



IWC Meeting
Saturday, 9 April 2022
Lucerne - Switzerland

MEDITERRANEAN WATERBIRDS NETWORK (MWN)



IWC MEETING – EBCC



FONDS FRANÇAIS POUR
L'ENVIRONNEMENT MONDIAL

2012: African data on waterbirds census were not regular enough



How can we rightly estimate the status of waterbirds populations (status, size and trends) and the international importance of wetlands ?



2012-2017 : The AEWA Plan of Action for Africa, 5 Objectives:

1. **Conservation measures (legislation , key sites id°...)**
2. Sustainable use of waterbirds (legislation , illegal killing ...)
3. **Improve knowledge : IWC data quality and quantity**
4. Improve communication, education
5. **Improve capacity for international cooperation (trainings in international wildlife training center...).**



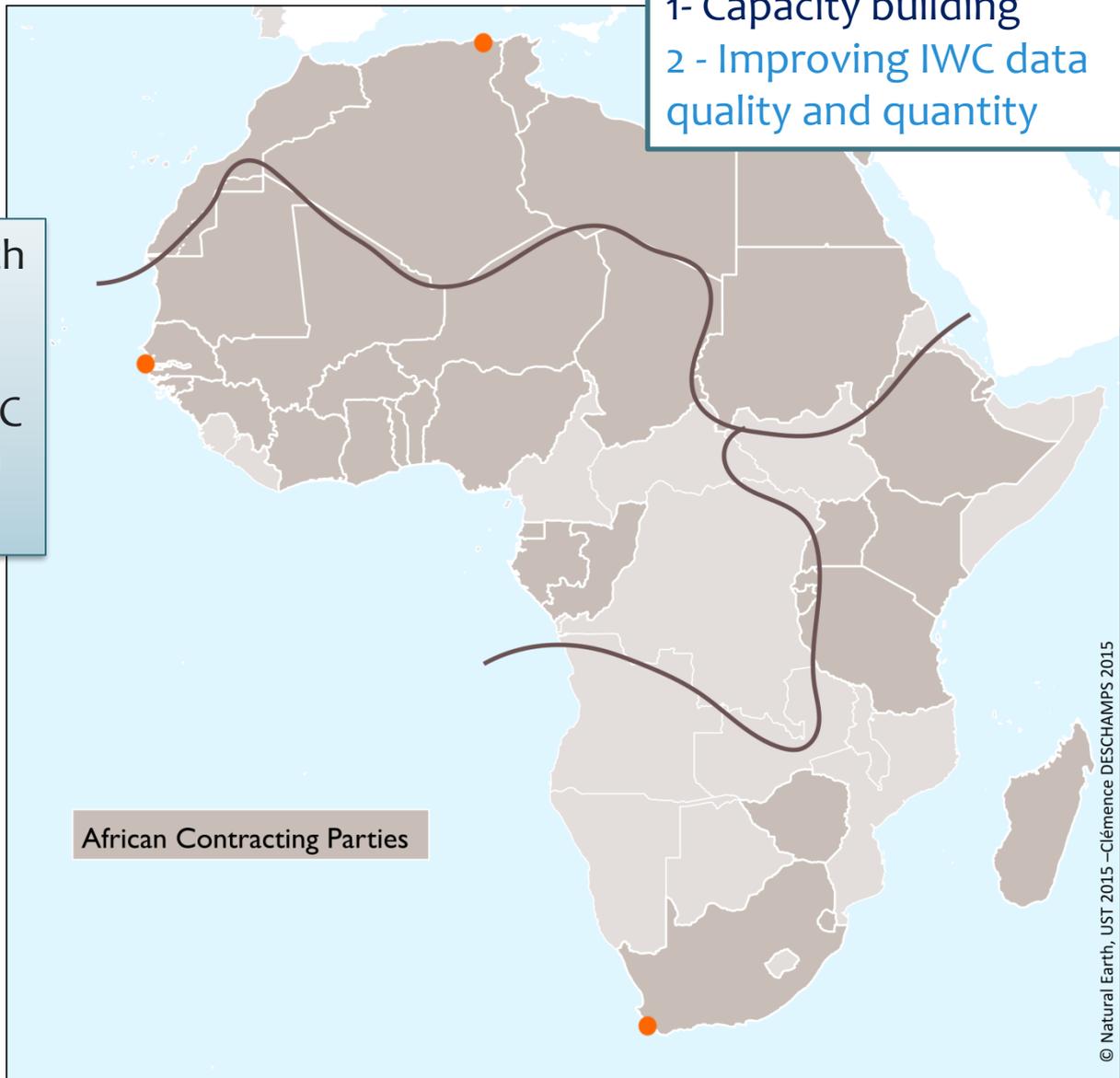
2012 : Medwaterbirds Network:

- ✓ **Supported by France**
- ✓ **5 North African countries, OFB and Tour du Valat.**



- 1- Capacity building
- 2 - Improving IWC data quality and quantity

2013 : MEETING with AEWA Focal Points and National Coordinators of IWC to list activities and priorities





