellow-billed Egret - *Mesophyx intermedia*	BUGCA		Wattled Crane - *Grus carunculatus*
EGRGA		Little Egret - *Egretta garzetta*	ANTPA		Blue Crane - *Grus paradisea*
BUBIB		Cattle Egret - *Bubulcus ibis*	BALRE		Grey Crowned Crane - *Balearica regulorum*
ARDRA		Squacco Heron - *Ardeola ralloides*	*Total*	0	***BIRDS OF PREY***
ARDID		Madagascar Squacco Heron - *Ardeola idae*	PANHA		Osprey - *Pandion haliaetus*
ARDRU		Rufous-bellied Heron - *Ardeola rufiventris*	HALVO		African Fish Eagle - *Haliaeetus vocifer*
BUTST		Green-backed/Striated Heron - *Butorides striatus*	CIRRA		African Marsh Harrier - *Circus ranivorus*
NYCNY		Black-crowned Night-heron *Nycticorax nycticorax*	CIRAE		European Marsh Harrier - *Circus aeruginosus*
NYCLE		White-backed Night-heron *Gorsachius leuconotus*	CIRPY		Montagu's Harrier - *Circus pygargus*
IXOMI		Little Bittern - *Ixobrychus minutus*	CIRMA		Pallid Harrier - *Circus macrourus*
IXOST		Dwarf Bittern - *Ixobrychus sturmii*	CIRMS		Black Harrier - *Circus maurus*
BOTST		Great Bittern - *Botaurus stellaris*	CIRCU		unidentified harriers - *Circus spp.*
ARDEI		unidentified Ardeidae - *Ardeidae spp.*	ASICA		Marsh Owl - *Asio capensis*

Total	0	***GEESE & DUCKS***	VANLU		Lesser Black-winged Lapwing *Vanellus lugubris*
DENBI		Fulvous Whistling-Duck - *Dendrocygna bicolor*	VANME		Black-winged Lapwing - *Vanellus melanopterus*
DENVI		White-faced Whistling-Duck *Dendrocygna viduata*	VANCO		Crowned Lapwing - *Vanellus coronatus*
THALE		White-backed Duck - *Thalassornis leuconotus*	VANSE		Wattled Lapwing - *Vanellus senegallus*
PLEGA		Spur-winged Goose - *Plectropterus gambensis*	PLUSQ		Grey Plover - *Pluvialis squatarola*
SARME		Knob-billed/Comb Duck - *Sarkidiornis melanotos*	CHAHI		Great/Common Ringed Plover *Charadrius hiaticula*
TADCA		South African Shelduck - *Tadorna cana*	CHAPE		Kittlitz's Plover - *Charadrius pecuarius*
ALOAE		Egyptian Goose - *Alopochen aegyptiacus*	CHATR		Three-banded Plover - *Charadrius tricollaris*
NETAU		African Pygmy-Goose - *Nettapus auritus*	CHAMA		White-fronted Plover - *Charadrius marginatus*
ANASP		African Black Duck - *Anas sparsa*	CHAPA		Chestnut-banded Plover - *Charadrius pallidus*
ANACA		Cape Teal - *Anas capensis*	CHAMO		Mongolian/Lesser Sand Plover *Charadrius mongolus*
ANAUN		Yellow-billed Duck - *Anas undulata*	CHALE		Greater Sandplover - *Charadrius leschenaultii*
ANAER		Red-billed Teal - *Anas erythrorhyncha*	CHAAS		Caspian Plover - *Charadrius asiaticus*
ANAHO		Hottentot Teal - *Anas hottentota*	LIMLI		Black-tailed Godwit - *Limosa limosa*
ANASM		Cape Shoveler - *Anas smithii*	LIMLA		Bar-tailed Godwit - *Limosa lapponica*
ANAQU		Garganey - *Anas querquedula*	NUMPH		Whimbrel - *Numenius phaeopus*
NETER		Southern Pochard - *Netta erythropthalma*	NUMAR		Eurasian Curlew - *Numenius arquata*
OXYMA		Maccoa Duck - *Oxyura maccoa*	TRIST		Marsh Sandpiper - *Tringa stagnatilis*
DUCKS		unidentified ducks - *Anatinae spp.*	TRINE		Common Greenshank - *Tringa nebularia*
Total	0	***RAILS, GALLINULES & COOTS***	TRIOC		Green Sandpiper - *Tringa ochropus*
RALCA		African Rail - *Rallus caerulescens*	TRIGL		Wood Sandpiper - *Tringa glareola*
COTRU		Red-chested Flufftail - *Sarothrura rufa*	XENCI		Terek Sandpiper - *Tringa cinerea*
COTBO		Streaky-breasted Flufftail - *Sarothrura boehmi*	ACTHY		Common Sandpiper - *Tringa hypoleucos*
COTAF		Striped Flufftail - *Saothrura affinis*	AREIN		Ruddy Turnstone - *Arenaria interpres*
COTEL		Buff-spotted Flufftail - *Saothrura elegans*	GALNI		Ethiopian Snipe - *Gallinago nigripennis*
CRECR		Corncrake - *Crex crex*	GALMD		Great Snipe - *Gallinago media*
POREG		African Crake - *Crecopsis egregia*	CALCA		Red Knot - *Calidris canutus*
PORFL		Black Crake - *Amaurornis flavirostra*	CALAA		Sanderling - *Calidris alba*
PORPU		Baillon's Crake - *Porzana pusilla*	CALMI		Little Stint - *Calidris minuta*
GALCH		Common Moorhen - *Gallinula chloropus*	CALFE		Curlew Sandpiper - *Calidris ferruginea*
GALAN		Lesser Moorhen - *Gallinula angulata*	PHIPU		Ruff - *Philomachus pugnax*
GALAL		Allen's/Lesser Gallinule - *Porphyrio alleni*	WADER		unidentified waders - *Charadrii spp.*
PORPO		Purple Gallinule - *Porphyrio porphyrio*	*Total*	0	***GULL, TERNS & SKIMMER***
FULCR		Red-knobbed Coot - *Fulica cristata*	LARDO		Kelp Gull - *Larus dominicanus*
RAILS		unidentified rallids - *Rallidae spp.*	LARFU		Lesser Black-backed Gull - *Larus fuscus*
Total	0	***FINFOOT & JACANAS***	LARSB		Sabine's Gull - *Larus sabini*
PODSE		African Finfoot - *Podica senegalensis*	LARCI		Grey-headed Gull - *Larus cirrocephalus*
MICCA		Lesser Jacana - *Microparra capensis*	LARHA		Hartlaub's Gull - *Larus hartlaubii*
ACTAF		African Jacana - *Actophilornis africana*	LARUS		unidentified gulls - *Larus spp.*
Total	0	***WADERS/SHOREBIRDS***	CHLNI		Black Tern - *Chlidonias niger*
ROSBE		Painted Snipe - *Rostratula benghalensis*	CHLHY		Whiskered Tern - *Chlidonias hybridus*
HAEMO		African Black Oystercatcher *Haematopus moquini*	CHLLE		White-winged Tern - *Chlidonias leucopterus*
DROAR		Crab Plover - *Dromas ardeola*	GELNI		Gull-billed Tern - *Gelochelidon nilotica*
HAEOS		Eurasian Oystercatcher - *Haematopus ostralegus*	STECA		Caspian Tern - *Sterna caspia*
HIMHI		Black-winged Stilt - *Himantopus himantopus*	STEHI		Common Tern - *Sterna hirundo*
RECAV		Pied Avocet - *Recurvirostra avosetta*	STEPA		Arctic Tern - *Sterna paradisaea*
BURCA		Spotted Thick-knee/Dikkop - *Burhinus capensis*	STEVI		Antarctic Tern - *Sterna vittata*
BURVE		Water Thick-knee/Dikkop - *Burhinus vermiculatus*	STEMA		Royal Tern - *Sterna maxima*
CURRU		Burchell's Courser - *Cursorius rufus*	STEBA		Damara Tern - *Sterna balaenarum*
CURTE		Temminck's Courser - *Cursorius temminckii*	STEAL		Little Tern - *Sterna albifrons*
RHIAF		Double-banded Courser - *Rhinoptilus africanus*	STEBR		Swift/Greater Crested Tern - *Sterna bergii*
RHICI		Three-banded Courser - *Rhinoptilus cinctus*	STEBE		Lesser Crested Tern - *Sterna bengalensis*
RHICH		Bronze-winged Courser *Rhinoptilus chalcopterus*	STESA		Sandwich Tern - *Sterna sandvicensis*
GLAPR		Red-winged Pratincole - *Glareola pratincola*	STEDO		Roseate Tern - *Sterna dougallii*
GLANO		Black-winged Pratincole - *Glareola nordmanni*	STEFU		Sooty Tern - *Sterna fuscata*
GLANU		Rock Pratincole - *Glareola nuchalis*	TERNS		unidentified terns - *Sterninae spp.*
VANCR		Long-toed Lapwing - *Vanellus crassirostris*	RYNFL		African Skimmer - *Rynchops flavirostris*
VANAR		Blacksmith Lapwing - *Vanellus armatus*	*Total*	0	***OTHER SPECIES:*** *use extra sheet if needed*
VANSP		Spur-winged Lapwing - *Vanellus spinosus*			
VANAL		White-crowned Lapwing - *Vanellus albiceps*	**TOTAL**	0	**BIRDS of _____ SPECIES**

