Forum

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Kentish plover (*Charadrius alexandrinus*), Avocetta archive

Forum

Conservation experiences, evidence and opinions

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Do the weaknesses and strengths of experts and local volunteers affect the conservation actions focused on nesting plovers? Constructive considerations from the Italian beach front line

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Abstract - Both the high-level strategies promoted by experts of public Conservation Agencies, and the small-scale tactics implemented by local conservation groups show strengths, weaknesses, opportunities and threats that can affect the effectiveness of the efforts aimed at the conservation of plovers nesting on sand dunes (*Charadrius alexandrinus* and *Charadrius dubius*). Here we propose a SWOT analysis, focusing on critical conditioning factors that should contribute towards rendering effective the local conservation strategies: (1) experts should learn the tools of project management, thus avoiding both 'analysis-paralysis' and 'epistemic arrogance' towards local volunteers, and using a simplified scientific language to communicate smart operational guidelines to the people; (2) editorial times necessary to draft guidelines should be shortened because sand-dune bird species urgently need tools for rapid actions; (3) in conservation strategies, 'monitoring' means verifying changes in an environmental target in the expected direction defined by specific project objectives (it is not only a periodical field sampling of biodiversity targets). In this regard, experts should monitor not only the status of plovers (pairs, nests and chicks) but above all the effectiveness of conservation actions carried out; (4) local volunteers, often highly motivated towards these charismatic species, have scarce knowledge, lack skill and funding availability; therefore constituting an underutilized human potential which should be supported and adequately trained by technicians in order to allow a fine-grained pervasive conservation of these declining species.

Keywords: analysis-paralysis, epistemic arrogance, project management, operational guidelines, sand- dune species.

INTRODUCTION

In recent years, there has been an increase in attention towards the conservation of charadrids nesting on the beaches (primarily Kentish Plover, *Charadrius alexandrinus* and secondarily Little Ringed Plover *Charadrius dubius*). Although the Little Ringed Plover is classified as Least Concern both at the global and national (Italian) level, the Kentish Plover, included in the Least Concern category at global scale, is an Endangered species in Italy (Gustin et al. 2019) and in a critical status due to the large number of anthropogenic pressures (dogs, trampling, mechanical beach grooming, etc.: e.g. Pietrelli & Biondi 2012).

In Italy, a National Coordination Committee for the Kentish Plover was founded (CNCF: https://comitatofratino.org/) and the National Nature Conservation Agencies (ISPRA) have recently launched a protocol of monitoring programs on a national scale with the contribution of expert ornithologists (Imperio et al. 2020). In parallel, an interesting social phenomenon started at the local level: both environmental associations and groups of citizens (schools, bathhouses, individual citizens) are activated in every breeding season for the protection of the nesting sites of these species by active communication through social media (Facebook, Instagram, etc.). These groups are very heterogeneous, in terms of availability of resources, professional skill, coordination and membership in environmentalist associations. They initiate operational, political-administrative, communication and education actions to protect nests and chicks in different local socio-environmental contexts: some of these are improvised, others are based on expert skills and standard protocols.

For more than a decade, we have been following some actions aimed at protecting the nesting sites of these species on the coast of Tyrrhenian central Italy (Lazio), both directly (as chief managers for protected coastal areas: Torre Flavia Natural Reserve and Centro Habitat Mediterraneo) and indirectly (supporting local groups and coordinating actions on national and local scales). Based on our experience, both the top-down strategies promoted by experts, and the tactics implemented by local groups show strengths, weaknesses, opportunities and threats that may affect the effectiveness of the efforts aimed at conservation of these species.

Therefore, we have analyzed these external and internal conditioning factors, listing them, following a SWOT approach (Helms & Nixon 2010; Tab. 1), as an open proposal. Among these factors, we focused on some selected critical weaknesses that, in our opinion, should be overcome as soon as possible by the technical-scientific community of ornithologists. Finally, we concluded suggesting a change in the approach used by experts in the involvement of local groups of volunteers.

ARE EXPERT ORNITHOLOGISTS AUTOMATICALLY GOOD CONSERVATION MANAGERS ?