1- IWC data on the field

2- IWC data update and management

3- IWC data use

Capacity Building

- Population trends
- Conservation status
- Key sites for biodiversity



I- Capacity building in IWC data collection in the field

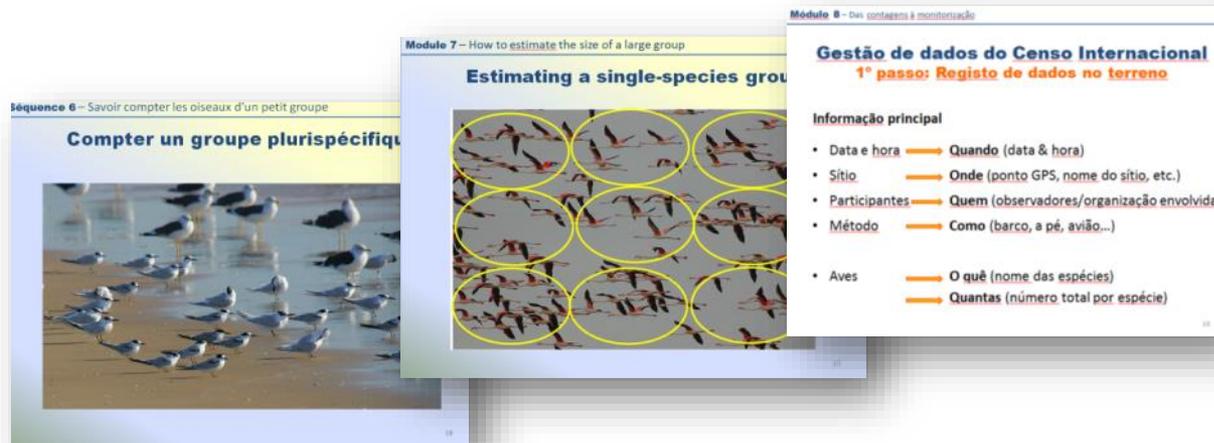
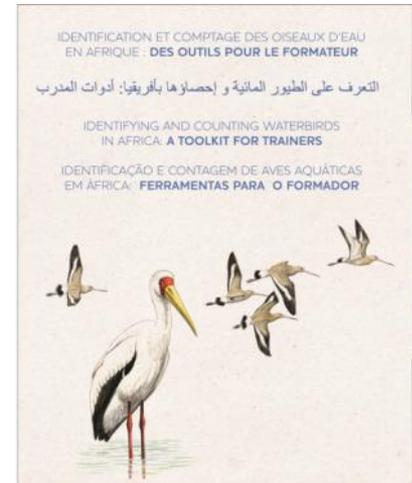
Improving capacity building in the field through:

- International and annual training sessions,
- Optical equipment donation,
- Financial contribution to IWC,
- Contribution to TOTAL COUNTS since 2014.



■ A “Training the trainers” module on CD

- For **North African & Sub-Saharan** species,
- **4 languages** : Arabic, English, French & Portuguese,
- 8 training modules : **from the field on Waterbird identification to the data input.**



www.medwaterbirds.net



- The 1st modern ornithological guide in Arabic language
- *New Edition: December 2021 (AFD-FFEM support)*



II- Capacity building in IWC data update and management

Maintaining data quality during the whole process (from field → international database) is essential

Medwaterbirds website :

- To manage different data,
- To share tutorials and documents,
- To share data with partners (eg. the Mediterranean IWC data).

=>

www.medwaterbirds.net

Mediterranean Waterbirds

Home Profile Species Sites Techniques Data Partners Bibliography Network Contacts Logout

Counts

Map Import Manual addition Search Synthesis Tutorial

80813 viewable results on the 89011 found - 2894 pages: [1] 2 3 4 5 ... 2890 2891 2892 2893 2894