Please return this form to your AfWC National Coordinator or to Wetlands International (for entry to AfWC database)

INTERNATIONAL WATERBIRD CENSUS

WESTERN PALEARCTIC

Wetlands International
PO Box 7002
6700 CA Wageningen
The Netherlands

COUNTRY	**REGION:**
NAME OF SITE:	**DATE:** ...../...../..... day month year
COVERAGE OF THE COUNT: partial / complete	**SITE CODE:**
TYPE OF COUNT: **On foot** ☐ **By boat** ☐ **Aerial** ☐ **Mixed** ☐	**HAS THE SITE BEEN COUNTED BEFORE?** Yes ☐ No ☐
CONDITION OF THE WETLAND (circle when true): **1. Normal** **2. Dry** **3. Frozen** **4. Disturbed**	
THREATS TO THE WETLAND (circle when true): **1. None** **X. Little** **Y. Many** **0. Unknown**	

DIVERS		**Counted?** Yes ☐ No ☐
GAVIM	_____	*Gavia immer* Great Northern Diver
GAVAD	_____	*Gavia adamsii* White-billed Diver
GAVAR	_____	*Gavia arctica* Black-throated Diver
GAVST	_____	*Gavia stellata* Red-throated Diver
GAVIA	_____	*Gavia* spp. unidentified divers

GREBES		**Counted?** Yes ☐ No ☐
TACRU	_____	*Tachybaptus ruficollis* Little Grebe
PODGR	_____	*Podiceps grisegena* Red-necked Grebe
PODCR	_____	*Podiceps cristatus* Great Crested Grebe
PODAU	_____	*Podiceps auritus* Slavonian Grebe
PODNI	_____	*Podiceps nigricollis* Black-necked Grebe
GREBE	_____	*Podicipedidae* spp. unidentified grebes

PELICANS		**Counted?** Yes ☐ No ☐
PELON	_____	*Pelecanus onocrotalus* White Pelican
PELCR	_____	*Pelecanus crispus* Dalmatian Pelican
PELEC	_____	*Pelecanus* spp. unidentified pelicans

CORMORANTS		**Counted?** Yes ☐ No ☐
PHACA	_____	*Phalacrocorax carbo* Great Cormorant
PHAAR	_____	*Phalacrocorax aristoteles* Shag
PHAPY	_____	*Phalacrocorax pygmaeus* Pygmy Cormorant
PHALA	_____	*Phalacrocorax* spp. unidentified cormorants

HERONS & EGRETS		**Counted?** Yes ☐ No ☐
ARDCI	_____	*Ardea cinerea* Grey Heron
EGRAL	_____	*Casmerodius albus* Great White Egret
EGRGA	_____	*Egretta garzetta* Little Egret
BUBIB	_____	*Bubulcus ibis* Cattle Egret
EGRET	_____	*Egretta/Bubulcus* spp. unidentified egrets
BOTST	_____	*Botaurus stellaris* Eurasian Bittern
ARDEI	_____	*Ardeidae* spp. unidentified Ardeidae

STORKS, IBISES & SPOONBILLS		**Counted?** Yes ☐ No ☐
CICNI	_____	*Ciconia nigra* Black Stork
CICCI	_____	*Ciconia ciconia* White Stork
PLEFA	_____	*Plegadis falcinellus* Glossy Ibis
PLALE	_____	*Platalea leucorodia* Eurasian Spoonbill

FLAMINGOS		**Counted?** Yes ☐ No ☐
PHORO	_____	*Phoenicopterus ruber roseus* Greater Flamingo

GEESE, SWANS & DUCKS		**Counted?** Yes ☐ No ☐
ANSFA	_____	*Anser fabalis* Bean Goose
ANSBR	_____	*Anser brachyrhynchus* Pink-footed Goose
ANSAL	_____	*Anser albifrons* White-fronted Goose
ANSEY	_____	*Anser erythropus* Lesser White-fronted Goose
ANSAN	_____	*Anser anser* Greylag Goose
ANSER	_____	*Anser* spp. unidentified grey geese
BRACA	_____	*Branta canadensis Canada Goose*
BRALE	_____	*Branta leucopsis* Barnacle Goose
BRABE	_____	*Branta bernicla* Brent Goose
BRARU	_____	*Branta ruficollis* Red-breasted Goose
CYGCY	_____	*Cygnus cygnus* Whooper Swan
CYGBE	_____	*Cygnus (columbianus) bewickii* Bewick's Swan
CYGOL	_____	*Cygnus olor* Mute Swan
SWANS	_____	*Cygnus* spp. unidentified swans
TADFE	_____	*Tadorna ferruginea* Ruddy Shelduck
TADTA	_____	*Tadorna tadorna* Shelduck
ALOAE	_____	*Alopochen aegyptiacus* Egyptian Goose
AIXGA	_____	*Aix galericulata* Mandarin Duck
ANAPE	_____	*Anas penelope* Eurasian Wigeon
ANAST	_____	*Anas strepera* Gadwall
ANACR	_____	*Anas crecca* Common Teal
ANAPL	_____	*Anas platyrhynchos* Mallard
ANAAC	_____	*Anas acuta* Northern Pintail
ANACL	_____	*Anas clypeata* Northern Shoveler
MARAN	_____	*Marmaronetta angustirostris* Marbled Teal
NETRU	_____	*Netta rufina* Red-crested Pochard
AYTFE	_____	*Aythya ferina* Pochard
AYTNY	_____	*Aythya nyroca* Ferruginous Duck
AYTFU	_____	*Aythya fuligula* Tufted Duck
AYTMA	_____	*Aythya marila* Greater Scaup
AYTHY	_____	*Aythya* spp. unidentified pochards
POLST	_____	*Polysticta stellerii* Steller's Eider
SOMMO	_____	*Somateria mollissima* Common Eider
SOMSP	_____	*Somateria spectabilis* King Eider
HISHI	_____	*Histrionicus histrionicus* Harlequin Duck
MELNI	_____	*Melanitta nigra* Common Scoter

Please return this form to your National Coordinator or to Wetlands International

MELFU	_____	*Melanitta fusca* Velvet Scoter
CLAHY	_____	*Clangula hyemalis* Long-tailed Duck
BUCCL	_____	*Bucephala clangula* Goldeneye
BUCIS	_____	*Bucephala islandica* Barrow's Goldeneye
MERAL	_____	*Mergellus albellus* Smew
MERSE	_____	*Mergus serrator* Red-breasted Merganser
MERME	_____	*Mergus merganser* Goosander
OXYJA	_____	*Oxyura jamaicensis* Ruddy Duck
OXYLE	_____	*Oxyura leucocephala* White-headed Duck
DUCKS	_____	*Anatinae* spp. unidentified ducks

CRANES **Counted? Yes ☐ No ☐**

GRUGR	_____	*Grus grus* Common Crane

RAILS & COOTS **Counted? Yes ☐ No ☐**

RALAQ	_____	*Rallus aquaticus* Water Rail
PORPA	_____	*Porzana parva* Little Crake
PORPZ	_____	*Porzana porzana* Spotted Crake
GALCH	_____	*Gallinula chloropus* Moorhen
PORPO	_____	*Porphyrio porphyrio* Purple Swamphen
FULAT	_____	*Fulica atra* Common Coot
FULCR	_____	*Fulica cristata* Crested Coot
FULIC	_____	*Fulica* spp. Unidentified coots
RALLI	_____	*Rallidae* spp. Unidentified rallids.

