

Name: **Giovanna Massei**

Position: **Senior Wildlife Ecologist**

Qualifications: **PhD (zoology) , 1995, University of Aberdeen, UK**
Specialisation in Wildlife Management and Conservation, 1988
National Institute for Wildlife Biology, 1988, Bologna, Italy
Degree in Natural Sciences (MSc), 1985. University of Florence, Italy

Professional memberships: **The Wildlife Society**

Profile

Dr Massei has over 25 years experience in wildlife management with particular focus on non-lethal approaches to mitigate human-wildlife conflicts. She has worked extensively on the ecology and population control of wild boar and on fertility control applications for wildlife. In particular, Dr Massei is interested in the use of immunocontraception for free-roaming dogs in the context of rabies eradication. She published more than 100 scientific and popular articles and is Associate Editor for the peer-reviewed journal *Human-Wildlife Interactions*.

Current and recent projects

- Collection of dog demographic data in Mainpat Tibetan Camps (India) to refine rabies eradication model (2010-2011)
- Reducing the impact of feral livestock in and around the Centre Hills in Montserrat (2009-2011)
- Practical application of emerging fertility control technologies for wildlife management (2008-2011)
- Evaluation of fertility control to manage overabundant wildlife (2005-2008)
- Modifying problem behaviour of free-living badgers using conditioned taste aversion (2002-2005)
- Batesian mimicry : applications for benign vertebrate wildlife management (2002-2004)
- Modifying predatory behaviour of wildlife using conditioned taste aversion (2001-2002)

Hobbies

Reading, creative writing, cooking, travelling, Tai Chi.

Publications

1. Campbell T.A., D. B Long and **G. Massei** (2011). Efficacy of the Boar-Operated-System to deliver baits to feral swine. *Preventive Veterinary Medicine* 98:243-249.
2. Carroll M.J., A. Singer, G.C. Smith, D. P. Cowan and **G. Massei**. (2010) The use of immunocontraception to improve rabies eradication in urban dog populations. *Wildlife Research* **37**, 676–687
3. **Massei G.**, Quy R., Gurney J., Cowan D.P. 2010. Can translocations be used to manage human-wildlife conflicts ? *Wildlife Research* **37**, 428–439.
4. Foyle K.L., Delahay R.J. and **G. Massei**. 2010. Isolation of *Mycobacterium bovis* from a feral wild boar (*Sus scrofa*) in the UK. *Veterinary Record* 166: 663-664
5. **Massei G.**, Roy S., Bunting R. (2011). Too many hogs? A review of methods to mitigate impact by wild boar and feral pigs. *Human-Wildlife Interactions* 5: 79-99.
6. Long, D. B., Campbell, T.A., and **G. Massei**. 2010. Evaluation of Feral Swine-Specific Feeder Systems. *Rangelands*.32 (2):8-13.
7. **Massei G.**, Miller L.A. and Killian G.J. 2010. Immunocontraception to control rabies in dog populations. *Human-Wildlife Interactions* 4:155–157.
8. **Massei G.**, Coats J., Quy R., Storer K., Cowan D.P. 2010.The BOS (Boar-Operated-System): a novel method to deliver baits to wild boar. *J. Wildlife Management*.74(2): 333-336.
9. **Massei G.**, Jones A., Platt T., Cowan D. P 2009. Iophenoxic Acid as Long-term Marker for Wild Boar. *Journal of Wildlife Management*. 73(3):458-461.
10. Lambert M., **Massei G.**, Yoder C. and Cowan D. 2010. Towards non-lethal management of a non-native avian species: An Evaluation of Diazacon as a Potential Contraceptive in Non-Native Rose-Ringed Parakeets *Journal of Wildlife Management* 74(3):573–581.