Species	Date	Site(s)	Observer(s)	Numbers	Use	Edited on	Operation
Mediterranean Gull <i>Ichthyophaga melanocephala</i>	30/01/2018	Bab al Bahr coast [Libya]	Ali Berbash	7	U	20/04/2018 23:12	
Sandwich Tern <i>Thalasseus sandvicensis</i>	30/01/2018	Bab al Bahr coast [Libya]	Ali Berbash	1	U	20/04/2018 23:12	
Yellow-legged Gull <i>Larus michahellis</i>	30/01/2018	Bab al Bahr coast [Libya]	Ali Berbash	1	U	20/04/2018 23:12	
Lesser Black-backed Gull <i>Larus fuscus</i>	30/01/2018	Bab al Bahr coast [Libya]	Ali Berbash	7	U	20/04/2018 23:12	
Black-headed Gull <i>Chroicocephalus ridibundus</i>	30/01/2018	Bab al Bahr coast [Libya]	Ali Berbash	62	U	20/04/2018 23:12	
Common Teal <i>Anas crecca</i>	30/01/2018	Al Mallahah [Libya]	Ali Berbash	6	U	20/04/2018 23:12	
Marbled Teal <i>Marmaronetta angustirostris</i>	30/01/2018	Al Mallahah [Libya]	Ali Berbash	3	U	20/04/2018 23:12	
Northern Shoveler <i>Anas platyrhynchos</i>	30/01/2018	Al Mallahah [Libya]	Ali Berbash	64	U	20/04/2018 23:12	
Black-headed Gull <i>Chroicocephalus ridibundus</i>	30/01/2018	Al Mallahah [Libya]	Ali Berbash	11	U	20/04/2018 23:12	
Great Cormorant <i>Phalacrocorax carbo</i>	30/01/2018	Al Mallahah [Libya]	Ali Berbash	34	U	20/04/2018 23:12	
Northern Pintail <i>Anas acuta</i>	30/01/2018	Al Mallahah [Libya]	Ali Berbash	44	U	20/04/2018 23:12	
Common Shelduck <i>Tadorna tadorna</i>	30/01/2018	Al Mallahah [Libya]	Ali Berbash	5	U	20/04/2018 23:12	
Black-winged Stilt <i>Himantopus himantopus</i>	30/01/2018	Al Mallahah [Libya]	Ali Berbash	40	U	20/04/2018 23:12	
Greater Flamingo <i>Phoenicopterus roseus</i>	30/01/2018	Al Mallahah [Libya]	Ali Berbash	81	U	20/04/2018 23:12	
Slender-billed Gull <i>Chroicocephalus genei</i>	30/01/2018	Al Mallahah [Libya]	Ali Berbash	137	U	20/04/2018 23:12	
Little Egret <i>Egretta garzetta</i>	30/01/2018	Tripoli harbour [Libya]	Ali Berbash	2	U	20/04/2018 23:12	
Sandwich Tern <i>Thalasseus sandvicensis</i>	30/01/2018	Tripoli harbour [Libya]	Ali Berbash	9	U	20/04/2018 23:12	
Slender-billed Gull <i>Chroicocephalus genei</i>	30/01/2018	Tripoli harbour [Libya]	Ali Berbash	24	U	20/04/2018 23:12	
Lesser Black-backed Gull <i>Larus fuscus</i>	30/01/2018	Tripoli harbour [Libya]	Ali Berbash	68	U	20/04/2018 23:12	
Great Cormorant <i>Phalacrocorax carbo</i>	30/01/2018	Tripoli harbour [Libya]	Ali Berbash	36	U	20/04/2018 23:12	
Great Crested Grebe <i>Podiceps cristatus</i>	30/01/2018	Tripoli harbour [Libya]	Ali Berbash	8	U	20/04/2018 23:12	
Black-necked Grebe <i>Podiceps nigricollis</i>	30/01/2018	Tripoli harbour [Libya]	Ali Berbash	30	U	20/04/2018 23:12	
Black-headed Gull <i>Chroicocephalus ridibundus</i>	30/01/2018	Tripoli harbour [Libya]	Ali Berbash	65	U	20/04/2018 23:12	
Great Grey Shrike <i>Lanius excubitor</i>	30/01/2018	Al-Hagha Coast [Libya]	Khaled Etayeb Rida Sherif Nagib Froga	2	U	20/04/2018 23:12	
Eurasian Hoopoe <i>Upupa epops</i>	30/01/2018	Al-Hagha Coast [Libya]	Khaled Etayeb Rida Sherif Nagib Froga	1	U	20/04/2018 23:12	
Spanish Sparrow <i>Passer hispaniolensis</i>	30/01/2018	Al-Hagha Coast [Libya]	Khaled Etayeb Rida Sherif Nagib Froga	43	U	20/04/2018 23:12	
Yellow-legged Gull <i>Larus michahellis</i>	30/01/2018	Al-Hagha Coast [Libya]	Khaled Etayeb Rida Sherif Nagib Froga	1	U	20/04/2018 23:12	
Sandwich Tern <i>Thalasseus sandvicensis</i>	30/01/2018	Al-Hagha Coast [Libya]	Khaled Etayeb Rida Sherif Nagib Froga	2	U	20/04/2018 23:12	
Crested Lark <i>Galerida cristata</i>	30/01/2018	Ain Ghyma (Falfoo) [Libya]	Khaled Etayeb Rida Sherif Nagib Froga	4	U	20/04/2018 23:12	
Spanish Sparrow <i>Passer hispaniolensis</i>	30/01/2018	Ain Ghyma (Falfoo) [Libya]	Khaled Etayeb Rida Sherif Nagib Froga	23	U	20/04/2018 23:12	

80813 viewable results on the 89011 found - 2894 pages: [1] 2 3 4 5 ... 2890 2891 2892 2893 2894

©2010-2018 - Tour du Valat - Research Institute for the conservation of Mediterranean wetlands



www.medwaterbirds.net



Outputs:

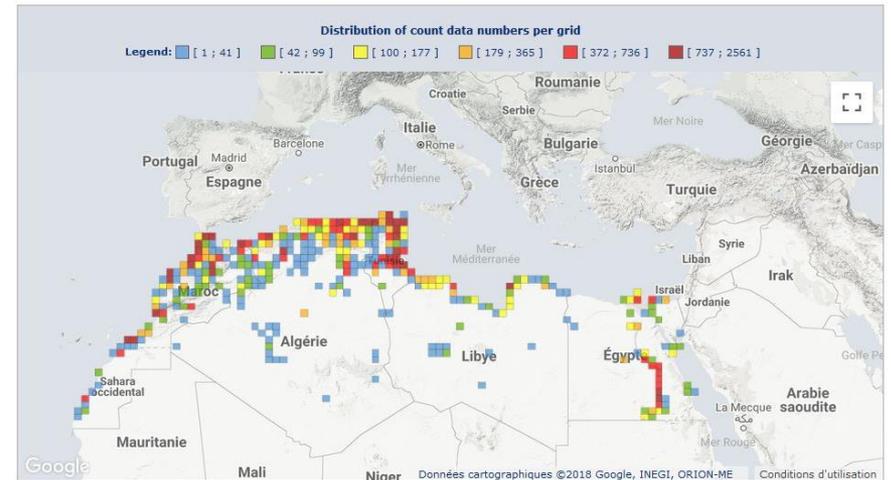
- number of observation per cell and per country

Synthetic graphs showing:

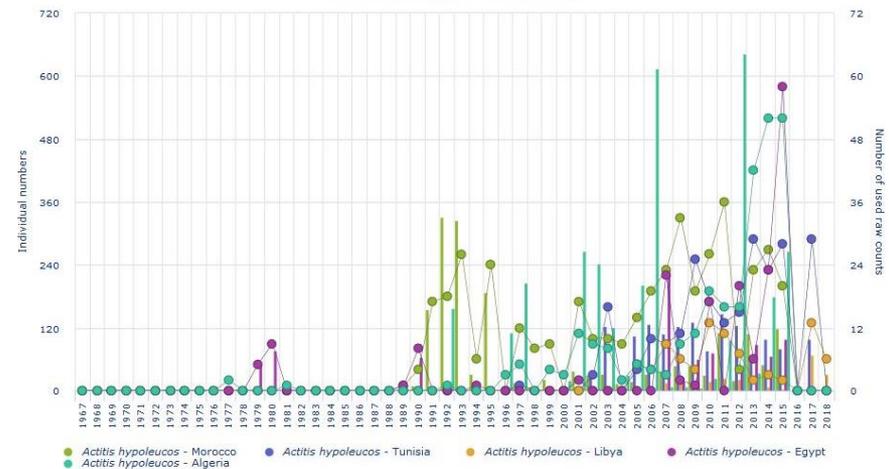
- number of counts for a selected species in selected countries,
- number of visited sites for these counts,
- list of field contributors for these visits.

Counts

Data Import Manual addition Search Display all Export selection (86812) Synthesis Tutorial



Annual numbers of *Actitis hypoleucos* Algeria, Egypt, Libya, Morocco and Tunisia



MedWaterBirds.net [results computed on 08.12.2018 at 08:40:58] / Highcharts.com

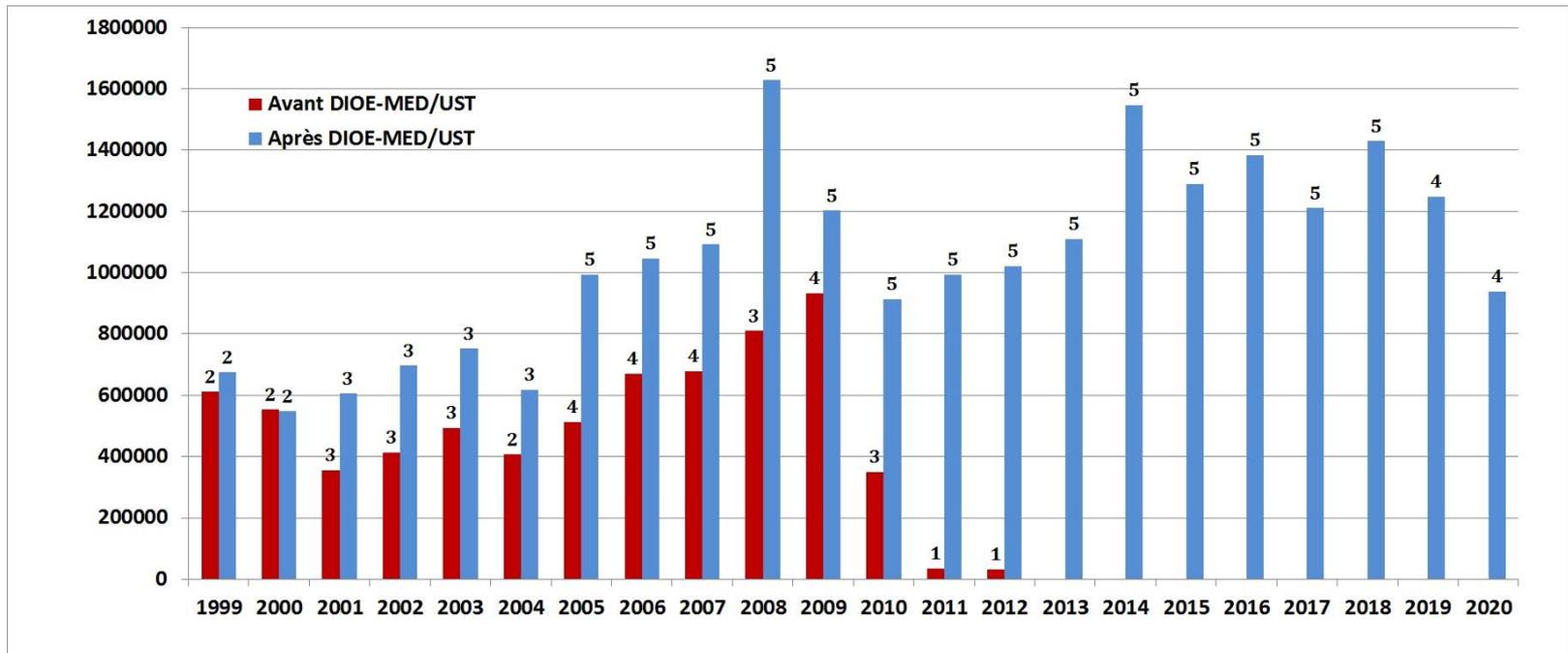
Observer(s): Lilia ???, D.J. ABAD, Abdelaziz ABBASSI, Salem ABBASSI, Amr ABD ELHADY, Abdelkader ABDELHADI, K. ABI, Mhemed ABOGNA, AA ABOSSAUD, KA ABULQADER, Messaoud ADHIMEN, A. AGHNAJ, Boualem AGOUNE, L. AISSANI, Brahim AKKOUCHE, AJ AL-JAMEL, Abdelkader ALLAL, Imen ALLOUT, Mourad AMALOU, M. AMEZIAN, M. AMHEND, Mounir AOUISSI, NA AZABI, SA AZABI, Hichem AZAFZAF, S. AZAOUAGHE, Gaci AZIZ, Nader AZZABI, Rabia AZZABI, Said AZZABI, Darradj BÂADACHE, Nicola BACCETTI, Tassaâdit BACHA, Larbi BADAOU, Rezi Bagra, M. BAH, Fatima BAKARIA, Mokhtar BAKHTI, Abdel Ali BAKIR, Sihem BAKOUR, H. BANAN, Abdumoneam BAOUR, Wageh BASHEMAN, H. BAYTAR, P.C. BEAUBRUN, Wassila Lilia BEDOUHENE, Habib BEKKAR, Amar BELAAMA,