WADERS **Counted? Yes ☐ No ☐**

ROSBE	_____	*Rostratula benghalensis* Painted Snipe
HAEOS	_____	*Haematopus ostralegus* Eurasian Oystercatcher
HIMHI	_____	*Himantopus himantopus* Black-winged Stilt
RECAV	_____	*Recurvirostra avosetta* Avocet
BUROE	_____	*Burhinus oedicnemus* Stone Curlew
CURCU	_____	*Cursorius cursor* Cream-coloured Courser
VANVA	_____	*Vanellus vanellus* Northern Lapwing
VANSP	_____	*Vanellus spinosus* Spur-winged Plover
PLUAP	_____	*Pluvialis apricaria* Eurasian Golden Plover
PLUSQ	_____	*Pluvialis squatarola* Grey Plover
CHAHI	_____	*Charadrius hiaticula* Ringed Plover
CHADU	_____	*Charadrius dubius* Little Ringed Plover
CHAPE	_____	*Charadrius pecuarius* Kittlitz's Sandplover
CHAAL	_____	*Charadrius alexandrinus* Kentish Plover
CHALE	_____	*Charadrius leschenaultii* Greater Sandplover
CHARA	_____	*Charadrius* spp. unidentified Charadrius plovers
EUDMO	_____	*Eudromias morinellus* Eurasian Dotterel
LIMLI	_____	*Limosa limosa* Black-tailed Godwit
LIMLA	_____	*Limosa lapponica* Bar-tailed Godwit
NUMPH	_____	*Numenius phaeopus* Whimbrel
NUMTE	_____	*Numenius tenuirostris* Slender-billed Curlew
NUMAR	_____	*Numenius arquata* Eurasian Curlew
NUMEN	_____	*Numenius* spp. unidentified curlews
TRIER	_____	*Tringa erythropus* Spotted Redshank
TRITO	_____	*Tringa totanus* Common Redshank
TRIST	_____	*Tringa stagnatilis* Marsh Sandpiper
TRINE	_____	*Tringa nebularia* Common Greenshank
TRIOC	_____	*Tringa ochropus* Green Sandpiper
TRIGL	_____	*Tringa glareola* Wood Sandpiper
TRING	_____	*Tringa* spp. unidentified Tringa sandpipers
ACTHY	_____	*Actitis hypoleucos* Common Sandpiper
AREIN	_____	*Arenaria interpres* Ruddy Turnstone
SCORU	_____	*Scolopax rusticola* Eurasian Woodcock
GALGA	_____	*Gallinago gallinago* Common Snipe
LYMMI	_____	*Lymnocryptes minimus* Jack Snipe
CALCA	_____	*Calidris canutus* Red Knot
CALAA	_____	*Calidris alba* Sanderling
CALMI	_____	*Calidris minuta* Little Stint
CALMA	_____	*Calidris maritima* Purple Sandpiper
CALAL	_____	*Calidris alpina* Dunlin
CALID	_____	*Calidris spp.* unidentified Calidris sandpipers
PHIPU	_____	*Philomachus pugnax* Ruff
WADER	_____	*Charadrii* spp. unidentified waders

GULLS & TERNS **Counted? Yes ☐ No ☐**

LARAU	_____	*Larus audouinii* Audouin's Gull
LARCA	_____	*Larus canus* Common Gull
LARAR	_____	*Larus argentatus* Herring Gull
LARFU	_____	*Larus fuscus* Lesser Black-backed Gull
LARMA	_____	*Larus marinus* Great Black-backed Gull
LARHY	_____	*Larus hyperboreus* Glaucous Gull
LARGL	_____	*Larus glaucoides* Iceland Gull
LARIC	_____	*Larus ichthyaetus* Great Black-headed Gull
LARME	_____	*Larus melanocephalus* Mediterranean Gull
LARRI	_____	*Larus ridibundus* Black-headed Gull
LARGE	_____	*Larus genei* Slender-billed Gull
LARMI	_____	*Larus minutus* Little Gull
LARSB	_____	*Larus sabini* Sabine's Gull
LARUS	_____	*Larus* spp. unidentified gulls
CHLHY	_____	*Chlidonias hybridus* Whiskered Tern
CHLNI	_____	*Chlidonias niger* Black Tern
CHLID	_____	*Chlidonias* spp. unidentified marsh terns
STECA	_____	*Sterna caspia* Caspian Tern
STEHI	_____	*Sterna hirundo* Common Tern
STESA	_____	*Sterna sandvicensis* Sandwich Tern

BIRDS OF PREY **Counted? Yes ☐ No ☐**

PANHA	_____	*Pandion haliaetus* Osprey
HALAL	_____	*Haliaeetus albicilla* White-tailed Sea Eagle
CIRAE	_____	*Circus aeruginosus* Western Marsh Harrier

ADDITIONAL SPECIES

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

COMMENTS:

COMPILER'S NAME & ADDRESS:

Annex 7. International Waterbird Census Site forms and Site form guidelines

For the AEWA region, there are site forms for:

- Africa (French & English)
- Western Palearctic (English)

Both these forms are available on CD1, and can be downloaded from the Wetlands International website: www.wetlands.org. The forms are designed to be concise, and provide space for key information about the site, such as area, habitat types and protection status. The forms are fairly regularly updated and are likely to change in the future, especially due to developments of the IWC and steps to facilitate online submission of data. There is also a move to strengthen compatibility between IWC and IBA site forms. It is therefore wise for users of this Training Kit to check the Wetlands International website for the most recent forms.

Current versions of both forms are provided below, as well as the African Waterbird Census count form guidelines.

Various species of waterbird at a wetland in Armenia; different wetland habitats can clearly be seen, which should be recorded on the IWC site form, along with other attributes and information about the site (photo: M. Ghasabyan).

COMPILER'S name and address:	**AFRICAN WATERBIRD CENSUS (AfWC)** **SITE DESCRIPTION FORM**	WETLANDS INTERNATIONAL Rue 111, Villa No 39, Zone B Dakar, BP 25581 Dakar-Fann, Senegal afwc@wetlands.sn Fax. +221 33 825 12 92

DATE:	**COUNTRY:**
NAME OF SITE:	
PROVINCE/STATE: **NEAREST LARGE TOWN:**	**AfWC SITE CODE:** (Wetlands International can supply this code)
ALTITUDE metres: / **AREA** hectares:	**GEOGRAPHICAL COORDINATES:**
BRIEF DESCRIPTION OF THE SITE:	

WETLAND TYPE, please circle the appropriate Ramsar codes for wetland types, then rank in order of dominance, giving approx. percentage area if possible

Code	Rank / %age area	Marine/Coastal wetlands
A		Shallow marine waters
B		Subtidal aquatic beds
C		Coral reefs
D		Rocky marine shores
E		Sand, shingle or pebble shores
F		Estuarine waters
G		Intertidal mud, sand or salt flats
H		Salt marshes
I		Mangroves/Swamp forests
J		Coastal brackish/saline lagoons
K		Coastal freshwater lagoons
		Artificial wetlands
1		Aquaculture ponds
2		Ponds
3		Irrigated land
4		Seasonally flooded agricultural land
5		Salt exploitation sites
6		Water storage areas
7		Excavations
8		Wastewater treatment areas
9		Canals and channels

Code	Rank / %age area	Inland wetlands
L		Inland deltas
M		Permanent rivers/streams/creeks
N		Seasonal/intermittent/irregular rivers/streams/creeks
O		Permanent freshwater lakes
P		Seasonal/intermittent freshwater lakes
Q		Permanent saline/brackish/alkaline lakes
R *		Seasonal/intermittent saline/brackish/alkaline lakes
Sp		Permanent saline/brackish/alkaline marshes/pools
Ss *		Seasonal/intermittent saline/brackish/alkaline marshes/ pools
Tf		Floodplains [Floodplain Type: _____]
Tp		Permanent freshwater marshes/pools
Ts *		Seasonal/intermittent freshwater marshes/pools
Ts		Dambos/vleis
U		Peatlands (non-forested)
Va		Highlands wetlands
W *		Shrub-dominated wetlands
Xf *		Freshwater, tree-dominated wetlands
Xp *		Forested peatlands
Y		Freshwater springs; oases
Zg		Geothermal wetlands
	*	includes certain floodplain wetlands

PHYSICAL FEATURES (e.g. geology, soil type, climate):

ECOLOGICAL FEATURES (main habitats, noteworthy flora and fauna):

CURRENT (WET)LAND USE (tenure, ownership, site and surroundings):

THREATS; FACTORS (past, present or potential) **ADVERSELY AFFECTING THE SITE'S ECOLOGICAL CHARACTER:**

LEVELS OF DISTURBANCE (e.g. motor boats, fishing, low-flying aircraft) and of **HUNTING/TRAPPING** (mammals/birds; please quantify if possible):
CONSERVATION MEASURES (e.g. legal status of protection, management practices):
CURRENT SCIENTIFIC/OTHER RESEARCH; or DEVELOPMENT PROJECTS (brief details of projects, existence of field station, etc)
CURRENT CONSERVATION EDUCATION AND AWARENESS (visitor centre, hides, information etc):
CURRENT RECREATION AND TOURISM (e.g. type and frequency of tourism/recreation):

MANAGEMENT AUTHORITY (name & address of agency responsible for management of site)	Are **LOCAL COMMUNITIES** involved in wetland management? If so, how?

