

Dalmatian pelican *Pelecanus crispus*

Background

The European Action Plan (Crivelli, 1996) was developed in 1994 and adopted in 1996. The action plan has not been revised. Its implementation has been reviewed twice – in 2000 (Gallo-Orsi, 2001) and 2004 (Nagy & Crockford, 2004). Its geographical scope covers Albania, Bulgaria, Macedonia FYR, Montenegro⁷³, Greece, Romania, Russian Federation, Turkey and Ukraine which covers c.30% of the species' world breeding population and 25–30% of its wintering population.

General overview

The SAP has been rather well implemented (overall IS=2.3), most successfully in Greece and Romania, where the species has shown a remarkable recovery. The increase in Europe is a result of strict enforcement of legal protection of the species. Improving the protection and effective management of the key sites is still high priority, including monitoring and prevention of threats. The sustainable use of wetlands, international cooperation and information sharing have been less successful. Developing and maintaining capacity of the conservation managers dealing with the species is still required.

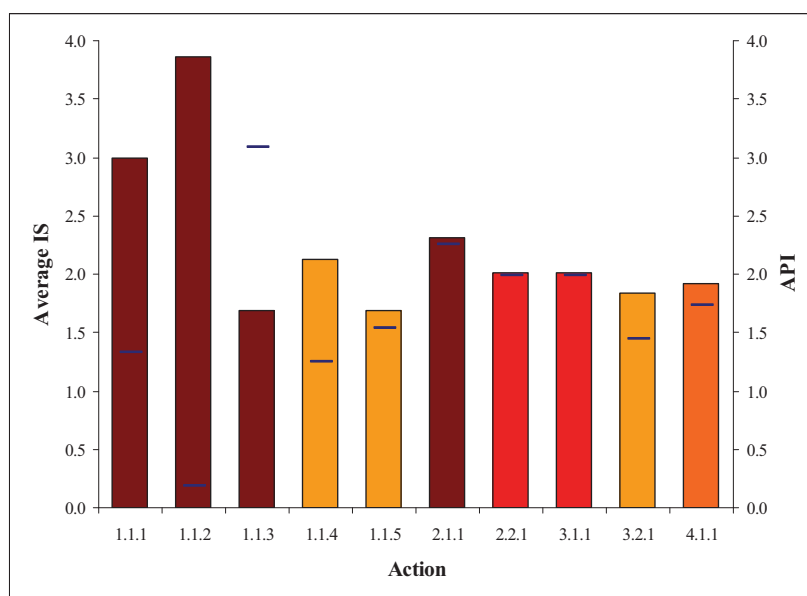


Figure viii Average implementation score (IS) and Action Priority Index (API) for each action listed in the Dalmatian pelican species action plan. Colours represent Priority Score.

⁷³ Originally “Federal Republic of Yugoslavia (Serbia)” but the species only occurred in Montenegro (breeding) and Macedonia (non-breeding).

Status review

The species has several practically isolated sub-populations: 4,350-4,800 individuals in Black Sea and Eastern Mediterranean; 6,000-9,000 individuals in SE Asia and S Asia (both estimates from Crivelli *et al.* (2000), updated by unpublished information supplied by Wetlands International Specialist Groups to Wetlands International (2006); 50 individuals in E. Asia (Mix and Braunlich 2000, Simba Chan *in litt.* 2005).

Table 23 Breeding population estimates and trend by country

Country	Population at the time of the 1996 SAP (pairs)	Year	Population at the 2004 review (pairs)	Year	Current population (pairs)	Year	Population trend	References
Albania	40-70	1990s	19	1992-2002	27	2005-2007	Decreasing	74
Bulgaria	70-90	1990s	49-128	1997-2002	14-150	1990-2009	Increasing	75
Greece	190-260	1994	500-550	1995-1997	1150-1300	2008	53-73% Increasing	76
Montenegro	10-20	-	-	-	5-14	2000-2010	Stable	77
Romania	70-150	1990s	400-550	1990-2002	312-330	2009	20-35% Increasing	78
Russia	400-550	1980s	350-450	1990-2000	450-710	2006	unknown	79
Turkey	100-150	1990s	220-250	2001	220-270	2000-2010	Fluctuating	
Ukraine	6-14	1990s	3-14	1990-2000	2-14	1994-2009	unknown	80

Objective(s)

1. In the short term, to prevent any further declines below 1994 levels in the population size and distribution of the Dalmatian Pelican.
2. In the medium to long term, to increase the population size of the Dalmatian Pelican to a level at which it no longer qualifies as a globally threatened species.

⁷⁴ Anni (Koci) Kallfa; Taulant Bino, 2010.

