

## Announcements

### 2017 CBSG Annual Meeting

The 2017 CBSG Annual Meeting will be hosted by Berlin Zoo in Berlin, Germany from 12-15 October 2017. We will send registration information as soon as it is available.

### Call for Nominations for the 2017 Ulysses S. Seal Award for Innovation in Conservation

Ulysses S. Seal's great passion and talent was his creative thinking about how new science could be most effectively applied to solving the problems of wildlife conservation. CBSG has chosen to honor Ulie, the founder and first Chair of CBSG, by creating the Ulysses S. Seal Award for Innovation in Conservation, and we invite you to nominate for this year's award an individual who has made innovative, creative contributions to conservation science. Nominations are due 1 August 2017.

Please visit <http://www.cbsg.org/ulysses-s-seal-award-nomination-form> to download the nomination form, which contains further details about how and where to submit your nomination.

### Announcing CBSG's New Book, *Second Nature*

CBSG is proud to share *Second Nature*, a book featuring ten success stories about what is possible when dedicated people who have a common purpose collaborate to save a threatened species. Mammals from the coastal scrublands of Tasmania, amphibians from a unique gorge in Tanzania, birds from the forests of Japan, and plants from the rocky caves of Bermuda represent many more conservation successes around the world.

Dedicated groups and individuals commit time, knowledge, and resources to conserve species. CBSG's expertise and innovation in conservation planning provide a framework that helps them put scientific, regional, and cultural knowledge to its most effective use. After more than 35 years of conservation planning in partnership with conservation organizations, local communities, governments, zoos, and NGOs, CBSG has a long list of success stories to tell—and many more to generate.

Download *Second Nature* as a PDF (14 MB): [http://www.cbsg.org/sites/cbsg.org/files/Second\\_Nature.pdf](http://www.cbsg.org/sites/cbsg.org/files/Second_Nature.pdf)

View *Second Nature* in book form: <http://en.calameo.com/read/002747292d1af604b527f>

### CBSG eUpdate: April 2017

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Thanks to our translators, Jean-Luc Berthier and Elizabeth Townsend (French), and Celia Sánchez (Spanish), for helping make this publication available in three languages.



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## SECOND NATURE



CHANGING THE FUTURE  
FOR ENDANGERED SPECIES

IUCN SSC CONSERVATION BREEDING SPECIALIST GROUP (CBSG)



## Recent Workshops

### Conservation Status and Needs Workshop for the Harpy Eagle in Brazil



Tom Friedel (CC by 3.0)

The harpy eagle (*Harpia harpyja*) is the largest eagle in the Americas, with more than half of its distribution concentrated in Brazil in the Amazon and the Atlantic Forest. Harpy eagles prefer to nest in emerging trees in the forest canopy and live on a diet composed mainly of arboreal prey. This species is considered Near Threatened globally, Vulnerable in Brazil, and Critically Endangered in the Atlantic Forest due to intense habitat loss and hunting.

CBSG Brasil was invited by the Harpy Eagle Conservation Program to design and facilitate a five-day workshop for data compilation and analysis to assess the conservation status of the harpy eagle in Brazil, using some of our specialized tools to complement the existing national action plan. The workshop was held on 13-18 March in Espirito Santo State, Brazil. Dr. Kathy Traylor-Holzer (CBSG HQ) mentored the CBSG Brasil team on several aspects of the workshop, including refinement of the PVA model parameters, evaluation of *ex situ* options, and workshop design and facilitation. CBSG Brasil's distribution modeling updated the current species distribution map based on recent presence records and evaluated the suitability of the landscape for species occurrence. Also, distribution modeling helped estimate habitat fragmentation and carrying capacity, improving the PVA model. Workshop participants assessed potential *ex situ* conservation roles, which resulted in the design of an *ex situ* management program for the harpy eagle. This is the first time that IUCN SSC *ex situ* guidelines have been systematically applied in a species conservation planning workshop in Brazil.

The participants developed recommendations for specific actions within the Government National Action Plan for the conservation of Amazonian birds and the Action Plan for the conservation of Atlantic Forest birds, in addition to research priorities for the species. The next few months will be spent finalizing the baseline model and developing additional distribution modeling evaluations. The workshop is part of the activities commemorating 20 years of the Harpy Eagle Conservation Program, which has been working since 1997 on research and conservation of harpy eagles in Brazil.