Ornithologists can develop good guidelines for assessing the status of charadrids (Imperio et al. 2020). However, conservation strategies do not only involve monitoring individuals, nests, eggs, and chicks: they also require knowledge of the many tools available in the project management arsenal (creative brainstorming aimed at obtaining original solutions, communication techniques and approach to the public, decision-making, cost/benefit balance to select conservation options, scenario analysis, stakeholder analysis, outcomes monitoring designs; Battisti 2018). Frequently, these opportunities are not exploited. The expert ornithologists can provide important indications on the conservation status, phenology, ecology and behavior of the species but the search for solutions, decisions, actions, coordination and other socio-political-organizational and management aspects require a different competence to be effective. To preserve sand-dune bird species in complex socio-ecosystem contexts, expert ornithologists must acquire a problem-solving and project management logic (Battisti et al. 2020). In order to know the many opportunities of management science and to develop effective conservation actions, it is not enough to be only an expert in charadrids (or other groups that need protection). Ornithologists should move out

Table 1. A proposal for a SWOT analysis focusing on Strengths (S), Weaknesses (W), Opportunities, (O), and Threats (T) of experts and local volunteers. See text for details.

<table>
<tr><th></th><th>Strengths</th><th>Weaknesses</th><th>Opportunities</th><th>Threats</th></tr>
<tr><td rowspan="5">Experts/Agencies</td><td>Strong background (wide knowledge of bio-ecology of the species).</td><td>(Possible) Insufficient background in project management.</td><td rowspan="5">Professional growth in conservation science and project management (not only in ecological science).</td><td rowspan="5">Epistemic arrogance and consequent demotivation toward non-professional volunteers (=failure of conservation efforts).</td></tr>
<tr><td>Ample availability of budget, resources, personnel, and technology.</td><td>Prolonged time in drafting guidelines.</td></tr>
<tr><td rowspan="3">High impact in policy and policy arenas.</td><td>Analysis-paralysis.</td></tr>
<tr><td>Technical-scientific language understandable with difficulty by many local groups.</td></tr>
<tr><td>Low number (difficulty in reaching the sites personally).</td></tr>
<tr><td rowspan="6">Local groups</td><td>Large number of volunteers.</td><td>Poor knowledge of bio-ecology of species.</td><td>Training of local groups and the support from technical structures could automatically increase the success of conservation through a widespread and pervasive action.</td><td rowspan="6">Lack of skills and organization (= consequent failure of conservation effort).</td></tr>
<tr><td>Fine-grained distribution throughout the territory.</td><td>Little or no access to scientific literature and technical guidelines.</td><td>Opportunities for conservation education using charadrids as flag and umbrella species (communicating the values of dune ecosystems).</td></tr>
<tr><td>High motivation and enthusiasm.</td><td>Little competence in adopting practical solutions (lack of background in conservation and proj-ect management).</td><td>Opportunities for conservation education using charadrids as flag and umbrella species (communicating the values of dune ecosystems).</td></tr>
<tr><td>High ability to intervene quickly on the field.</td><td>Scarce availability of resources (money, personnel, poles, ropes, cages).</td><td rowspan="3">Opportunities to form groups of volunteers who, at the local level, will be able to promote conservation actions also directed towards other ecological targets.</td></tr>
<tr><td rowspan="2">High cognitive diversity (different cultural backgrounds: strategy for select creative solutions; see Battisti, 2018).</td><td>Political impact (often) absent or scarce.</td></tr>
<tr><td>Poor coordination between volunteers and with strategic Agencies.</td></tr>
</table>

of their “comfort zone” and acquire some of these tools in their own background, thus enabling them to respond to operational, social, organizational and political problems and human dimension dynamics occurring in the beach front line.