⁷⁵ National Action Plan for Dalmatian Pelican, Bulgarian Ministry of Environment and Waters (in preparation).

⁷⁶ Handrinos & Kastritis, 2009; Catsadorakis, 2009.

⁷⁷ Saveljić & Rubinić, 2008; Mediterranean Action Plan.

⁷⁸ Romanian Ornithological Society; LIFE 05 NAT/RO/000169.

⁷⁹ Russian Red Databook (2006), compilation of regional references.

⁸⁰ Red data book of Ukraine (2009) and USPB data.

Evaluation

The short term target of the plan has been achieved, as the breeding population has increased from 886-1,204 in 1994 to 2,180-2,815 in 2010, which despite of annual fluctuations, nearly doubled on average.

Although the SE European sub-population has shown a recent increase, the remaining population is suspected to have decreased rapidly over the last three generations, in line with levels of disturbance, wetland alteration and destruction, water pollution, collision with overhead power-lines, over-exploitation of fish stocks and, in Mongolia, hunting by herders. Therefore its global threat category remains unchanged.

Conservation and Legal Status

In 2010 the global IUCN Red List Category is Vulnerable (A2c,e; A3c,e; A4c,e) (BirdLife International, 2008) as at the time of adoption of the plan. It was Low Risk/conservation dependent in 2000-2004 when such category existed.

In Europe, the species does not meet regional IUCN Red List criteria, and its European Threat Status (2004) is *Rare* (BirdLife International, 2004).

The species is listed in Annex I of the Birds Directive, Appendix II of the Bern and Bonn conventions and in Annex II of AEWa.

The species is legally protected in all range states covered by the plan.

Overview of past and current threats

Historically the most important threats were linked to the loss of wetlands which were drained for agriculture or their water regimes were drastically modified. Despite of the site protection measures undertaken this type of threats is still common, especially in relation to increased eutrophication, hydrological alterations (leading to erosion of the colonies and flooding) and habitat loss (house development). Disturbance by human activities at the breeding and wintering sites (e.g. recreational boats, fishing) are the next most important threat, while occasional cases of illegal shooting are still reported. A novel threat of potentially high impact is the growing number of windfarms along the main flyways and close to important wetlands.

Assessment of the implementation

National and regional species action plans

Only Romania, Montenegro and Ukraine have national action plans, one is in preparation in Bulgaria. National working groups coordinate the activities in Bulgaria, Greece, Romania and Turkey.

Species conservation

Dalmatian pelicans have been subject of targeted conservation measures in almost all countries covered by the plan. Significant role to stimulate such actions has been the action plan itself, supported by Tour du Valat station. Specific actions to prevent local threats were carried out in the breeding colonies in Bulgaria, Greece, Montenegro and

Romania, including predator control measures (fencing, artificial platforms), wardening, and limiting the disturbance caused by researchers and museum collectors. The provision of floating rafts for breeding has been a successful measure to limit land based disturbance and prevent flooding and colony erosion, especially in large lakes.

Site conservation

There are 107 IBAs designated for the species in the action plan range, and 53 in the EU. The 63 designated SPAs in the EU include 100% of the breeding and over 90% of the migratory and wintering population, almost all of these sites are also designated under the Ramsar convention. The most important colonies in Greece, Romania and Bulgaria are included in protected areas (reserves, national parks) with management plans. No management plans have been developed for the large majority of the SPAs.

Habitat conservation

The species requires large undisturbed lakes for breeding and feeding, with limited access of terrestrial predators and lack of disturbance (floating island of reedbeds or sand banks). Abundant fish is a key resource. Wetlands in the range of the species have been lost on a large scale and the remaining ones offer very limited opportunities for large number of colonies. That is why despite of the increasing number, the distribution of the breeding colonies remains limited to a few suitable locations.

Wetland restoration and management projects have recently been implemented in the Lower Danube (e.g. restoration of the Belene marsh, habitat management in the Danube Delta BR) and the main lakes and lagoons where the species breeds in Greece (Mikri Prespa, Kerkini Lake, Amvrakikos). The decline of the population in Albania is thought to be caused by continuous eutrophication of the Karavasta lagoon, human disturbance and interventions by fishermen.

The sustainable management of fisheries in the coastal lakes where the species roosts and winters is still an important action that requires implementation.

Other specific conservation measures

The restoration and maintenance of nest platforms has been urgently required in some of the key colonies, and has largely been implemented.

The species, due to its large body size, is especially vulnerable to collision with powerlines. The risks of collision with power lines are still an issue of concern in all countries, but especially where large concentrations occur during the non-breeding season and on flyways.

