ISTITUTO NAZIONALE PER LA FAUNA SELVATICA

EURING GENERAL ASSEMBLY

FERTŐÚJLAK, 29 AUGUST – 1 SEPTEMBER 2007

ITALIAN REPORT

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1. **General situation**: since recently the Institute is no longer under the supervision of the Presidency of the Council of Ministers, but refers now to the Ministry of the Environment. Our Institute still heavily suffers from insufficient financial resources from the State and a general uncertainty on our situation and future. (e.g., financial constraints have forced us again to find external funds for buying rings in 2007). These difficulties have also affected the planned timing for the completion of our new information system (see below).

2. **Staff**: the staff is still made of 5 full-time positions, some of which covered on a part-time basis. The present situation is: 2 academic (Fernando Spina 50%, general organisation; Davide Licheri 80%, database management, information system), 4 clerical (Stefano Macchio 50% & Ezio Orfelini 50%, project management, database analyses, licensing; Rosita Mantovani 50% & Cosimo Tendi 50%, licensing, data gathering; Dario Piacentini 100%, rings, recoveries). We also could get external funds, through projects, allowing us to have extra staff: Stefano Volponi (40% migration atlas); Andrea Ferri (60% Ventotene migration monitoring project); Massimo Sacchi (60% recoveries), Riccardo Nardelli (60% project financing, coordinated projects). During 2006 we could also externally finance the crucial role of Gianni Benciolini in supporting Davide Licheri in developing the new information system.

3. **Ringers**: the organisation of licensing has not changed since the last meeting. Presently we have a total of 204 A (highest) level permit, 51 with a B level and 149 with a C level (for a total of 404 licensed ringers). We also have a total of 147 trainees at advanced stages of their training period and another 178 at an earlier stage (for a total of 327 trainees). The percentage of A level ringers has positively and steadily increased during the last years, confirming a growing average technical level of ringers. Regular sessions of exams to release new licenses and test ringers to move to higher level permits have been organised in 2006. Ringers who are inactive during at least three years are invited to attend these exams before resuming their activities, regardless of their previous permit level. In January 2006 we have organised the IX National Ringers' Meeting, thanks to full financial support obtained again from a local Government (Pescara Province). Over 300 people attended the meeting which lasted two days and featured also two invited talks by Humphrey Crick and Peter Jones.

4. **Rings**: rings are freely distributed to the ringers, together with pliers, max chord and feather-length rulers. A total of 20 ring types are used, ranging from 2.0mm to 26.0mm in diameter and made of Aluminium (4 types), Alloy (4 types), Stainless steel (9 types) and Incoloy (3 types). We purchase rings from Mekaniska (Sweden) and Porzana (UK).

5. **Ringings:** annual numbers for 2005 and 2006 are 244.596 and 218.468 respectively, although we're still missing data from some ringers for 2006. All ringings, including morphometrics, are computerised by the ringers.

6. **Recoveries:** the new information system for processing recoveries has been activated and each ringer gets now recoveries via a personal web page on EPE. Also National RCs have got their passwords to access the system and check relevant recoveries. We have recently also processed large numbers of local retraps computerised by the ringers; also in these cases we produce "life-histories" of birds retrapped, which routinely include morphometrics collected on each encounter. The new system also manages colour marks readings, starting with birds marked in 2006. We presently have reached over 81.000 recoveries managed with the new system (see summary table below).

7. **Information system at the Ringing Centre:** during the last two years the development and deployment of the new information system at the Ringing Centre has continued. A series of procedures have been activated at the central level and opened to use by ringers, trainees and National RCs. Here we include a more detailed description of the progress in the implementation of the EPE (EURING Protocol Engine) system.

7.1. Development and implementation of EPE (EURING Protocol Engine, www.infs-epe.it), August 2007

7.1.1. Things done:

- deployment of architecture of ORACLE 9i *Three-Tier*;
- migration of ringing and recovery data into ORACLE 9i;
- modelling of *entity/relationship* scheme for HR data and lookup-tables (places, species, etc.);
- migration of HR data and lookup-tables (places, species, etc.) into ORACLE 9i;
- normalization of HR data and lookup-tables (places, species, etc.);
- automation of DBA tasks (*monitoring, tuning and backing up*) into ORACLE 9i;
- development of ASP pages for automated web-based user affiliation, HR administration, ring stock and locality codes;
- web server publication in WWW;
- development of functions to temporarily receive data via e-mail;
- development of functions for processing recoveries and exchanging data via e-mail with foreign RCs;
- modelling of *entity/relationship* scheme for ringing and recovery data;
- development of ASP pages for automated web-based query of ringing and recovery data;
- ASP pages for upload/crop of ringing data coming from ringers, from rehabilitation centres as well as after addition of colour marks;
- improvement of automatic procedures for processing same-site recoveries;
- manual procedures for recovery data-entry, checking and publication;
- modelling of *entity/relationship* scheme for new lookup-tables (morphometric ranges, moult and wing formula forms, netting habitats, etc.);
- internationalisation of *labels* and data;
- management of multiple recoveries, including change of metal ring;
- management of multiple short-distance readings of colour marks;
- fully computerized adverts of a new recovery for all users previously involved in a contact with the individual bird.