ANALYSIS-PARALYSIS SYNDROME AND ‘FEAR OF ACTING’

Periodic monitoring of plover pairs and their breeding success is certainly an important step in understanding their status. In the language of conservation project management, this phase is called 'situation analysis' (Hockings et al. 2006). However, any project that wishes to achieve conservation objectives must move beyond the ‘situation analysis’ and address the subsequent steps of action- planning and operational process in a real context. Guidelines and workshops keep focusing on analytic issues (i.e. field sampling of nesting pairs and breeding success, reliability of methods and protocols) without moving on to the next steps of the project cycle (solutions, decision-making, operational actions, outputs and outcomes monitoring, adaptive management; Hockings et al. 2006), with the only exception being the National Action Plans of some declining species (e.g.: Ferruginous Duck *Aythya nyroca*, Rock Partridge *Alectoris graeca* or Egyptian Vulture *Neophron percnopterus*). Continuing to collect detailed data on the status of breeding pairs of these species can only make sense if parallel operational conservation strategies are launched on a local, regional and national scale. Otherwise, they constitute what in project management is called "analysis paralysis", i.e. "the unhealthy obsession with numbers, analyses, and reports" (Langley 1995; Zuckerberg 2008). In this regard, “analysis-paralysis” describes an individual or group process that by over-analyzing a situation can cause decision-making and operational actions to become "paralysed", meaning that neither a solution nor a course of action is decided upon.

Field sampling is important, but it is only the first step in a conservation strategy. For these declining species it is necessary to shift from basic-research objectives to applied conservation project objectives, not only assessing the status of the charadrids but, above all, the effectiveness of conservation actions, also by adopting specific monitoring designs (e.g. BACI: Underwood, 1994). In conservation strategies, monitoring means verifying changes in an environmental target in the expected direction defined by specific project objectives (Elzinga et al. 2009). It is a management goal, not only a research goal limited to a multi-year sampling of breeding pairs in order to obtain information on the status and on the chronological trends. Monitoring may be carried out if conservation strategies are started, and operational objectives have been defined, so that the achievement of the expected outcomes (assessment of the effectiveness of the project; Hockings et al. 2006) can be verified. To overcome “analysis-paralysis”, Kane (2015) suggests some solutions such as: (i) setting realistic objectives and deadlines and (ii) defeating the ‘fear of acting and making mistakes’ and meeting the ‘real world’.

HIGH STRATEGIES PROMOTED BY PUBLIC AGENCIES NEED TIME WHEREAS BEACH FRONT- LINE ‘TACTICS’ REQUIRE RAPID RESPONSES

It is important to issue guidelines and national expert-based standard strategies. However, their editing and release require time (also due to ‘analysis-paralysis’). This is not compatible with the short-term emergency needs of the local contexts (the ‘beach front line’). The timing of the local ‘tactical’ choices is tight and dictated by the phenology of the species and by the local social dynamics (bathing economy, beach cleaning, local politics, human dimension). Therefore, the decision-making times of high-level strategies must adapt to the times both species phenology and local crisis contexts. In addition to top-down strategies, there must be operational taskforces and rapid training modules for local operators (e.g. using web platforms) in order to intervene quickly with operational blitzes.

OVER-TECHNICAL LANGUAGE AND THE DE-MOTIVATION OF LOCAL GROUPS

Many local groups have numerous points of weakness: they have scarce resources, show a lack of expertise and skill, and frequently are not coordinated by experts. Their spontaneous and often naïve initiatives are frequently criticized for being incorrect on the technical-scientific level. On the beach front line, we have experience with individuals or groups of citizens left alone because they are 'amateurs' and, when they attempt to carry out minimum operational actions (e.g. positioning fences), they are berated because times and methods have not followed technical-scientific standards.

Impulsive actions carried out by inexperienced citizens can unfortunately create more harm than good. However, it is also true that, in the absence of indications from experts, such emergency interventions on these charismatic species will continue to be carried out locally. Therefore, before adopting a critical (often 'negative-destructive') approach, the experts should make themselves available (not only theoretically but also operationally in the field), and use a language that is easily understood by amateurs, thus adopting a positive-constructive approach and avoiding what is called 'epistemic arrogance' (Battisti 2017). The latter 'threat' induced by experts only leads to demotivating local groups that have a practical attitude towards conservation and which should instead be trained and involved, therefore exploiting their points of strength (motivation, high number, widespread and continuous presence on the beaches, rapid intervention).

Experts must make their expertise available with humility, develop listening skills, communication and dialogue, in the field alongside volunteers and not keep people uninformed. Considering them non-experts, can induce a 'fear of acting' and criticizing their operation can be a negative top-down strategy of conservation.