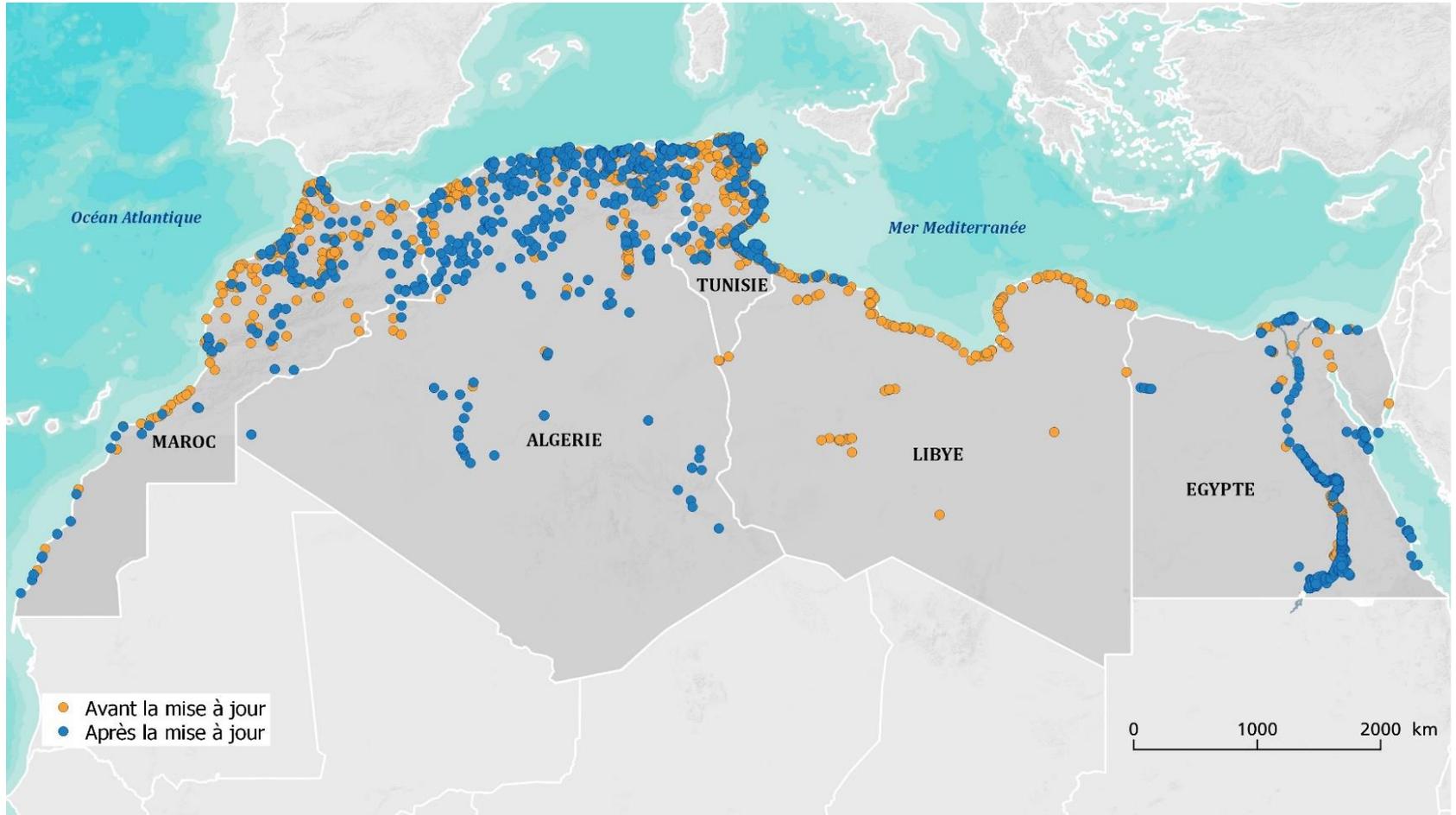
Improving capacity building :

- 6 large-scale data update workshops,
- support to the North-African national coordinators on database update and on GIS,
- Improve relationships between North-African IWC coordinators and WI.
- Start scientific discussions with other Mediterranean Countries (3 workshops, 2 projects)



North African countries involved in the IWC and number of counted waterbirds





Database update:



> 40 000 additional data, 1290 sites
and more than 35 980 855
waterbirds.