7.1.2. Things which have been started but not completed yet:

- correction and upload of recovery data before January 2003;
- correction and upload of ringing/findings of colour marks before January 2006;

- optimisation of the stored procedures and materialised views into ORACLE 9i;
- optimisation of the ASP script;
- assisted modification of geo-referencing for ringing/recovery data;
- development of functions for transmitting/receiving data via FTP;
- development of functions to transmitting/receiving data via *Web services* (SOAP);
- development of a remote application for ringing data management by the ringer (C#);
- instructions for users

7.1.3. Things still to be started:

- development of the analytical layer for the *entity/relationship* scheme (EPE OLAP);
- enhancement of the community layer for the Web 2.0 approach;
- passage from an *entity/relationship* to an *object-oriented* scheme for access to XML technologies;
- passage from ASP pages to ASPX in compliance with the Microsoft.NET framework

7.1.4. Amount of data presently in EPE system:

Year	Ringed	Recovered		Ringing total	Recoveries total		Grand totals	
2002				**3.159.175**	**7.181**		**3.166.356**	
2003	**243.294**	**18.394**		**3.402.469**	**25.575**		**3.420.863**	
2004	**248.937**	**18.610**		**3.651.406**	**44.185**		**3.670.016**	
2005	**244.596**	**19.252**		**3.896.002**	**63.437**		**3.915.254**	
2006	**218.468**	**18.392**		**4.114.470**	**81.829**		**4.132.862**	

8. Projects:

- **8.1. Progetto Piccole Isole**: the project has celebrated its first 20 years during spring 2007. On average ca. 20 different sites are active, in Spain, France, Italy, Malta, Greece. This long-term coverage has recently allowed some interesting analyses on the effects of global change on spring migration phenology (see Jonzen *et al*., 2006 - Rapid advance of spring arrival dates in long-distance migratory birds. *Science* 312: 1959-1961; Jonzen *et al*., 2007 - Response to comment on Rapid advance of spring arrival dates in long-distance migratory birds. Science 315: 598c; Saino *et al*., - Temperature and rainfall anomalies in Africa predict timing of spring migration in trans-Saharan migratory birds. *Climate Reseach*, *in press*).

- **8.2. Progetto Alpi**: the project started in 1997 and investigates patterns of autumn migration across the barrier represented by the Alps. It is based on a network of stations widely stretched along longitude and on high passes, mountain slopes and valley bottoms. The secretarial work is still ensured by the Museo Tridentino di Scienze Naturali. With 2006 10 years of the project were celebrated, leading to a total of 238,886 birds ringed, belonging to 163 species. A centralised data-base is being analysed for a synthesis of general aspects of autumn migration across the Alps. Data gathered through the project

have allowed identifying sites of particular importance as bottleneck areas for migrants, offering a sound basis for conservation measures.

- **8.3. Italian Migration Atlas**: the project progresses, with analyses of a total of 165.141 recoveries (Italian and foreign rings) belonging to 316 species. The section on non-Passerines has been completed in a first version in June 2007. Work on over 120 species of Passerines is underway.

- **8.4. Italian CES, PRISCO**: In Italy, coordinated constant effort mist-netting during the breeding season started in 2002 when the Italian Ringing Centre promoted the Italian CES project PRISCO (PRogetto di Inanellamento a Sforzo COstante). The number of active ringing sites increased from 13 in 2002 to 27 in 2006: sites distribution, however, is still biased towards N Italy and the Po river plain, with only few sites operated in central Italy and none in the South. Overall, more than 70 licensed ringers and 10 trainees work in the 33 ringing sites under the PRISCO protocol. More than 35.000 birds belonging to 107 species (32 non-Passerines) were ringed during PRISCO. Ringing sites greatly differ for quality and quantity of bird catches: the best sites are located in productive natural habitats and show up to 10-folds higher net efficiency and 4-times higher species capture than sites located in poor habitats. In some of the sites we could obtain financial support to ringing from Local Authorities (see below).

- **8.5. Environmental monitoring through ringing**: during the last years the Ringing Centre has tried to involve Local Authorities in supporting standardised ringing as a tool for environmental monitoring. We have proposed a project based on Passerines ringed in a standardised way during one session each 10-day period along the year. Aims of the project are: description of the local seasonal changes in population structure, evaluation of the role of the sites as moulting/stopover/wintering areas for migrants, description of the use birds do of the sampled habitats, through details on capture/recapture frequency and physical conditions, geographical connectivity of the study sites through recoveries. Local Authorities are invited to support ringing activities (through purchase of the necessary ringing equipment, provision of logistics and financial support to the ringers), and contribute to the coordination of the project through a small annual sum to the Ringing Centre. So far 10 such sites are operated, thanks to the support of Regional and Provincial Governments as well as National/Regional Parks. We are still active in trying to expand this interesting monitoring network.

- **8.6. Use of first-capture data by the Ringing Scheme**: new analyses have been carried on, producing seasonal maps of species distribution as derived from ringing totals corrected by ringing effort, as well as of seasonal distribution of fat birds out of the total birds ringed in any site within Italy, for over 200 different species. New statistical approaches are now being used in order to analyse seasonal patterns in species/habitat relationships as from first capture data.