Contextually, it is necessary to draw up as soon as possible a handbook of operational guidelines, highlighting ranges of possible solutions and approaches to decision-making, in relation to local constraints, circumstances and conditions (e.g. Pietrelli et al. 2001, Biondi et al. 2018). These guidelines must be shared on social channels and not only limited to the restricted circle of technicians (e.g. on scientific Journals or Proceedings), translating the scientific language in order to make it understandable by a wide audience.

It is necessary to initiate an action for the training of local groups (Soldarini et al. 2019; LIFE NetPro Net and CHOO-NA! project), leaving a range of flexible and context-specific solutions. There is no 'ideal solution': in addition to good standard practices (e.g. fences, cages, involvement with bathhouses and other stakeholders, political actions, communication strategies), creative ideas can also be adopted, where resources in terms of personnel, means, materials and technology are lacking. Brainstorming techniques may also be used (e.g. Marcot & Helbert 2015). In our experience, some logistical solutions aimed at controlling both the flows of bathers and dog owners (a growing category of stakeholders largely diffused and impactful) in the nesting areas. This has been suggested by local volunteers, with little ornithological experience but with a substantial knowledge of local social dynamics (see the role of 'wise-people' in conservation; Battisti et al. 2020). For example, in the Torre Flavia dunes, a large number of volunteers, both those belonging to a national association (LIPU – Italian partner of BirdLife International) and other citizens living in the surrounding but not belonging to any organizations, cooperated extensively in suggesting context-dependent solutions through brainstorming sessions. In these meetings, local volunteers (extremely heterogeneous in their education, cultural level and age: children, artists, surfers and so on; e.g. Battisti et al., 2018) provided ideas about (i) approaches to carry out a stakeholders-oriented communication, (ii) involvement of local groups with judicial police duties, (iii) strategies for closing stretches of beach after egg hatchings, avoiding conflicts with citizens, (iv) providing graphic contents for information signs.

Obviously, everything related to bird monitoring,

handling of eggs and chicks and other technical aspects must always be the prerogative of the experts. However, local groups must be put in a position to move quickly by providing them with clear smart guidelines on how to carry out political, operational, communicative conservation education actions (see Jacobson et al. 2015).

CONCLUSIONS

We must wait no longer. While the headquarters of central Agencies define 'high' and top-down long-term strategies, at local level (i.e. in the beach front line) there is a short-term (seasonal) loss of nests and chicks. The answer can not only be the issue of professional guidelines to assess the status and the trends but also of helping many local groups to train, coordinate and act properly in an appropriate way by providing conceptual and operational tools. The experts are few, local citizens and non-academic ornithologists are many and they are present in the field continuously. These last are the first to detect breeding pairs and nests and allow conservation actions to be launched. Their contribution must be recognized. Although having some points of weakness, they constitute a potential that is still not emphasized enough and are too often criticized. One must ask whether preventing local groups from acting is a good move.

In critical times for the conservation of these species we cannot afford to be blocked in analytical aspects but must start, both with pragmatic conservation plans on a national scale, and with smart operational guidelines for operators at local scales, following both failures and successes of local scale experiences (see Regosin 2016; Bird Life Australia 2020; for Italy, Battani et al. 2019, Biondi et al. 2018, 2019, Soldarini et al. 2019). Numerous volunteers, motivated, supported and adequately trained by technicians could be very useful in starting a process of fine-grained pervasive conservation for beach-nesting bird declining species.

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REFERENCES

Battani E., Farioli A., Nobili G., Ravaglioli M. & Tinarelli R., 2019. Interventi di protezione della popolazione nidificante di fratino in tre aree dell'Emilia-Romagna. In: Balestrieri R., Bazzi G. (Eds.), Libro degli abstract XX Convegno italiano di Ornitologia: 73.

Battisti C., 2017. How to make (in) effective conservation projects: look at the internal context! Anim. Conserv. 20: 305-307.

Battisti C., 2018. Unifying the trans-disciplinary arsenal of project management tools in a single logical framework: Further suggestion for IUCN project cycle development. J. Nat. Conserv. 41: 63-72.

Battisti C., Frank B. & Fanelli G., 2018. Children as drivers of change: The operational support of young genera-

tions to conservation practices. Environm. Practice 20: 129-135.