III-Capacity building in IWC data use and analyse



The first coordinated trans-North African mid-winter waterbird census:
The contribution of the International Waterbird Census to the conservation of waterbirds and wetlands at a biogeographical level



Sayoud M.S.^a, Salhi H.^b, Chalabi B.^c, Allali A.^d, Dakki M.^e, Qninba A.^e, El Agbani M.A.^e, Azafzaf H.^f, Feltrup-Azafzaf C.^f, Djeni H.^f, Hamouda N.^f, Abdel Latif Ibrahim W.^g, Asran H.^g, Abu Elnoor A.^g, Ibrahim H.^g, Etayeb K.^h, Bouras E.ⁱ, Bashaimam W.^j, Berbash A.ⁱ, Deschamps C.^k, Mondain-Monval J.Y.^l, Brochet A.L.^k, Véran S.^k, Defos du Rau P.^{l,*}

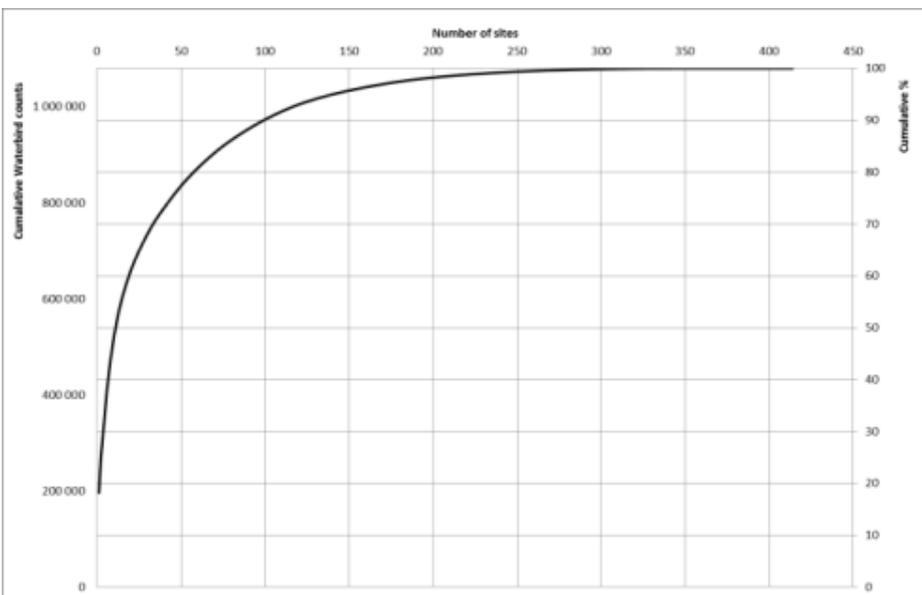
^a Centre Cynégétique de Réghaia (C.C.R.), BP 54/02 Réghaia, 16112 Alger, Algeria
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^d Conservation des Forêts de la Wilaya de Naama, 45000, Algeria
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ARTICLE INFO

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ABSTRACT

The International Waterbird Census (IWC) is one of the most widespread biodiversity monitoring programs, assessing waterbird populations in the framework of several international agreements including the African-Eur-



- Synchronized censuses bring added value!
- IWC design can be optimized for North African countries
- The network of Ramsar sites is efficient but could be extended

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RESEARCH ARTICLE



Imputation of incomplete large-scale monitoring count data via penalized estimation

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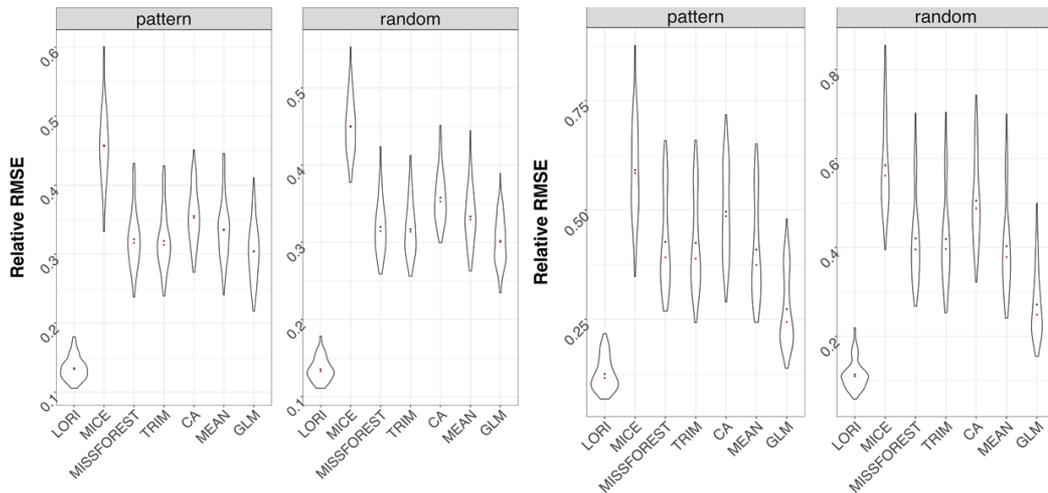
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Abstract

1. In biodiversity monitoring, large datasets are becoming more and more widely available and are increasingly used globally to estimate species trends and conservation status. These large-scale datasets challenge existing statistical analysis methods, many of which are not adapted to their size, incompleteness and heterogeneity. The development of scalable methods to impute missing data in incomplete large-scale monitoring datasets is crucial to balance sampling in time



- LORI has the capacity to integrate many environmental covariates, as well as time × space interactions
- LORI can potentially indicate different trends compared to those inferred from existing methods,
- The use of several covariates may account for most of the autocorrelation that could otherwise penalize subsequent modelling [1,2]

FROM: Dakki M et al, Imputation of incomplete large-scale monitoring count data via penalized estimation. *Methods Ecol Evol.* 2021;00:1– 9.
 PRESENTED by F. DEFOS DU RAU, 5 April 2022 – EBCC2022

[1]Bardos, D. C et al.(2015). *Methods in Ecology and Evolution* 6(10), 1137– 1149.
 [2]Wintle, B. A. et al.(2006). *Ecological Applications*, 16(5),1945–1958.