11. Lambert M., **Massei G.**, Bell J., Berry L., Haigh C. and Cowan D. 2009. Reproductive success of captive Rose-ringed parakeets *Psittacula krameri* in a captive UK population. *Pest Management Science* 65: 1215–1218 .
12. Cagnacci F., **Massei G.** 2008. Monitoring bait uptake in badgers: a pilot study using PIT-tag system and time-lapse video surveillance. *Ethology Ecology & Evolution* 20: 165-171.
13. Cowan D. P. and **Massei G.** 2008. Wildlife contraception, Individuals and Populations: How Much Fertility Control is Enough?. Proc. 23rd Vetehr. Pest Conf. (R.M. Timm and J.M. O'Brien Eds.), *University of California Davis*.
14. **Massei G.**, Cowan D. P., Coats J., Gladwell F., Lane J.E. and Miller L.A. (2008) Effect of the GnRH vaccine GonaCon™ on the fertility, physiology and behaviour of wild boar. *Wildlife Research* 35:1-8.
15. Cagnacci F., **Massei G.**, Cowan D., Delahay R. & Walker N. 2007. Effects of bait type and deployment strategy on uptake by free-living badgers. *Wildl. Res.* 34:454-460.
16. Cowan D.P., **Massei G.**, Mellows R. 2006. A Modeling Approach to Evaluating Potential Applications of Emerging Fertility Control Technologies in the UK. Proc. 22nd Vertebr. Pest Conf. (R. M. Timm and J. M. O'Brien, Eds.), Univ. of Calif., Davis: 55-62.
17. **Massei G.**, Cotterill J.V., Coats, J., Bryning G. & Cowan D. 2007. Can Batesian mimicry help plants to deter herbivores? *Pest Manage. Sci.* 63:559-563.
18. Cagnacci F., **Massei G.**, Coats J., de Leeuw A. & Cowan D. 2006. Long lasting systemic bait markers for Eurasian Badgers. *J. Wildl. Diseases.* 42:892-896.
19. Gentle M., **Massei G.** & Quay R. 2006. Diversity of diet influences strength and persistence of conditioned taste aversion in rats. *Appl. Anim. Behav. Sci.* 97: 303-311.
20. **Massei G.**, Watkins R. & Hartley S.E. 2006. Sex-related allocation to growth and secondary compounds in *Juniperus oxycedrus macrocarpa*. *Acta Oecologica* 29 : 135-140.
21. Cotterill J.V., **Massei G.** & Cowan D. 2006. Masking the taste of the Conditioned Taste Aversion agent levamisole using an ion-exchange resin, for practical application in wildlife management. *Pest Manage. Sci.* 62:120-125.
22. Cagnacci F., **Massei G.**, Cowan D. & Delahay R. 2005. Can learned aversion be used to control bait uptake by Eurasian Badgers? *Appl. Anim. Behav. Sci* 92:159-168.
23. **Massei G.** & Genov P. 2004. The environmental impact of wild boar. *Galemys* 16: 135-145.
24. Gentle M., **Massei G.** & Saunders G. (2004) Levamisole can reduce bait uptake in wild foxes. *Mammal Review.* 34: 325-330.
25. **Massei G.**, Lyon A. & Cowan D.P. (2003) Levamisole can induce conditioned taste aversion in foxes. *Wildlife Research* 30(6) 633 – 637
26. **Massei G.**, Lyon A. & Cowan D.P. 2003. Potential compounds for inducing conditioned taste aversion in ferrets. *New Zealand Journal of Zoology* 30:95-100.
27. **Massei G.**, Lyon A. & Cowan D.P. 2002. Conditioned taste aversion can reduce egg predation by rats. *Journal of Wildlife Management* 66 (4): 1134-1140.
28. **Massei G.** & Cowan D.P. 2002. Strength and persistence of conditioned taste aversion in rats: evaluation of eleven potential compounds. *Applied Animal Behaviour Science* 75: 249-260.
29. **Massei G.** & S. Hartley. 2000 Disarmed by domestication? Induced responses to browsing in wild and cultivated olive. *Oecologia* 122:225-231.
30. **Massei G.**, Hartley S. & Bacon P. 2000. Structural and chemical variation of Mediterranean woody evergreen species: the effects of age, season and browsing by ungulates. *J. Veg. Sci.* 11: 1-8.
31. Leaper R., **Massei G.**, Gorman M. e Aspinal R. The feasibility of reintroducing Wild Boar (*Sus Scrofa*) to Scotland: Predictions from a Geographical Information System and a Population Viability Analysis. 1999. *Mamm. Rev.* 29: 239-259.
32. **Massei G.**, & R.T. Bowyer. 1999. Scent marking in fallow deer: effects of lekking behavior on rubbing and wallowing. *J. Mamm.* 80:633-638.
33. Genov P., Gigantesco P, & **G. Massei** 1998. Interactions between black-billed magpie and fallow deer. *The Condor* 100:177-179.
34. **Massei G.**, P. Bacon & P.Genov. 1998 . Fallow deer and wild boar pellet group disappearance in a Mediterranean area. *J. Wildl. Manage.* 60:1086-1094.
35. **Massei G.** & Genov P. 1998. Fallow deer (*Dama dama*) winter defecation rate in a Mediterranean area. *J. Zool. Lond.* 245:209-244.
36. Russo L., **Massei G.** & Genov P. 1997. Daily home range and activity of wild boar in a Mediterranean area free from human hunting. *Ethol. Ecol. Evol.* 3 (9):287-294.
37. Patterson I. J. , **Massei G.** & Genov P. 1997. The density of cicadas *Cicada orni* in Mediterranean coastal habitats. *Ital. J. Zool.* 64: 141-146.
38. **Massei G.** ,Genov P. V., Staines B. W. & Gorman M. L. 1997. Mortality of wild boar in a Mediterranean area in relation to sex and age. *J. Zool. London* 242: 394-400.
39. **Massei G.** ,Genov P. V., Staines B. W. & Gorman M. L. 1997. Factors influencing home range and activity of wild boar (*Sus scrofa* L.) in a Mediterranean coastal area. *J. Zool., London* 242: 411-423