Despite of some work done in Greece to mark the most dangerous stretches of lines, a lot more work is needed to implement this action in the entire range. Collisions are reported from Bulgaria (near the Burgas lakes). There is growing number of windfarms in some key locations for the species which require monitoring and better prevention.

Monitoring and Research

Monitoring programmes exist in most countries at a national level and in protected areas. They focus on monitoring the productivity and threats to the colonies. Colour ringing takes place in BG (blue), RO (green) and GR (yellow). Permanent monitoring of the

species is carried out in Montenegro. Satellite telemetry has been tried in Romania to establish the areas used by Dalmatian pelicans outside the breeding season and to evaluate the mortality of adults in fisheries outside breeding sites. Since 1984 the Tour du Valat ecological station has been carrying out ecological research and supporting the conservation of the species. At present the priorities are: (1) To continue scientific investigations only on the Dalmatian pelican in Amvrakikos and Kerkini in Greece and (2) to continue basic monitoring in a few other key countries (Bulgaria, Turkey). Less research has been done in the rest of the range and on broader ecological factors such as water basin management, fisheries and impact of pollution and other threats.

Public awareness and stakeholder involvement

Targeted awareness raising programmes have been carried out in Greece and Romania (LIFE projects) aiming to reduce the potential conflicts between the pelicans and fishermen and to limit disturbance by tourists. However the overall technical capacity of the relevant protected area staff to implement habitat conservation and management is considered low and further actions to strengthen it are required.

The species is generally well known to the public and apart from local fishermen, it is positively appreciated by the people. Managing the potential conflict with fisheries is an ongoing priority action that requires more attention.

Community financial support

Three LIFE projects⁸¹ have been implemented, in Bulgaria, Greece and Romania, since 2004 with total budget of more than 4.2 million Euros, of which the total European Union contribution was more than 2.9 million Euros.

In addition over 240 000 Euros of national funding has been invested in research and monitoring and management actions. However, over 90% of these funds have been spent in the EU with almost no funding reported in Ukraine, Russia and Albania and only small scale projects in Montenegro and Turkey.

Conclusions

The progress in the implementation of the action plan is very good (Average IS=2.3) especially regarding the direct protection measures. Greece has shown most success in implementing the plan, which resulted in remarkable growth of the breeding population. National implementation scores are highest in Greece and Romania (NIS), average in Bulgaria, Turkey and Montenegro and lowest in Ukraine.

Further measures/work still needed especially in the field of:

- Ongoing protection and management of the colonies
- Habitat restoration and management
- Large scale water basin management (water quality and regimes)
- Reducing conflict with fisheries
- Reducing eutrophication and habitat degradation
- Extending the conservation actions to Albania, Ukraine, Turkey, Russia.

⁸¹ LIFE08 NAT/BG/000277; LIFE2002NAT/GR/8494; LIFE 05 NAT/RO/000169.

- Prevention of conflicts and shooting
- Prevention of collisions with powerlines and improved siting of windfarms

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Appendix 1

Table 24 Implementation of the action plan in the European range states⁸². PS = Priority Score; Ave. IS = Average Implementation Score; API = Action Priority Index; National IS = National Implementation Score.

Action	Measure	PS	BG	GR	MK	MNE	RO	TR	UA	Ave. IS	API
1.1.1	To encourage the legal protection during breeding and wintering of Dalmatian Pelicans and key sites for the species in all range states	4	3.5	4	3	3	3.5	3	1.5	3.1	1.2
	a. The species is fully protected.	4	4	4	3	2	4	3	2	3.1	1.1
	b. Key sites (breeding, feeding and wintering) fully protected.	4	3	4	3	4	3	3	1	3.0	1.3
1.1.2	Establish a total ban on catching chicks or adults for zoos or tourist purposes	4	4	4	4	3	4	4	0	3.8	0.2
	Catching of chicks and adults is completely banned.	4	4	4	4	3	4	4	0	3.8	0.2
1.1.3	Promote sustainable development in wetlands	4	2	2.33	1.33	1.5	1.67	1.33	1.67	1.7	3.1
	a. Wetlands habitat protected from development, pollution, changes in hydrological regime.	4	2	3	2	2	2	1	2	2.0	2.7
	b. Tourism and fishing policies include wetland conservation.	4	2	2	1	1	2	1	2	1.6	3.2
	c. Local communities involved in the conservation and management of wetlands.	4	2	2	1	0	1	2	1	1.5	3.3
1.1.4	Establish and enhance international cooperation and information exchange	2	2	3	2	3	3	2	1	2.3	1.1
	International co-operation for the conservation of trans-border wetlands in place.	2	2	3	2	3	3	2	1	2.3	1.1
1.1.5	National action plans implemented in all range states	2	1.67	1.33	1	2.33	3	0	1.5	1.8	1.5
	a. National body for the compilation of an action plan established.	2	2	2	1	2	4	0	2	2.2	1.2
	b. National action plan developed.	2	2	1	1	4	4	0	1	2.2	1.2