### Conservation Planning for the Oregon Silverspot Butterfly

The Oregon silverspot butterfly (*Speyeria zerene hippolyta*) is listed as Threatened by the United States Fish and Wildlife Service (USFWS). Current distribution for the species consists of four locations along the coast of central Oregon and one site in far northern coastal California. The caterpillar host plant, the early blue violet (*Viola adunca*), is critical to the species' life cycle; laboratory studies have demonstrated that an individual caterpillar requires over a dozen violet plants to successfully develop into an adult. Loss of coastal habitat, the spread of introduced species, and human disturbance through urbanization have contributed to a major decline in the abundance of this host plant. To augment the most unstable populations, captive-reared individuals from the Oregon Zoo (Portland, OR) and the Woodland Park Zoo (Seattle, WA) representing multiple life stages (larvae, pupae, or adults) have been released since 2000. Despite these intensive efforts, the silverspot butterfly remains highly threatened with extinction but with a high potential for recovery.



Gary Falxa, USFWS

The Oregon Zoo and USFWS invited CBSG to conduct a conservation planning process for the Oregon silverspot. Over 20 participants outlined the difficulties in studying the species' demography and ecology in the wild, ultimately identifying a number of research efforts that must be completed in order to improve *in situ* species management. These efforts are critical for later developing a more informative demographic population viability analysis to inform population management in the wild. In addition, a "Community and Collaboration" working group came up with a series of actions around better coordination of state and federal conservation activities, and proposed more effective means of communicating to the public the importance of the Oregon silverspot as a high-profile component of the coastal prairie community.



## National Strategy for the Conservation of Native Bees in Costa Rica

The recent decline of honey bees has been widely reported, but the decline in wild bees has been given less attention. Some species of wild bees have suffered large population declines, with some going extinct. In Costa Rica, the decline of native bees has been noticed by the Center for Tropical Apiculture Research of Universidad Nacional (CINAT-UNA). Like other regions of the world, Costa Rica's bee population decline has been linked with causes including habitat loss, excessive use of pesticides, and climate change, among others.



In 2016, CINAT-UNA reached an agreement with Fundación Pro Zoológicos (FUNDAZOO) to carry out research and conservation activities on native bee species. One of the most recent activities was to use the connection of FUNDAZOO with CBSG Mesoamerica to create a National Strategy for the Conservation of Native Bees in Costa Rica using the workshop processes designed by CBSG. The workshop was held on March 29-31 at CINAT and Santa Ana Conservation Center with 55 participants representing 18 institutions and organizations in the areas of research, conservation, government, agriculture and beekeeping. Using CBSG workshop methods, the participants gathered in six working groups to discuss important topics. The actions proposed by each group focus on the protection and rehabilitation of habitats; adequate use and reduction of pesticides and wastes; increasing research; introducing new legislation for protecting bees and related commercial activity; improved territorial planning that considers the use of vegetation important to pollinators in green areas such as parks and gardens; environmental education; and building capacity for adequate manipulation of bees and hives.

## Mexican Wolf Recovery Planning Update

Now spanning more than 16 months, CBSG's involvement in the Mexican wolf recovery planning project is approaching an end. Final meetings in February, March, and April accompanied intensive phases of PVA model development and implementation that culminated in a comprehensive set of risk assessment scenarios designed to assist the US Fish and Wildlife Service (USFWS) in deriving quantitative recovery criteria for the taxon in the southwestern United States and northern Mexico.

The *VORTEX*-based PVA model developed for this project is certainly one of the most complex models we have developed to date. Extensive field datasets were used to derive detailed functional expressions for numerous demographic rates

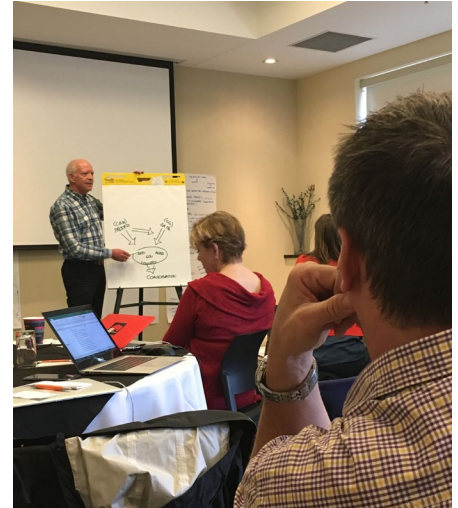
that are influenced by a range of intrinsic biological processes and external anthropogenic activities. Perhaps most important for this model, and for our continued exploration of extending the capabilities of the *VORTEX* software, is the in-depth integration of the current captive population with the management strategies now being employed in the US and Mexico wild populations. The full pedigree of all wild- and captive-born wolves is used to characterize the genetic structure of the current population, and this information is used to modify demographic rates where appropriate as a manifestation of inbreeding depression. Additionally, the genetic information, in tandem with the ever-evolving capabilities of *VORTEX*, provides the basis for creating specific rules that guide the choice of specific individuals or pairs for release from captivity to the wild, or for translocation among wild populations.