40. **Massei G.**, Markov G. G., Genov P. V. 1997. Morphometric characteristics and growth rate of chamois horn (*Rupicapra rupicapra* L.) in Bulgaria. *Acta Zool. Bulg.* 49:20-24.
41. **Massei G.**, Genov P. V. & Staines B. W. 1996. Diet, food availability and reproduction of wild boar in a Mediterranean coastal area. *Acta theriol.* 41: 307-320.
42. Russo L., P.Genov & **G. Massei** 1995. Preliminary analysis of daily activity of wild boar in the Maremma Natural Park. *Ibex J. Mount. Ecol.* 3:126-128.
43. **Massei G.** & P. Genov 1995. Observations of black-billed magpie (*Pica pica*) and carrion crow (*Corvus corone cornix*) grooming wild boar (*Sus scrofa*). *J.Zool.Lond.* 236: 338-341.
44. **Massei G.** & P.Genov, 1995. Preliminary analysis of factors influencing habitat-use by the wild boar. *Ibex J. Mount. Ecol.* 3:168-170
45. Genov P. V., **Massei G.** & H Nikolov 1995. Morphometrical analysis of two Mediterranean wild boar populations. *Ibex J. Mount. Ecol.* 3:69-71.
46. Genov P., **Massei G.** & V. Kostova 1994. Die Nutzung der Wildschweinpopulation in Europa in Theorie und Praxis. (The management of wild boar populations in Europe: theory and practice). *Z. Jagdwiss.* 40: 263-267.
47. **Massei G.**, Randi E. & P.Genov 1994. The dynamics of horn growth in Bulgarian chamois, *Rupicapra rupicapra balcanica*. *Acta theriol.* 39 : 195-199.
48. **Massei G.**, Randi E., Markov G. & P.Genov 1993. Multivariate analysis of craniometric characters in Bulgarian chamois. *Hystrix* 5: 17-29.
49. Genov P., H. Nikolov, **G.Massei** & S. Gerasimov,1992. Craniometrical analyses of Bulgarian wild boar populations. *J. Zool. Lond.* 225 : 309-325.
50. **Massei G.**, 1994. Pine-tree rubbing by the wild boar. *Ecol. Ethol. Evol.* 32 (1): 17.
51. Randi E., **G.Massei** & P.Genov,1992. Allozyme variability in Bulgarian wild boar populations. *Acta ther.* 37 : 271-278.
52. Genov P., **G. Massei** & R. Ganchev, 1990. Verbreitung und zahlenmassige Starke der Gemse (*Rupicapra rupicapra balcanica*) in Bulgarien. (Status and distribution of the chamois in Bulgaria). *Z. Jagdwiss.* 36: 1-8.
53. Casanova P. & **G. Massei**, 1986. The management of roe deer in small forested areas. *Monti e Boschi*, 37: 16-21.