BIBLIOGRAPHICAL REFERENCES (scientific/technical /other):
OUTLINE MAP OF THE SITE, with important geographical features, scale and indicate North. Please attach any other additional maps.

Please return this form to your **AfWC National Coordinator** or **Wetlands International** West Africa Office (BP 25581 Dakar-Fann, Senegal)

Explanatory Note and Guidelines for the Site Description form of the African Waterbird Census

NB: This text is largely based on the text of the Explanatory Notes and Guidelines for the Ramsar Information Sheet of the Ramsar Convention.

Compiler's name and address: The full name, address and institution/agency of the person who compiled the Information Sheet, together with any telephone, fax, telex and e-mail numbers.

Date: The date on which the Site Description Form completed (or updated).

Country: The name of the country.

Name of site: The name of the site.

Province/State and Nearest large town: Names of state or region where the site is localised, and the name of the nearest large town.

Site code: A code for the site, to be designated by the National Coordinator or by Wetlands International (code is nine characters when designated by Wetlands International).

Altitude: The average and/or minimum and maximum elevation of the wetland in metres above mean sea level.

Area: The area of the designated site, in hectares (Alternatively, give length of river, in kms).

Geographical coordinates: The geographical coordinates (latitude and longitude) of the approximate centre of the wetland, expressed in degrees and minutes, or as GPS readings.

Brief description of the site: A brief text summary of the type of wetland (limited to not more than three sentences), also mentioning principal physical and ecological features.

Wetland Type: Please first specify the position of the site as a Marine or coastal wetland and/or an Inland wetland. Also note if the site includes or is a Man-made wetland. Circle the codes representing all of the wetland habitat types which are present within the site. Refer to the Ramsar Classification of "Wetland Type" in Annex I. Then list the selected wetland types from the most to the least dominant. It is recognised that this may be difficult for large sites with a variety of habitats, but a general indication of dominance is important for properly managing information on the site.

Physical features: A short description of the principal physical characteristics of the site, covering the following points where relevant:

- geology and geomorphology
- origins (natural or artificial)
- hydrology (including seasonal water balance, inflow and outflow)
- soil type and chemistry
- water quality (physiochemical characteristics)
- depth, fluctuations and permanence of water
- tidal variations
- catchment area
- downstream area (especially in the case of wetlands that are important in flood control)
- climate (only the most significant climatic features, e.g. annual rainfall, average temperature range, distinct seasons, and any other major factors affecting the wetland).

Hydrological values: A description of the principal hydrological values of the wetland, e.g. its role in the recharge and discharge of groundwater, flood control, sediment trapping, prevention of coastal erosion, and maintenance of water quality.

Ecological features: A description of the main habitats and vegetation types, listing the dominant plant communities and species, and describing any zonation, seasonal variations and long-term changes. Mention plant species that have been introduced (accidentally or on purpose) and species which are invasive. Include a brief note on the native natural plant communities in adjacent areas, as well as the present plant communities (including cultivation) if different from the native vegetation. Information on food chains should be included in this section.

Current land use: Principal human activities in (a) the site itself and (b) the surroundings and catchment. Give information on the human population in the area, with a description of the principal human activities and main forms of land use at the wetland, e.g. water supply for domestic and industrial use, irrigation, agriculture, livestock grazing, forestry, fishing, aquaculture and hunting. Some indication of the relative importance of each form of land use should be given whenever possible. In section (b) summarize land use in the catchment which might have a direct bearing on the wetland, and land use in any downstream areas likely to be affected by the wetland.

Factors Adversely affecting the site's ecological character: This could include changes in activities, land uses and major development projects at the site or in the catchment or elsewhere which have had, are having, or may have a detrimental effect on the natural ecological character of the wetland (e.g. diversion of water supplies, siltation, drainage, reclamation, pollution, over-grazing, excessive human disturbance, and excessive hunting and fishing). When reporting on pollution, special notice should be taken of toxic chemical pollutants and their sources; these should include industrial and agricultural based chemical effluents and other emissions. Natural events including vegetative succession, which have had, are having or are likely to have an impact on the ecological character of the site should be detailed, so as to facilitate monitoring. Please distinguish between potential and existing adverse factors and where possible, between adverse factors occurring in the site and those external to, but (possibly) affecting, the site. List introduced exotic species and give information on why and how they were introduced.

Conservation measures: Details of any protected areas established at or around the wetland, and any other conservation measures taken at the site, such as restrictions on development, management practices beneficial to wildlife, closures of hunting etc. Include information on any monitoring and survey methods and regimens in place at the site. If a reserve has been established, please give the date of establishment and size of the protected area. State whether a management plan exists, if it is officially approved and whether it has been implemented. Involvement of local communities and indigenous people in the management of site should also be described.

Current scientific research and facilities: Details of any current scientific research and information on any special facilities for research.

Current conservation education: Details of any existing programmes and facilities for conservation education and training and comments on the educational potential of the wetland.

Current recreation and tourism: Details of the present use of the wetland for recreation and tourism, with details of existing or planned facilities. Please state the annual number of tourists. Indicate if tourism is seasonal, and of what type.

Management authority: The name and address of the body responsible for the direct local conservation and management of the wetland.

Bibliographical references: A list of key references relevant to the wetland, including management plans, major scientific reports and bibliographies. When a large body of published material is available on the site, only the most important references need be cited, with priority being given to recent literature containing extensive bibliographies.

Outline map of site: The best possible and up-to-date map of the wetland available should be appended to the Site Description Form. The 'ideal' map will clearly show the area boundaries of the count unit, scale, latitude, longitude and compass bearing, administrative boundaries (e.g. province, district, etc.), and display basic topographical information, the distribution of the main wetland habitat types and notable hydrological features. It will also show major landmarks (towns, roads, etc.). Indications of land use activities are especially useful.

The optimum scale for a map depends on the actual area of the site depicted. In simplest terms, the site should be depicted in some detail.

INTERNATIONAL WATERBIRD CENSUS

WESTERN PALEARCTIC

Wetlands International
PO Box 7002
6700 CA Wageningen
The Netherlands

Please complete this form for new sites, and return to your National Coordinator

SITECODE:
(to be assigned by Wetlands International)

COUNTRY:

REGION:

NATIONAL CODE:

NAME OF SITE:

COORDINATES:

HABITAT I: (Circle 1 only)

A. Marine and Coastal
B. Inland
C. Man-made

HABITAT II: (Circle up to 2)

A. Marine
B. Estuaries
C. Lakes
D. Marshes
E. Rivers
G. Fishponds
H. Agricultural
I. Reservoir/Dam
J. Urban/Saltpans

HABITAT III: (Please circle most important, up to three)

Marine/Coastal wetlands

A Shallow marine waters
B Subtidal aquatic beds
C Coral reefs
D Rocky marine shores
E Sand, shingle or pebble shores
F Estuarine waters
G Intertidal mud, sand or salt flats
H Salt marshes
I Intertidal forested wetlands
J Coastal brackish/saline lagoons
K Coastal freshwater lagoons

Artificial wetlands

1 Aquaculture ponds
2 Ponds
3 Irrigated land
4 Seasonally flooded agricultural land
5 Salt exploitation sites
6 Water storage areas
7 Excavations
8 Wastewater treatment areas
9 Canals and channels