The detailed risk assessment model is proving to be an invaluable tool for USFWS in deriving robust demographic and genetic criteria that can be used to measure progress toward recovery of the Mexican wolf in its historic range. The project has given CBSG staff valuable experience in the complex process of intensive planning for endangered species recovery.

## CBSG to Drive the SSC's Species Conservation Planning Initiative

The need for the IUCN Species Survival Commission (SSC) to substantially increase the scale and effectiveness of its conservation planning for species is clear, given the continued deterioration of the world's species. SSC has a long history of planning for species conservation that has sought to be appropriate to the needs of the time. The need now is recognized to be far beyond current capacity and ramping up capability is urgent.

CBSG has been asked by Jon Paul Rodriguez, SSC Chair, to lead the Commission's species conservation planning initiative. In collaboration with the SSC office, we sent a survey to Specialist Group (SG) chairs to get a sense of the SSC's current level of species conservation planning activities, needs, and expertise. Survey results are being analyzed and will be used to inform the future of planning in the SSC. The survey respondents who offered to share their planning expertise with fellow SGs, as well as all former SSC Species Conservation Planning Sub-committee members, were invited to CBSG for 2017-2020. We are thrilled to welcome these and other planning experts into the CBSG family.



In addition, CBSG convened an initial creative thinking meeting in February to consider how CBSG can best contribute to the future of species conservation planning in the SSC. Each participant represented one or more of CBSG's key constituencies, and together represent CBSG's past, present and future. The group discussed the need, evaluated the current planning resources and methods within and outside SSC, and talked about building capacity, filling in gaps in planning tools, and prioritizing next steps to move the initiative forward. A meeting summary will be made available in the next few weeks and discussions from this meeting will inform future strategic planning steps. To rise to the challenge set by the SSC Chair, CBSG looks forward to working with colleagues throughout SSC, and IUCN more broadly, to substantially increase the effectiveness of SSC's leadership in planning to avoid species extinctions.

## Species Conservation Toolkit Initiative (SCTI) Update

Thanks to the support of our sponsors and partners, we continue to enhance software tools for species risk assessment and conservation planning. We are delighted that three new sponsors have joined the initiative: **Seattle Aquarium**, **Raincoast Conservation Foundation**, and **Oceans Research & Conservation**.



We have been working with Species360 to make sure that the new studbook module of ZIMS R3 can export data in a form that *PMx* can read for pedigree analysis and guiding population management.

Taylor Callicrate gave an overview describing the One Plan approach (OPA), including how the Species Conservation Toolkit Initiative can benefit the OPA, at a workshop on "Strategies for saving songbirds by linking *in situ* and *ex situ* conservation" that was hosted by the Conservation Centers for Species Survival.

Among the tool enhancements that we have recently been made available to the community are:

- enabling the use of calls to R scripts to perform calculations on input and output values for *VORTEX* population viability analyses;
- providing the ability to speed up *VORTEX* simulations by running multiple scenarios simultaneously on different CPUs of a PC or on a Cloud-based server;
- and distributing a new program, *VORTEX* Adaptive Manager, that uses simulations to estimate the optimal management actions when uncertainties in key variables make it difficult to know which actions will have the highest expectation of achieving conservation success. *VORTEX* AM also predicts the rate at which uncertainties can be reduced through monitoring of the managed population performance.

Finally, SCTI is on the verge of hiring a new Coordinator of Training. The new SCTI Coordinator of Training will work closely with CBSG and other partners to build the capacity of the world to apply innovative and effective methods to conserve species. Stay tuned for exciting news about this expansion of the service we provide to advance species conservation!

## Publications

### New Workshop Reports

Eastern Barred Bandicoot Disease Risk Analysis Report

<http://www.cbsg.org/content/eastern-barred-bandicoot-disease-risk-analysis-2016>

Blue-billed Curassow PHVA Report

<http://www.cbsg.org/content/blue-billed-curassow-phva-2015>

*Ex Situ* Management Guidelines for *Agalychnis Annae*

<http://www.cbsg.org/content/ex-situ-management-guidelines-agalychnis-annae>

A Manual For Control of Infectious Diseases in Amphibian Survival Assurance Colonies and Reintroduction Programs (published 2010; updated 2017)

<http://www.cbsg.org/disease-manual-amphibians-update-2017>



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