Battisti C., Amori G., & Luiselli L., 2020. Toward a new generation of effective problem solvers and project-oriented applied ecologists. Web Ecol. 20: 11-17.

Biondi M., Pietrelli L., Muratore S., Menegoni P., Landucci G., Soprano M. & Giannerini S., 2018. Il Fratino *Charadrius alexandrinus* nella Tenuta Presidenziale di Castelporziano (RM): monitoraggio e conservazione. Gli Uccelli d'Italia, 43: 5-18.

Biondi M., Pietrelli L., Giannerini S., Landucci G., Muratore S. & Soprano M., 2019. Interventi di conservazione del fratino nella Tenuta Presidenziale di Castelporziano (Roma). In: Balestrieri R., Bazzi G. (Eds.), Libro degli abstract XX Convegno italiano di Ornitologia: 76.

Bird Life Australia, 2020. Beach nesting birds. For volunteers.

http://www.birdlife.org.au/projects/beach-nesting-birds/for-volunteers [last access: July, 18, 2020]

Elzinga C.L., Salzer D.W., Willoughby J.W. & Gibbs J.P., 2009. Monitoring plant and animal populations: a handbook for field biologists. John Wiley & Sons New York.

Gustin M., Nardelli R., Brichetti P., Battistoni A., Rondinini C. & Teofili C. (Eds.). 2019 Lista Rossa IUCN degli uccelli nidificanti in Italia 2019 Comitato Italiano IUCN e Ministero dell'Ambiente e della Tutela del Territorio e del Mare, Roma.

Helms M.M. & Nixon J., 2010. Exploring SWOT analysis – where are we now? A review of academic research from the last decade. J. Strat. Manag. 3: 215-251.

Hockings M., Stolton S. & Leverington F., 2006. Evaluating Effectiveness: A framework for assessing management effectiveness of protected areas. IUCN, Switzerland.

Imperio S., Nardelli R. & Serra L., 2020. Protocollo per il monitoraggio del Fratino. Versione 1.0. ISPRA, Roma.

Jacobson S.K., McDuff M.D. & Monroe M.C., 2015. Conservation education and outreach techniques. Oxford University Press, Oxford.

LIPU, 2020. La campagna LIPU per il Fratino. http://www.lipu.it/news-natura/conservazione-fauna/11-conservazione/1041-fratino-ecco-le-regole-per-salvaguardarlo [last access: July, 18, 2020].

Kane B., 2015. The Science of Analysis Paralysis - How overthinking kills your productivity and what you can do about it. https://doist.com/blog/analysis-paralysis-productivity/

Langley A., 1995. Between 'paralysis by analysis' and 'extinction by instinct'. MIT Sloan Manag. Rev. 36: 63.

Marcot B.G. & Elbert D.C., 2015. Assessing management of raptor predation management for snowy plover recovery. Gen. Tech. Rep. PNW-GTR-910. Portland, OR: US Department of Agriculture, Forest Service, Pacific Northwest Research Station. 67 p., 910.

Pietrelli L. & Biondi M., 2012. Long term reproduction data of Kentish Plover *Charadrius alexandrinus* along a Mediterranean coast. Wader Study Group Bull. 119: 114–119.

Pietrelli L., Tinelli A., Cannavicci A. & Biondi M., 2001. Nidificazione di Charadriidae a Castelporziano e interventi di conservazione. Gli Uccelli d'Italia 26: 53–59.

Regosin J., 2016. Success on the Sand Piping Plover management. Massachussets Wildl. 4: 6-17.

https://www.mass.gov/doc/success-on-the-sand-piping-plover-management/download

Soldarini M., Regondi G. & Rossini E., 2019. I ragazzi che hanno scelto la natura: il LIFE Choose Nature della Lipu. In: Balestrieri R. & Bazzi G. (Eds.), Libro degli abstract XX Convegno italiano di Ornitologia: 54.

Underwood A.J., 1994. On beyond BACI: sampling designs that might reliably detect environmental disturbances, Ecol. Appl. 4: 3–15.

Zuckerberg B., 2008. Overcoming "analysis paralysis". Front. Ecol. Environ. 6: 505-506.

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