Inland wetlands

L Inland deltas
M Permanent rivers/streams/creeks
N Seasonal/intermittent/irregular rivers/streams/creeks
O Permanent freshwater lakes
P Seasonal/intermittent freshwater lakes
Q Permanent saline/brackish/alkaline lakes
R * Seasonal/intermittent saline/brackish/alkaline lakes
Sp Permanent saline/brackish/alkaline marshes/pools
Ss * Seasonal/intermittent saline/brackish/alkaline marshes/ pools
Tf Floodplains (please mention floodplain type under *)
Tp Permanent freshwater marshes/pools
Ts * Seasonal/intermittent freshwater marshes/pools Dambos/vleis
U Peatlands (non-forested)
Va Highlands wetlands
W * Shrub-dominated wetlands
Xf * Freshwater, tree-dominated wetlands
Xp * Forested peatlands
Y Freshwater springs; oases
Zk Subterranean karst wetlands
Zg Geothermal wetlands

* includes certain floodplain wetlands

AREA (ha):

RAINFALL:
(Annual average in mm)

DEPTH:
(Average in m)

SALINITY: (Circle 1 option)

1. Fresh
2. Brackish
3. Saline
0. Unknown

ACIDITY (pH): (Circle 1 option)

1. Acid (pH 0-6)
2. Alkaline (pH 8-14)
3. Neutral (pH 6-8)
0. Unknown

PROTECTION: (Circle 1 option)

1. Protected
2. Unprotected
3. Partially protected
0. Unknown

HUNTING: (Circle 1 option)

1. None
2. Little
3. Much
0. Unknown

FISHING: (Circle 1 option)

1. None
2. Little
3. Much
0. Unknown

AGRICULTURE: (Circle 1 option)

1. None
2. Low level (subsistence)
3. Intense
0. Unknown

COMMENTS:

WATER LEVEL MANAGEMENT: (Circle 1 option)

1. Water level control
2. Inactive water level control
3. No water level control
0. Unknown

(Please draw a sketch or attach a map on the reverse of this form, showing the boundaries of the area counted and its position to known landmarks such as cities, towns, mountains, rivers etc.)

MAP:

COMMENTS:

Please return this form to your National Coordinator or Wetlands International

Annex 8. IBA monitoring forms and guidelines

Monitoring Important Bird Areas in ……..

Help to monitor IBAs — key sites for biodiversity conservation! Please answer the questions below.

Give details wherever possible

Return a completed form once a year if you are resident at a site or a regular visitor.

Reports from any visit to an IBA are helpful. Please fill in relevant information any time.

Consider using sketch maps as an additional means of recording key results. For example, use sketch maps to show the precise location and extent of threat, sighting of key species, extent of particular habitats, routes taken and area surveyed, etc.

Return the completed form to the contact person at ……

PART I. ESSENTIAL INFORMATION (please use a different form for each site).

Name of the IBA_____Date_____

Your name_____

Postal address_____

Telephone/fax_____email_____

What area does this form cover? (tick one) ____ (a) The whole IBA ___(b) Just part of the IBA

If (b), which part / how much of the whole area?

Do you live at or near the IBA? ____(a) Yes ____(b) No

If (b) when did you visit the IBA and for how long?

What was the reason for your visit(s)?

Part II: MONITORING THE IBA

Answer all the questions as much as you can and fill in all the tables (i.e. provide sufficient information)
Please attach or send more sheets or other documents or reports as necessary, and add relevant logos if available.

Please send the completed form to: …….

Thank you for taking the time to fill in this form!

THREATS TO THE IBA ('PRESSURE')

General comments on threats to the site and any changes since your last assessment (if relevant):

THREAT TYPES	Score			Details
	Timing	Scope	Severity	
1. **Agricultural expansion or intensification**	Give details of specific crops, e.g. oil palm, or animals, e.g. cattle			
Annual crops - shifting agriculture				
Small-holder farming				
Agro-industry farming				
Perennial non-timber crops-Small holder plantations				
Agro-industry plantations				
Wood & pulp plantations Small-holder plantations				
Agro-industry plantations				
Livestock farming & ranching – Nomadic grazing				
Small-holder grazing, ranching or farming				
Agro-industry grazing, ranching or farming				
Marine & freshwater aquaculture, Subsistence or artisanal aquaculture				
Industrial aquaculture				
2. Residential & commercial development	Give details of type of development & issue			
Housing & urban areas				
Commercial & industrial areas				
Tourism & recreation areas				
3. Energy production & mining	Give details of specific resource & issue			
Oil & gas drilling				
Mining & quarrying				
Renewable energy				
4. Transportation & service corridors	Give details of specific type of transport & issue			
Roads & Railroads				
Flight paths				
Shipping lanes				
5. Over-exploitation, persecution & control of species	Give details of issue			
Direct mortality of 'trigger' species (those species for which the site is recognized as an IBA) hunting & trapping				
Persecution or control				
Indirect mortality (bycatch) of 'trigger' species - hunting				
Fishing				
Habitat effects – gathering plants				
Logging				
Fishing & harvesting aquatic resources				
6. Human intrusions & disturbance	Give details of specific activity & issue			
Recreational activities				
War, civil unrest & military exercises				
Work & other activities				
7. Natural system modifications	Give details of the alteration & issue			
Fire & fire suppression				
Dams & water management and/or use				
Other ecosystem modifications				
8. Invasive & other problem species & genes	Give details of invasive or problem species & issue			
Invasive alien species				
Problem native species				
Introduced genetic material				
9. Pollution	Give details of pollutant, source if known (e.g. agricultural, domestic, industrial) & issue			
Domestic & urban waste water				
Industrial & military effluents				

THREAT TYPES	Score			Details
	Timing	Scope	Severity	
Agricultural & forestry effluents & practices				
Garbage & solid waste				
Air-borne pollutants				
Noise pollution				
10. Geological events Give details of specific event and issue				
Volcanic eruptions				
Earthquakes and tsunamis				
Landslides				
11. Climate change & severe weather Give details of specific event and issue				
Habitat shifting & alteration				
Drought				
Floods				
12. Other: If the threat does not appear to fit in the scheme above, give details here of the threat, its source if known and how it is affecting the IBA.				
1				
2				
3				

Guidelines to score the threats to IBA table Please score each threat that is relevant to the important birds and habitats at the IBA. Threats should be based on your observations and information, and scored for Timing, Scope and Severity. In the 'details' column, please explain your scoring and make any other comments. Please note any changes in individual threats since the last assessment. If threats apply only to particular bird species, please say so.

Use the following guidelines to assign scores for Timing, Scope and Severity. The numbers are there to help you score, but are intended as guidance only. You don't need exact measurements to assign a score. For scoring combined threats, Timing, Scope & Severity scores should either be equal to or more than the highest scores for individual threats; scores cannot be less than those allocated to individual threats.

Timing of selected threat	**Timing score**
Happening now	3
Likely in short term (within 4 years)	2
Likely in long term (beyond 4 years)	1
Past (unlikely to return) and no longer limiting	0

Scope of selected threat	**Scope score**
Whole area or bird population (>90%)	3
Most of area or bird population (50-90%)	2
Some of area or bird population (10-50%)	1
Small area or few individual birds (<10%)	0

Severity of selected threat	**Severity score**
Rapid deterioration (>30% over 10 years or 3 generations whichever is longer)	3
Moderate deterioration (10–30% over 10 years or 3 generations)	2
Slow deterioration (1–10% over 10 years or 3 generations)	1
No or imperceptible deterioration (<1% over 10 years)	0

1. **Agricultural expansion & intensification** Threats from farming and ranching as a result of agricultural expansion and intensification, including silviculture, mariculture and aquaculture. Note that wood and pulp plantations include afforestation, and livestock farming and ranching includes forest grazing. Agricultural pest control and agricultural pollution-specific problems apply to 5. Overexploitation, persecution & control' and 'Pollution' respectively, apply to 9

2. **Residential & commercial development** Threats from human settlements or other non-agricultural land uses with a substantial footprint; resulting in habitat destruction and degradation, also causing mortality through collision. Note that domestic or industrial pollution-specific problems apply to 9.

3. **Energy production & mining** Threats from production of non-biological resources; resulting in habitat destruction and degradation, also causing mortality through collision. Note that renewable energy includes windfarms.

4. **Transportation & service corridors** Threats from long narrow transport corridors and the vehicles that use them, including shipping lanes and flight paths; resulting in habitat destruction and degradation, erosion, disturbance and collision.

5. **Over-exploitation, persecution & control** Threats from consumptive use of wild biological resources including both deliberate and unintentional harvesting effects; also persecution or control of specific species. Note that hunting includes egg-collecting, gathering includes firewood collection, and logging includes clear cutting, selective logging & charcoal production.

6. **Human intrusions & disturbance** Threats from human activities that alter, destroy and disturb habitats and species associated with non-consumptive uses of biological resources.