Submitted

1. Frantz A., **G. Massei** and T. Burke. Genetic evidence for past hybridisation between illegally reintroduced English wild boar (*Sus scrofa*) and domestic pigs. *Submitted to Mammalian Biology*

Selected communications in conferences

1. Massei G., Smith G., Cowan D., Carroll. 2011. The use of immunocontraception to improve rabies eradication in urban dog populations. OIE Global Conference on Rabies Control. Incheon, 7-9 September, South Korea.
2. Massei G., From Catch-Neuter-Release to Catch-Inject-Release: immunocontraception as an alternative to surgical sterilisation for free-roaming dogs. OIE Global Conference on Rabies Control. Incheon, 7-9 September, South Korea.
3. Massei G. Too many pigs? population trends and control methods for wild boar and feral pigs. 2010. International Wild Pig Conference, 11-13 April, Pensacola (Florida), USA.
4. Bunting R., Massei G., Rogers-Ryan, Roy S., Millett J. 2010. Feral Pigs and Volcanoes: a Hot Topic. International Wild Pig Conference, 11-13 April, Pensacola (Florida), USA.
5. Massei G. 2009. Management of free-roaming dogs around the world: why non-lethal is best. The Wildlife Society, Monterey California Sept. 20-24.
6. Cowan D., Massei G. 2009. Modelling the population consequences of fertility control: how much fertility control is enough? 3rd International Fertility Control for Wildlife Management Workshop, 25th - 27th February 2009, Lincoln, New Zealand.
7. Massei G., Cowan D., Coats J., Miller L. 2009. Fertility control for wild boar: from individuals to populations. 3rd International Fertility Control for Wildlife Management Workshop, 25th - 27th February 2009, Lincoln, New Zealand.
8. Massei G., Cowan D., Carroll M., Smith G. 2009. Modelling fertility control to improve eradication of rabies in urban dog populations. 3rd International Fertility Control for Wildlife Management Workshop, 25th - 27th February 2009, Lincoln, New Zealand.
9. Massei G., Lambert M., Yoder C., Cowan D. 2009. DiazaCon as a potential contraceptive in rose-ringed parakeets. 3rd International Fertility Control for Wildlife Management Workshop, 25th - 27th February 2009, Lincoln, New Zealand.