Biodiversity and Conservation
<https://doi.org/10.1007/s10531-021-02236-1>

ORIGINAL PAPER



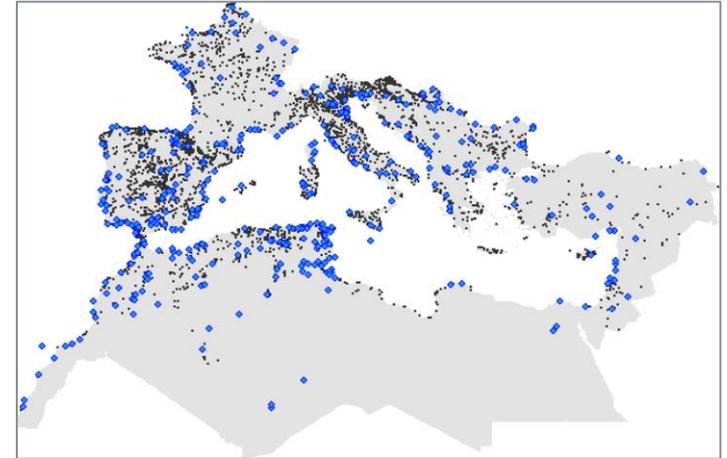
Gap analysis of the Ramsar site network at 50: over 150 important Mediterranean sites for wintering waterbirds omitted

Nadège Popoff, et al. *[full author details at the end of the article]*

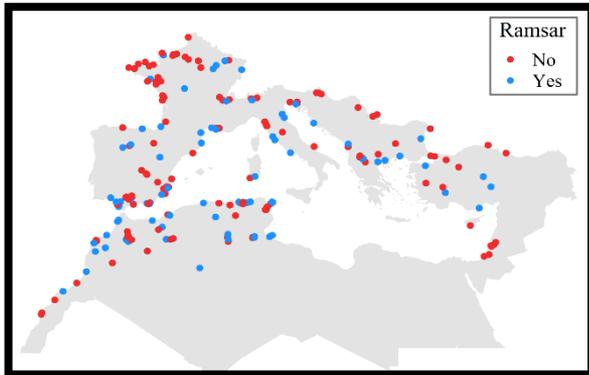
Received: 4 October 2020 / Revised: 20 April 2021 / Accepted: 28 June 2021
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Abstract

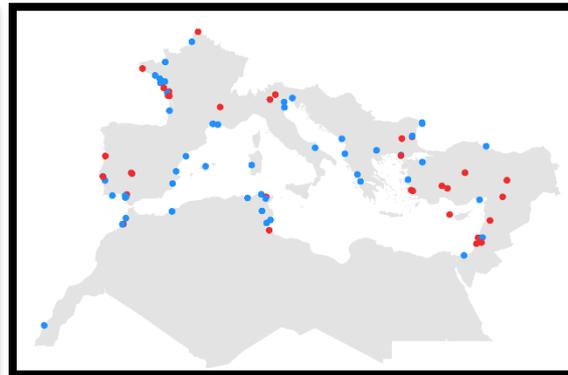
The Mediterranean Basin is a biodiversity hotspot. Wetlands make a key contribution to this status, but many of them remain outside the Ramsar network fifty years after the estab-



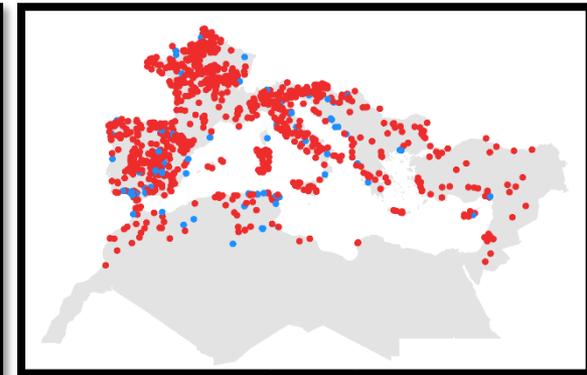
297 sites internationally important



83 sites reaching 2 times criteria levels



+1436 sites provisionally important (3 years)



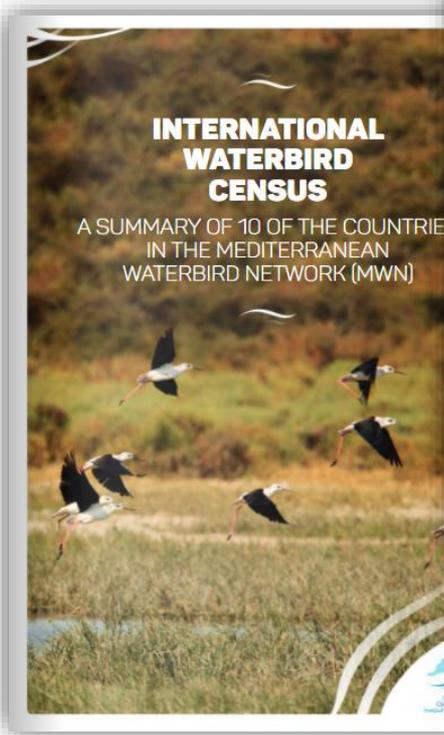
From Popoff et al. Gap analysis of the Ramsar site network at 50: over 150 important Mediterranean sites for wintering waterbirds omitted.