7. **Natural system modifications** Threats from actions that convert or degrade habitat in service of managing natural or semi-natural systems, often to improve human welfare. Note that 'other ecosystem modifications' includes intensification of forest management, abandonment of managed lands, reduction of land management, and over grazing. 'Dams & water management/use' includes construction and impact of dykes/dams/barrages, filling in of wetlands, groundwater abstraction, drainage, dredging and canalisation.

8. **Invasive & other problematic species & genes** Threats from non-native and native plants, animals, pathogens and other microbes, or genetic materials that have or are predicted to have harmful effects on biodiversity (through mortality of species or alteration of habitats) following their introduction, spread and/or increase in abundance.

BIRD POPULATIONS AND HABITATS ('STATE')

General comments on condition of the site and any changes since your last assessment (if relevant):

_____

_____

If you have **estimates or counts of bird populations**, or other information on the important bird species at the IBA, please summarise these in the table below:

Bird species or groups	Population estimate (Pairs or individuals)	Details or other comments

If you have information on the **area** of the natural habitats important for bird populations at the IBA, please summarise it below. Please note any major changes since the last assessment in the 'details' column.
Habitat area codes: Choose from:
Good (overall >90% of optimum), Moderate (70–90%), Poor (40–70%) or Very Poor (<40%).
If you do not know the actual habitat area, give your best assessment of the current habitat area at the site, in relation to its potential optimum if the site was undisturbed. The percentages are given as guidelines only: use your best estimate. Please justify your coding in the 'details' column.

Habitat	Current area (ha or km^2)	Details / comments / changes

If you have information on the **quality** of the natural habitats important for bird populations at the IBA, please summarise it below. Please note any major changes since the last assessment in the 'details' column.
Habitat quality rating: Choose from:
Good (overall >90% of optimum), Moderate (70-90%), Poor (40-70%) or Very Poor (<40%).
Give your best assessment of the average habitat quality across the site, in terms of its suitability for the important bird species. The percentage ranges relate to the population density of the 'trigger' species in its key habitat. Thus 100% means that the species is at carrying capacity in its habitat. The percentages are given as guidelines only: use your best estimate. Please justify your selection in the 'details' column.

Habitat	Quality rating	Details / comments / changes

CONSERVATION ACTIONS TAKEN AT IBA ('RESPONSE')

General comments on actions taken at the site, including recent changes or developments.

Please tick the space next to the text that applies for each conservation designation, management planning and conservation action below. Please add any details; where appropriate give a brief explanation for your choice.

CONSERVATION DESIGNATION

___Whole area of IBA (>90%) covered by appropriate conservation designation
___Most of IBA (50–90%) covered (including the most critical parts for the important bird species)
___Some of IBA covered (10–49%)
___Little or none of IBA covered (<10%)
Details and explanation:

MANAGEMENT PLANNING

___A comprehensive and appropriate management plan exists that aims to maintain or improve the populations of qualifying species
___A management plan exists but it is out of date or not comprehensive
___No management plan exists but the management planning process has begun
___No management planning has taken place
Details and explanation:

CONSERVATION ACTION

___The conservation measures needed for the site are being comprehensively and effectively implemented
___Substantive conservation measures are being implemented but these are not comprehensive and are limited by resources and capacity
___Some limited conservation initiatives are in place (e.g. action by Local Conservation Groups) Very little or no conservation action is taking place
Details and explanation:

PART III: PEOPLE, INSTITUTIONS AND ACTIVITIES

Local Conservation Groups

Please record any details of Local Conservation Groups (LCGs), e.g. Site Support Groups (SSGs), Caretaker Groups, established at the site in the table below:

LCG name	Number of members	Male members	Female members	Other information

Activities Undertaken at the IBA

In the table below, please indicate the activities undertaken at the IBA. This should include current activities, and activities carried out in the last four years.

Notes on action types in table

1. **Land and water protection** Actions to identify, establish or expand parks and other legally protected areas.
2. **Land and water management** Actions directed at conserving or restoring sites, habitats and the wider environment.
3. **Species management** Actions directed at managing or restoring species, focused on the species of concern itself.
4. **Education & awareness** Actions directed at people to improve understanding and skills, and influence behaviour
5. **Law & policy** Actions to develop, change, influence, and help implement formal legislation, regulations (including at the community level), and voluntary standards.
6. **Livelihood, economic & other incentives** Actions to use economic and other incentives and to influence behaviour.
7. **External capacity building** Actions to build infrastructure resulting in better conservation, including through civil society development (e.g. enhancing community role in decision-making on natural resource use).

Action type	Action undertaken by:					Details
	LCG	Other CBO	Birdlife partner	Government	Other (specify)	
1. Land / water protection						
Site or area protection						
Resource / habitat protection						
2. Land & water management						
General site or area management						
Invasive or problem species control						
Habitat & natural process restoration						
3. Species management						
General species management						
Species recovery						
Species (re)introduction						
4. Education & awareness						
Formal education						
Training						
Awareness, publicity & communication						
5. Law & policy						
Public legislation						
Policies and regulation						
Private sector standards & codes						
Compliance, enforcement & policing						
6. Livelihood, economic & other incentives						
Linked enterprises & livelihood alternatives (e.g. ecotourism)						
Substitution (alternative products to reduce pressure)						
Market forces (e.g. certification)						
Conservation payments						
Non-monetary values (e.g. spiritual, cultural)						
7. Capacity building						
Institutional & civil society development						
Alliance and partnership development						
Conservation finance						
8. Other (e.g. surveys, monitoring, research, EIAs)						
1						
2						
3						

PART IV: ADDITIONAL INFORMATION

Please give any further information or details that you think may be helpful. For example:

- Number of conservation staff and volunteers
- Number of visitors
- Revenue generated
- Interesting bird records
- Lists or details of other fauna or flora
- Useful contacts (for research or conservation projects, tourism initiatives etc.)
- Other notes.

Please attach or send more sheets or other documents/reports as necessary.

Annex 9. Ramsar Information Sheet

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

Note for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.

2. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Bureau. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

1. Name and address of the compiler of this form:

FOR OFFICE USE ONLY.

DD MM YY

Designation date

Site Reference Number

2. Date this sheet was completed/updated:

3. Country:

4. Name of the Ramsar site:

5. Map of site included:

Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps.

a) Hard copy (required for inclusion of site in the Ramsar List): *yes* -or- *no*

b) Digital (electronic) format (optional): *yes* -or- *no*

6. Geographical coordinates (latitude/longitude):

7. General location:

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

8. Elevation: (average and/or max. & min.)

9. Area: (in hectares) The Ramsar Site covers 596,908 hectares based on a flat projection.

10. Overview:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

11. Ramsar Criteria:

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

1 • 2 • 3 • 4 • 5 • 6 • 7 • 8

12. Justification for the application of each Criterion listed in 11. above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Group A of the Criteria: Sites containing representative, rare or unique wetland types

Criterion 1: A wetland should be considered internationally important if it contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographical region

Group B of the Criteria: Sites of international importance for conserving biological diversity

Criterion 2: A wetland should be considered internationally important if it supports vulnerable, endangered or critically endangered species or threatened ecological communities.

Criterion 3: A wetland should be considered internationally important if it supports population of plant and/or animal species important for maintaining the biological diversity of a particular biogeographical region

Criterion 4: A wetland should be considered internationally important if it supports plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions.

Criterion 5: A wetland should be considered internationally important if it regularly supports 20,000 or more water birds.

Criterion 6. A wetland should be internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbirds.

Criterion 7. A wetland should be internationally important if it supports a significant proportion of indigenous fish subspecies, species or families, life-history stages, species interactions and/or populations that are representative of wetland benefits and/or values and thereby contributes to global biological diversity.

Criterion 8. A wetland should be internationally important if it is an important source of food for fishes, spawning ground, nursery and/or migration path on which fish stocks, either within the wetland or elsewhere depend

---

13. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

b) biogeographic regionalisation scheme (include reference citation):

14. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

---

15. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

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16. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

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17. Wetland Types

a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

A • I • B • G • F• C • H • E • J • M • D • Ss • Sp • Ts • Tp

b) dominance:

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

Ranked from the most to the least dominant. The Ramsar Site is a Marine/Coastal Wetland.

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18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

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19. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

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20. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

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21. Social and cultural values:

e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values.

22. Land tenure/ownership:

23. Current land (including water) use:

24. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

25. Conservation measures taken:
List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

26. Conservation measures proposed but not yet implemented:
e.g. management plan in preparation; official proposal as a legally protected area, etc.