10. Massei G., Cowan D., Miller L. Effectiveness and potential side effects of the immunocontraceptive vaccine GonaCon™ on the wild boar. National Conference on Feral Hog, St. Louis, Missouri (US) 13-15 April 2008.
11. Massei G., Cowan D., Quy R., Coats J.. The BOS (Boar-Operated-System): a novel method to deliver baits to wild boar. National Conference on Feral Hog, St. Louis, Missouri (US) 13-15 April 2008.
12. Massei G., Killian G. & Miller L. A. 2008. Immunocontraception to control dog populations. WHO-OIE Intercountry Expert Workshop on protecting humans from domestic and wildlife rabies in the Middle East. Amman (Jordan) 23-25 June 2008.
13. Massei G., Cowan D., Coats J., Miller L. Fertility control agents for wild boar: from individuals to population. International symposium on wild boar, Sopron (Hungary) 28-30 August 2008.
14. Massei G. The environmental impact of wild boar. International symposium on wild boar, Sopron (Hungary) 28-30 August 2008.
15. Massei G., Fico R., Miller L. 2008. Immunocontraception to control roaming dog populations. 2nd OIE Global Conference on Animal Welfare, Cairo (Egypt) 20-22 October.
16. Smith G., Singer A., Carroll M., Riddhiraksa N., Massei G. Fertility control to improve eradication of rabies in urban dog populations: a modelling approach. Southern and Eastern African Rabies Group (SEARG) Meeting, Gaborone, Botswana 25-28 August 2008
17. Storer K., Massei G., Coats J., Quy R. Defecation Rate in Wild Boar (*Sus scrofa*). Easter Conference Mammal Society, 11-13 April 2008.
18. Massei G., Cowan D.P. & Miller L. A. 2006. Fertility control in wild boar using a GnRH vaccine : effects on physiology and behaviour. 12th Wildlife Damage Management Conference, Corpus Christi (Texas, US), 9-12 April.
19. Brizioli N., Fico R., Massei G. Immunocontraception: a new tool for controlling stray dog population in Mediterranean countries? 6th International Conference on Fertility Control for Wildlife, York 3-5 September 2007
20. Massei G., Cowan D., Miller L. Fertility control to manage wild boar using the GnRH vaccine GonaCon™ . 6th International Conference on Fertility Control for Wildlife, York 3-5 September 2007
21. Massei G., Cowan D., Yoder C., Lambert M. Evaluating the effectiveness of two avian contraceptives in Rose-ringed parakeets (*Psittacula krameri*). 6th International Conference on Fertility Control for Wildlife, York 3-5 September 2007.
22. Massei G., Cowan D.P. & Miller L. A. 2006. Fertility control to manage wild boar: a viable option? 6th Internat. Conference Wild Boar, Cyprus 23-29 October.
23. Bunting R., Massei G., Quy R. & Coats J. 2007. Developing bait to deliver vaccines to wild boar. Mammal Society Easter Conference, Cirencester, 13-15 April.
24. Massei G., Cowan D.P. & Miller L. A. 2006. Fertility control in wild boar using a GnRH vaccine : effects on physiology and behaviour. 12th Wildlife Damage Management Conference, Corpus Christi (Texas, US), 9-12 April.
25. Massei G. , Coats J. & Cowan D.P. (2003). Naïve predators and conditioned taste aversion to live prey. 3rd Internat. Wildlife Management Congress, Christchurch, New Zealand.
26. Massei G. , Coats J. & Cowan D.P. (2003). Conditioned taste aversion to live prey : a matter of familiarity. 10th Annual Wildlife Society Conference, Burlington, USA.
27. Cowan D.P., Coats J. & Massei G. (2003). Conditioned taste aversion mediates the response of naïve predators to toxic prey. European Pest Vertebrate Conference, Parma (Italy).
28. Massei G. , Coats J. & Cowan D.P. (2002). Conditioned aversion to live prey can be established in naïve predators. Winter British Ecological Society York (UK).
29. Lyon A., Massei G & Cowan D.P. 2001. Teaching predators good manners: conditioned taste aversion for non-lethal control of carnivores. Winter British Ecological Society Warwick (UK).
30. Massei G. & Cowan D. 1999. When a little bit of poison saves your life. 2nd European Vertebrate Pest Management Conference, Braunschweig (Germany).
31. Massei G., Leaper R., Gorman M. & Aspinall R. 1998. Can Scotland support wild boar? Mammal Society Meeting, Edinburgh (UK).
32. Massei G. & S. Hartley 1998. Temporal responses of trees to browsing: a Mediterranean perspective. *INTECOL*, Florence (Italy).
33. Massei G. & S. Hartley 1997. Mediterranean woody plants responses to deer browsing. 4th Annual Conference of The Wildlife Society, Snowmass (USA).
34. Massei G. 1997. The environmental impact of wild boar: a European perspective. *First European Vertebrate Pest Management Conference*, York (UK).

35. Massei G. & V.P. Genov. 1995. Decay rate of droppings of fallow deer and wild boar in a Mediterranean coastal area. *Proc. III National Conference of Wildlife Biologists Bologna (Italy)*.
36. Decandia F., G. Massei & P. Genov, 1993. Trophic niche overlap between wild boar and European badger in the cold season in a Mediterranean coastal area. *II Ital. Conference on Carnivores, Pavia (Italy)*.

Symposia/workshops/conferences organised

“8th International Symposium on wild boar and other suids”, York, 1-4 September 2010.

“Non-lethal methods to manage wildlife” 16.th Annual Conference of The Wildlife Society (Monterey, California) September 2009

“Non-lethal methods to manage wildlife” within the 5th European Congress of Mammalogy, Siena 21-26 September 2007. Oral communication : Massei G. & Cowan D.P. Fertility control to manage wildlife in Europe.

Books

1. **Massei G.** & S. Toso, 1993. *The biology of the wild boar*. Documenti tecnici INFS n. 5.
2. **Massei G.** & Genov P. 2000. *The natural history of the wild boar*. Edagricole-Calderini Eds. Bologna :189 pp.

Book chapters

Carter S.P., Roy S.S., Cowan D.P., **Massei G.**, Smith G.C., Ji W., Rossi S., Woodroffe R., Wilson G.J. & Delahay R.J. 2008. Options for the control of disease 2: targeting hosts. In: *Management of Disease in Wild Mammals* (RJ Delahay, GC Smith & MR Hutchings Eds.), Springer.

In addition: 38 communications in conferences proceedings and about **50** popular scientific articles.