⁸² BG = Bulgaria; GR=Greece; MK = Macedonia FYRO; MNE = Montenegro; RO = Romania; TR=Turkey; UA = Ukraine

Action	Measure	PS	BG	GR	MK	MNE	RO	TR	UA	Ave. IS	API
	c. National action plan implemented.	2	1	1	1	1	1	0	0	1.0	2.0
2.1.1	Establish effective site protection for the species	4	3.33	3	2.5	1.67	3	1.5	1	2.3	2.3
	a. All breeding, key feeding areas and wintering sites designated as protected areas in all range states.	4	3	4	4	2	3	2	1	2.7	1.7
	b. High penalties inflicted for harming the species.	4	4	2	1	2	3	1	0	2.2	2.4
	c. All colonies declared non-intrusion zones and wardens appointed.	4	3	3	0	1	3	0	1	2.2	2.4
2.2.1	Establish effective site management	3	2	2.43	1	2.5	2.17	3	2	2.2	1.8
	a. Burning or cutting of reeds in spring within the breeding areas prohibited.	4	1	4	0	3	1	4	4	2.8	1.6
	b. Habitat restoration, if needed, in key sites implemented.	4	2	3	0	2	2	0	0	2.3	2.3
	c. Hydrological regime properly managed at key sites.	4	2	2	0	0	3	0	0	2.3	2.2
	d. Dangerous powerlines buried or made visible to the birds in order to avoid collisions.	3	1	2	1	3	2	0	0	1.8	2.2
	e. Artificial structures to facilitate breeding or roosting are provided in protected areas, where needed.	1	4	3	0	4	3	0	1	3.0	0.3
	f. Dumping of residues, chemical pollution and eutrophication prohibited at key sites.	1	2	2	1	2	2	2	1	1.7	0.8
	g. Sites that have suffered from pollution restored.	1	2	1	0	1	0	0	0	1.3	0.9
3.1.1	Regularly monitor the population, the threats and habitat requirements	3	1.67	3.11	1.75	1.67	3.22	1.86	1.25	2.1	1.9
	a. Annual monitoring of breeding numbers carried out by trained people.	4	3	4	0	3	4	3	2	3.2	1.1
	b. Wintering birds counted annually at roosting sites.	4	3	4	1	4	3	4	0	3.2	1.1
	c. Water levels monitored at key sites.	4	1	3	4	1	4	0	0	2.6	1.9
	d. Water quality monitored at key sites.	4	1	3	2	1	4	1	0	2.0	2.7
	e. Ecological changes monitored at key sites.	4	2	3	2	1	3	1	1	1.9	2.9
	f. Effectiveness of conservation measures and management monitored.	3	1	3	2	1	3	1	0	1.8	2.2

Action	Measure	PS	BG	GR	MK	MNE	RO	TR	UA	Ave. IS	API
	g. Conservation measures and management modified according to their effectiveness.	3	1	2	1	1	3	1	0	1.5	2.5
	h. Fishery catches monitored at key sites.	2	1	3	1	1	2	0	1	1.5	1.7
	i. Dispersal of pelicans understood and monitored.	2	2	3	1	2	3	2	1	2.0	1.3
3.2.1	Undertake studies on the ecological requirements of the species, the threats it faces and its habitat	2	1	3.25	1.5	1.75	1.5	1.33	2.5	1.8	1.4
	a. Studies on hydrology, possibly at catchment level, carried out.	3	0	3	2	1	1	1	0	1.6	2.4
	b. Existing or potential conflicts between people and pelicans identified.	1	1	4	2	2	2	1	3	2.1	0.6
	c. Impact of pelicans on fish population and commercial fisheries evaluated.	1	1	3	1	3	1	0	2	1.8	0.7
	d. Research undertaken on mortality causes.	1	1	3	1	1	2	2	0	1.7	0.8
4.1.1	Inform the public and increase awareness of the need to protect DP and its habitat, and adequately train those involved in the conservation of the species.	2.5	1	3	1	2.5	3	0	1	1.9	1.7
	a. Public awareness campaign targeting local communities, hunters, fishermen and local authorities carried out.	3	1	4	1	3	3	0	1	2.2	1.8
	b. Training courses on wetland issues carried out.	2	0	2	1	2	3	0	0	2.0	1.3
	National & Average IS		2.43	3.04	2.07	2.28	2.86	2.33	1.47	2.3	

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