27. Current scientific research and facilities:
e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

28. Current conservation education:
e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

29. Current recreation and tourism:
State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

30. Jurisdiction:
Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

31. Management authority:
Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

32. Bibliographical references:
scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

Please return to: **Ramsar Convention Bureau, Rue Mauverney 28, CH-1196 Gland, Switzerland**
Telephone: **+41 22 999 0170** • Fax: **+41 22 999 0169** • e-mail: **ramsar@ramsar.org**

Additional Annexes & Contents provided on CD1

Examples of MoUs, SoCs and other instruments

SoC: Statement of Cooperation between the Biological Institute of the Siberian Branch of the Academy of Sciences, USSR, Novosibirsk and the Directorate for Nature Conservation, Environmental Protection and Wildlife Management, and the Research Institute for Nature Management, both of the Ministry for Agriculture, Nature Conservation and Fisheries, Den Haag, The Netherlands

MoU: Memorandum of Understanding concerning conservation measures for the Aquatic Warbler (*Acrocephalus paludicola*)

Strategy: Partnership for the East Asian – Australasian Flyway

Directive: Council Directive on the Conservation of Wild Birds (EU Birds Directive)

Convention: UNEP/CMS

Agreement: UNEP/AEWA (on CD4)

Convention: Ramsar (on CD3)

Ramsar Information Sheet guidelines

The RIS guidelines are also available on CD3.

IWC regional count forms

Western Africa (English, French & Portuguese)
Central Africa (French)
Eastern Africa (English)
Madagascar & Indian Ocean (French)
Southern Africa (English)
Western Palearctic (English)
Southwest Asia (English)

IWC Counter's Manual

IWC Guidelines for National Coordinators

Monitoring IBAs

Monitoring Important Bird Areas – a global framework
Monitoring IBAs in Africa – Biodiversity Status and Trends Report 2005

The Socio-Economics of Wetlands

Wetland Management Planning: A Guide for Site Managers

A Bird's Eye View on Flyways (UNEP/CMS 2009)

Species Action Planning

Species Action Plan Development Manual (BirdLife International)
Planning for the Future: Species Action Plans for threatened birds in Africa

Sustainable Hunting Project resources

Code of Practice for Responsible Hunting of Migratory Birds in MTC Countries

Guidelines for Moving Towards Sustainable Hunting of Migratory Birds in the Mediterranean Countries of North Africa and the Middle East

Regional Action Plan for Moving Towards Sustainable Hunting & the Conservation of Migratory Birds in the Southern And Eastern Mediterranean Region (2008-2013)

Bird Hunting Management in Mediterranean Third Countries of North Africa and the Middle East
The Use of Lead Shot for Bird Hunting in Wetlands in Mediterranean Third Countries

Contents of CD2: Session Plans, Presentations and Exercises

Session Plans

- Workshop Programme
- Workshop learning objectives
- Session Plans Module 1
- Session Plans Module 2
- Session Plans Module 3

PowerPoint Presentations

- Module 1
  - WOW PPT M1S1 Intro
  - WOW PPT M1S1L1 flyways
  - WOW PPT M1S1L2 migration & strategies
  - WOW PPT M1S2 Intro
  - WOW PPT M1S2L1 function of sites
  - WOW PPT M1S2L2 key gaps
  - WOW PPT M1S3 Intro
  - WOW PPT M1S3L1 population ecology
  - WOW PPT M1S3L2 flyway threats
  - WOW PPT M1S3L3 flyway initiatives
- Module 2
  - WOW PPT M2S1 Intro
  - WOW PPT M2S1L1 population dynamics
  - WOW PPT M2S1L2 wise use
  - WOW PPT M2S2 Intro
  - WOW PPT M2S2L1 monitoring
  - WOW PPT M2S2L2 migration study techniques
  - WOW PPT M2S2L3 species action plans
  - WOW PPT M2S2L4 sociable lapwing SAP
  - WOW PPT M2S3 Intro
  - WOW PPT M2S3L1 site conservation
  - WOW PPT M2S3L2 CSN Tool
  - WOW PPT M2S4 Intro
  - WOW PPT M2S4L1 site management
  - WOW PPT M2S4L2 community integration
  - WOW PPT M2S4L3 community involvement Djoudj
  - WOW PPT M2S5 Intro
  - WOW PPT M2S5L1 policies
  - WOW PPT M2S5L2 valuation
  - WOW PPT M2S5L3 capacity building
- Module 3
  - WOW PPT M3S1L1 Learning
  - WOW PPT M3S1L2 Team roles and group processes
  - WOW PPT M3S1L3 Curriculum Development
  - WOW PPT M3S2L1 Communication
  - WOW PPT M3S2L2 Advocacy

Exercises

- Module 1: Understanding the Flyway Approach. Exercises and Case studies
- Module 2: Applying the Flyway Approach. Exercises and Case studies

Contents of CD3: The Ramsar Convention

The Ramsar Convention Manual, 4th edition

The Ramsar Handbooks for the Wise Use of Wetlands, 3rd edition

- **Handbook 1 Wise use of wetlands** A Conceptual Framework for the wise use of wetlands
- **Handbook 2 National Wetland Policies** Developing and implementing National Wetland Policies
- **Handbook 3 Laws and institutions** Reviewing laws and institutions to promote the conservation and wise use of wetlands
- **Handbook 4 Wetland CEPA** The Convention's Programme on communication, education and public awareness (CEPA) 2003–2008
- **Handbook 5 Participatory skills** Establishing and strengthening local communities' and indigenous people's participation in the management of wetlands
- **Handbook 6 Water-related guidance** An Integrated Framework for the Convention's water-related guidance
- **Handbook 7 River basin management** Integrating wetland conservation and wise use into river basin management
- **Handbook 8 Water allocation and management** Guidelines for the allocation and management of water for maintaining the ecological functions of wetlands
- **Handbook 9 Managing groundwater** Managing groundwater to maintain ecological character
- **Handbook 10 Coastal management** Wetland issues in Integrated Coastal Zone Management
- **Handbook 11 Inventory, assessment, and monitoring** An Integrated Framework for wetland inventory, assessment, and monitoring
- **Handbook 12 Wetland inventory** A Ramsar Framework for wetland inventory
- **Handbook 13 Impact assessment** Guidelines for incorporating biodiversity-related issues into environmental impact assessment legislation and/or processes and in strategic environmental assessment
- **Handbook 14 Designating Ramsar Sites** Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance
- **Handbook 15 Addressing change in ecological character**
- **Handbook 16 Managing wetlands** Frameworks for managing Ramsar sites and other wetlands
- **Handbook 17 International cooperation** Guidelines for international cooperation under the Ramsar Convention on Wetlands

Resolution X.15 Describing the ecological character of wetlands, and data needs and formats for core inventory: harmonized scientific and technical guidance

Resolution X.21 Guidance on responding to the continued spread of highly pathogenic avian influenza

Resolution X.22 Promoting international cooperation for the conservation of waterbird flyways

Ramsar Information Sheet (RIS) and Explanatory Note and Guidelines for completing the RIS.

Resolution X.8 The Convention's Programme on communication, education, participation and awareness (CEPA) 2009–2015

A guide to participatory action planning and techniques for facilitating groups

Communication, Education and Public Awareness (CEPA): A toolkit

Contents of CD 4: AEWA

Introduction to AEWA (general introduction page)

Official Texts

Agreement Text and Action Plan (version adopted at MOP4)
Strategic Plan 2009–2017
International Implementation Tasks 2009–2016
Proceedings (MOP1–MOP4)
Proceedings of MOP4
Proceedings of MOP3
Proceedings of MOP2
Proceedings of MOP1
Species List (Multilingual List of all AEWA species)
AEWA Range Map