Biodivers Conserv 30, 3067–3085 (2021). –

PRESENTED by F. VERNIEST, 8 April 2022 – EBCC2022



Technical reports on the IWC status in 10 countries of the Mediterranean



INTERNATIONAL WATERBIRD CENSUS

A SUMMARY OF 10 OF THE COUNTRIES IN THE MEDITERRANEAN WATERBIRD NETWORK (MWN)

WATERBIRD POPULATIONS* IN THE MEDITERRANEAN

The ten countries in this report are concerned with at least 324 waterbird populations. Of these populations, 121 are declining, some are presumed extant, while only 85 are increasing (slightly or slightly), and 77 are stable. The remaining 43 populations are fluctuating or undetermined due to lack of the regular or effective counts needed to determine their actual trends.

Below is a summary table of Available populations present in the 10 countries of this report, as recorded on the IWC of Site Network (IWC) for 2019 (<http://www.waterbirds.org/>)

Trends have been taken from Waterbird Population Estimates (WPE) (<http://www.waterbirds.org/>)

This table is an extract of 80 species of waterbirds which occur in at least one of the countries in this report. Note that some species have multiple populations in the region, each of which may exhibit contrasting trends, and that each country may host more than one population of the same species. Annex A contains the same information for all the other waterbird populations.

*A waterbird population can be defined as a distinct assemblage of individuals which share an approximate geographical location, and are managed as a single population.

Species - Country	English name	Population name	Trends	Trends	Counting method (see report for details)
ALCANTARINUS - ALGERIA					
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous



Left: Egret - 11 July 2019 - 102 Algeria. Right: Lesser White-fronted Goose - 11 July 2019 - 102 Algeria.

Species - Country	English name	Population name	Trends	Trends	Counting method (see report for details)
ALCANTARINUS - ALGERIA					
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous
<i>Alcantarinus alcantarinus</i>	White-headed Duck	W. Mediterranean (Spain & Morocco)	2000-2010	↔	Miscellaneous

*When there is uncertainty about a trend, the WPE provides the best possible trend for the species. '↔' indicates no trend.

NUMBER OF VOLUNTEERS IN THE 10 PARTICIPATING COUNTRIES:

ON AVERAGE **8 220** VOLUNTEER COUNTERS or hired counters participate in the International Waterbird Census (IWC) each year

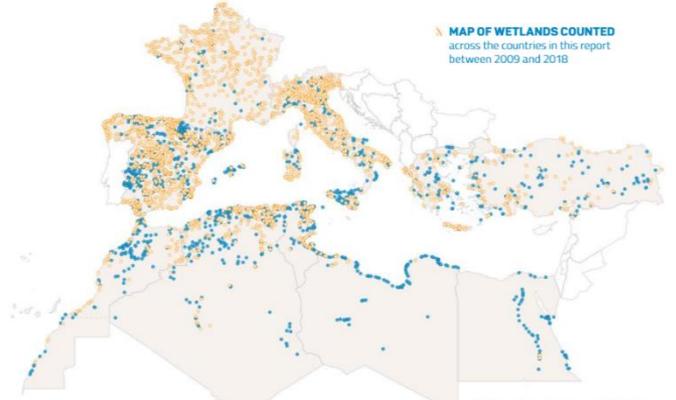


NUMBER OF WETLANDS COUNTED:

APPROXIMATELY **3 150** WETLANDS COUNTED on average each year across the 10 countries in the report



MAP OF WETLANDS COUNTED across the countries in this report between 2009 and 2018



*Tour du Val de Saône DGF, Algérie, ESA, SED/BBB/E Spain, IWC/ICB/BBB/E France, OBNB, GBL, Institut scientifique de Rabat, MED/BBB/E en Tunisie, Ondokuz Mayıs University

0 500 1000 km

- Sites irregularly counted (less than 5 of the years between 2009 and 2018)
- Sites regularly counted (at least 5 of the years between 2009 and 2018)

www.medwaterbirds.net

A joint technical report on the IWC status in 10 countries of the Mediterranean

AFD-FFEM project which ensure activities in cooperation to the Mediterranean Alliance of wetlands

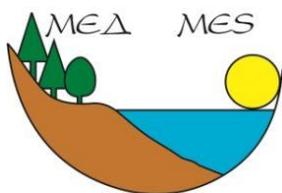
- Training sessions on different topics
- Collaboration and discussion with partners of the Alliance
- Different micro-projects (to implement knowledge on the field)
- Support to IWC activities (IWC in the field, training sessions, scholar module)



FONDS FRANÇAIS POUR
L'ENVIRONNEMENT MONDIAL

- Continue to support the capacity building of countries, including other countries to ensure a long-term commitment and involvement on IWC
- Strengthen scientific production (articles) for North-African countries and extend this kind of collaboration to other Mediterranean countries
- Support the involvement of North-African countries in International events/meetings
- Improve knowledge on population through crossed analyses with other networks/projects: RESSOURCE and EAF and WI
- Improve the collaborations with other Mediterranean countries
- Improve knowledge on illegal killing activities during IWC
- (improve knowledge on colonial breeding waterbirds)





BIRD PROTECTION AND STUDY SOCIETY OF SERBIA





Thanks to everyone involved in IWC!

Thank you for your attention !



Wetlands
INTERNATIONAL