Technical Series

Technical Series No. 1: The Report on the Conservation Status of Migratory Waterbird in the Agreement Area
Technical Series No. 2: International Single Species Action Plan for the Conservation of the Sociable Lapwing *(Vanellus gregarius)*
Technical Series No. 3: Non-toxic shot - A path towards sustainable use of the waterbird resource
Technical Series No. 4: International Single Species Action Plan for the Conservation of the Black-winged Pratincole *(Glareola nordmanni)*
Technical Series No. 5: International Single Species Action Plan for the Conservation of the Great Snipe (*Gallinago media*)
Technical Series No. 7: International Single Species Action Plan for the Conservation of the Ferruginous Duck *(Aythya nyroca)*
Technical Series No. 6: Report on the Conservation Status of Migratory Waterbirds in the Agreement area, *2nd edition (2002)* (under preparation - will soon be made available on the AEWA website
Technical Series No. 8: International Single Species Action Plan for the Conservation of the White-headed Duck *(Oxyura leucocephala)*
Technical Series No. 9: International Single Species Action Plan for the Conservation of the Corncrake *(Crex crex)*
Technical Series No. 10: International Single Species Action Plan for the Conservation of the Northern Bald Ibis *(Geronticus eremita)*
Technical Series No. 11: International Single Species Action Plan for the Conservation of the Light-bellied Brent Goose *(Branta bernicla hrota)*
Technical Series No. 12: Guidelines on Avoidance of Introductions of non-native Waterbird Species
Technical Series No. 13: Report on the Conservation Status of Migratory Waterbirds in the Agreement Area
Technical Series No. 14: International Single Species Action Plan for the Conservation of the Maccoa Duck *(Oxyura maccoa)*
Technical Series No. 15/AEWA Conservation Guidelines No. 1 Guidelines on the preparation of National Single Species Action Plans for migratory waterbirds
Technical Series No. 16/AEWA Conservation Guidelines No: 2 Guidelines on identifying and tackling emergency situations for migratory waterbirds
Technical Series No. 17/AEWA Conservation Guidelines No: 3 Guidelines on the preparation of site inventories for migratory waterbirds
Technical Series No. 18/AEWA Conservation Guidelines No: 4 Guidelines on the management of key sites for migratory waterbirds
Technical Series No. 19/AEWA Conservation Guidelines No: 5 Guidelines on sustainable harvest of migratory waterbirds

Technical Series No. 20/AEWA Conservation Guidelines No: 6 Guidelines on regulating trade in migratory waterbirds
Technical Series No. 21: Report on effects of climate change on migratory birds within the African-Eurasian flyways (under preparation - will soon be made available on the AEWA website)
Technical Series No. 22/AEWA Conservation Guidelines No: 7 Guidelines on the development of ecotourism at wetlands
Technical Series No. 23/AEWA Conservation Guidelines No: 8 Guidelines on reducing crop damage, damage to fisheries, bird strikes and other forms of conflict between waterbirds and human activities
Technical Series No. 24/AEWA Conservation Guidelines No: 9 Guidelines for a waterbird monitoring protocol
Technical Series No. 25: Review of the status of non-native Waterbird Species in the AEWA area**,** 1st edition (2002) (under preparation - will soon be made available on the AEWA website)
Technical Series No. 26/AEWA Conservation Guidelines No: 12 Guidelines on measures needed to help waterbirds to adapt to climate change (under preparation - will soon be made available on the AEWA website)
Technical Series No. 27/AEWA Conservation Guidelines No: 11 Guidelines on how to avoid, minimize or mitigate impact of infrastructural developments and related disturbance affecting waterbirds (under preparation - will soon be made available on the AEWA website)
Technical Series No. 28: Report on the conservation status of migratory waterbirds within the Agreement area, 4th edition (under preparation - will soon be made available on the AEWA website)
Technical Series No. 29: Review of the hunting and trade legislation (under preparation - will soon be made available on the AEWA website)
Technical Series No. 30: Review of the stage of preparation and implementation of Single Species Action Plans (under preparation - will soon be made available on the AEWA website)
Technical Series No. 31: Review of waterbird re-establishment projects (under preparation - will soon be made available on the AEWA website)
Technical Series No. 32: Review of the status of introduced non-native waterbird species (under preparation - will soon be available at the AEWA website)
Technical Series No. 33: Report on progress in phasing out lead shot for hunting in wetlands (under preparation - will soon be made available on the AEWA website)
Technical Series No. 34: International Single Species Action Plan for the Conservation of the Lesser Flamingo *Phoeniconaias minor*
Technical Series No. 35: International Single Species Action Plan for the Conservation of the Eurasian Spoonbill *Platalea leucorodia*
Technical Series No. 36: Single Species Action Plan for the Conservation of the Lesser White-fronted Goose (Western Palearctic Population) *Anser erythropus*
Technical Series No. 37: International Single Species Action Plan for the Conservation of the Black-tailed Godwit *Limosa limosa* (under preparation - will soon be made available on the AEWA website)
Technical Series No. 38: International Single Species Action Plan for the Conservation of the White-winged Flufftail *Sarothrura ayresi* (under preparation - will soon be made available on the AEWA website)
Technical Series No. 39: International Single Species Action Planfor the Conservation of the Madagascar Pond Heron *Ardeola idea* (under preparation - will soon be made available on the AEWA website)

AEWA International Implementation Reviews (as required by paragraph 7.4 of the AEWA Action Plan)

Conservation Status Reports (CSR)

CSR4
CSR3
CSR2
CSR1

Review of the hunting and trade legislation
Synthesis of National Reports regarding phasing out lead shot for hunting in wetlands
Review of waterbird re-establishment projects
Review of the status of introduced non-native waterbird species
1st Edition - Review of the status of introduced non-native waterbird species
2nd Edition - Review of the status of introduced non-native waterbird species
Review of the stage of preparation and implementation of Single Species Action Plans

Conservation Guidelines

Conservation Guidelines No: 1 Guidelines on the preparation of National Single Species Action Plans for migratory waterbirds
Conservation Guidelines No: 2 Guidelines on identifying and tackling emergency situations for migratory waterbirds
Conservation Guidelines No: 3 Guidelines on the preparation of site inventories for migratory waterbirds
Conservation Guidelines No: 4 Guidelines on the management of key sites for migratory waterbirds
Conservation Guidelines No: 5 Guidelines on sustainable harvest of migratory waterbirds
Conservation Guidelines No: 6 Guidelines on regulating trade in migratory waterbirds
Conservation Guidelines No: 7 Guidelines on the development of ecotourism at wetlands
Conservation Guidelines No: 8 Guidelines on reducing crop damage, damage to fisheries, bird strikes and other forms of conflict between waterbirds and human activities
Conservation Guidelines No: 9 Guidelines for a waterbird monitoring protocol
Conservation Guideline No: 11: Guidelines on how to avoid, minimize or mitigate impact of infrastructural developments and related disturbance affecting waterbirds (under preparation - will soon be made available on the AEWA website)
Conservation Guideline No: 12: Guidelines on measures needed to help waterbirds to adapt to climate change (under preparation - will soon be made available on the AEWA website)

Single Species Action Plans

International Single Species Action Plan for the Conservation of the Madagascar Pond Heron (*Ardeola idea*) (under preparation - will soon be available at the AEWA website)
International Single Species Action Plan for the Conservation of the White-winged Flufftail (*Sarothrura ayresi*) (under preparation - will soon be available at the AEWA website)
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International Single Species Action Plan for the Conservation of the Great Snipe *(Gallinago media)*
International Single Species Action Plan for the Conservation of the Black-winged Pratincole *(Glareola nordmanni)*
International Single Species Action Plan for the Conservation of the Sociable Lapwing *(Vanellus gregarius)*

Other Publications

AEWA 10th Year Anniversary Brochure
AEWA Popular Series
- Migratory Waterbirds and Climate Change
- Phasing out the use of lead shot for hunting in wetlands

Posters
- AEWA Flyway Posters
  - Dark-bellied Brent goose
  - Greater and Lesser Flamingos
  - Black Stork
  - Common Crane
  - Madagascar Pond Heron
  - Sociable Lapwing
- World Migratory Bird Day (WMBD) Posters
  - WMBD 2006
  - WMBD 2007
  - WMBD 2008
  - WMBD 2009

Slender-billed Curlew Identification Kit
Avian Influenza Brochure (AI Taskforce)
- English
- French
- Spanish
- Arabic
- Russian
- Chinese
- German

Multimedia

Film: Introduction to AEWA
Powerpoint Presentation: Introduction to AEWA
World Migratory Bird Day (WMBD) Trailer
Wings Over Wetlands (WOW) Project Trailer

Websites

AEWA Website: http://www.unep-aewa.org
AEWA Technical Committee Workspace: http://tcworkspace.aewa.info/
Wings Over Wetlands (WOW) Project Website: http://www.wingsoverwetlands.org/
World Migratory Bird Day (WMBD) Website: http://www.worldmigratorybirdday.org
AFRING – African Bird Ringing Scheme Website: http://www.afring.org
AIWEb – The Avian Influenza, Wildlife and the Environment Web: www.aiweb.info