critical for conserving biodiversity, maintaining ecosystem function, and sustaining human well-being. The population of Fort Collins, Colorado (USA) is projected to grow from 155,000 today to 240,000 by 2045. The Nature in the City initiative aims to minimize negative effects of increasing urbanization by creating a connected open space network that provides a variety of experiences for people and functional habitat for plant and animal species. To support this goal, we formed an interdisciplinary team to assess the current status of biodiversity throughout the City and guide future development patterns. We selected 166 points stratified among nine land uses ranging from formal City Parks and Natural Areas to informal neighborhood open spaces and urban farms across the City's 201 km2 growth management area. We conducted repeat point-count and Pollard-walk surveys from May-August 2014, detecting 88 species of birds and 33 species of butterflies. Land use had the greatest influence on species richness and community composition. The greatest numbers of bird species and proportions of urban avoiders were detected in public and private lands managed specifically for their natural resource values, whereas the greatest numbers of butterfly species and proportions of native species were detected in parks and urban farms. Representation of some bird guilds (e.g., grassland specialists, ground nesters, urban avoiders) was positively correlated with site area (r=0.34-0.47) and proportion of remnant natural area (r=0.55-0.60). Together with concurrent social and economic assessments, occupancy analyses and connectivity models resulting from our study are being used to guide implementation of a strategic plan, which includes design guidelines, policies, and actions to ensure that high-quality natural areas are preserved in a rapidly growing urban environment.

SPATIAL DISTRIBUTION ESTIMATES OF ASSAMESE MACAQUE (MACACA ASSAMENSIS) IN SOUTH AND SOUTH-EAST ASIA BASED ON A FIRST OPEN ACCESS ENSEMBLE MODEL-PREDICTION

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We developed the first quantitative and climatically potential niche distribution models for the Assamese macaque (Macaca assamensis) for 12 countries in South and South-east Asia. We used species occurrence records from our own field work as well as extracted species occurrence records from published sources. We applied Random Forests, Classification and Regression Trees, TreeNet, MaxEnt and Multivariate Adaptive Regression Splines machine learning algorithms in concert. Then we averaged all of these model outputs as an ensemble model prediction. Elevation and 19 environmental layers related to precipitation and temperature from WorldClim were utilized to develop these models. The predicted distribution of Assamese macaque was strongly associated with Precipitation of Warmest Quarter, Temperature Annual Range and Temperature Seasonality. The predicted map shows that there is a continuous and potential niche of Assamese macaque from east of the Kaligandaki river in Nepal up to the Brahmaputra river in northeast India. Other predicted areas seem to be either fragmented or confined to small pockets except in Lao PDR where some continuous potential habitat can be seen in the predicted map. Here we provide the first robust rules and resource selection functions for such predictions using partial dependence plots. Our predictions also confirm that there are no ecologically suitable areas for this species in Pakistan, Afghanistan and Cambodia. Our most significant contribution is the identification of the areas with a high probability of the presence of Assamese macaque, which is the information that can be applied to identify new populations of this species and for planning future surveys in previously un-surveyed areas of the large geographical extent. The model outputs obtained here are also helpful for understanding biogeography and historical ecological niche evolution of the species, as well as for taxonomy, genetics and conservation management.

193 REWILDING AS A LAND-USE OPTION FOR BIODIVERSITY CONSERVATION IN A CONTEXT OF LAND ABANDONMENT AND FIRE DISTURBANCES: WINNERS AND LOSERS

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Land-use change is a large component of global change and the effects on biodiversity and ecosystem services currently represent a major challenge for ecologists and conservationists. Rewilding has been proposed as a potential alternative approach to conservation in abandoned landscapes where rural communities have been depleted because the low-intensity farming that supported them is no longer economically viable. Fire is a major disturbance in Mediterranean ecosystems. For millennia, fire has been a key self-regulating process influenced by natural factors such as climate and vegetation characteristics. Nevertheless,

the ongoing trend towards landscape homogenization that has taken place over recent decades has led to an increase in fire impact. Despite all of this, knowledge about positive and negative effects of rewilding as a land-use option on biodiversity in fire-prone, abandoned landscapes and how fire management policies could alter these causal relationships is astonishingly poor. Here we present one of the first assessments of rewilding as an opportunity for biodiversity conservation in a context of land abandonment and fire disturbance in Spain. Two fire-prone, abandoned landscapes and their past and potential future pathways were evaluated combining medium-term data on avifauna distribution with information on temporal changes in land-use/land-cover from remote sensing data and landscape dynamic simulations. Our results showed that rewilding in these landscapes provides habitat for high-priority, shrub–forest-dwelling bird species at the cost of modest reductions in numbers of open-habitat birds. In addition, fire suppression strategies based on 'letting fires burn' could counterbalance the negative effects of land abandonment on fire risk and biodiversity conservation. We conclude that biodiversity conservation via rewilding could be a cost-effective land-use option in abandoned landscapes wherein fire management programs should be also integrated.

ADVANCING PUBLIC LANDS MANAGEMENT: A MODEL FOR FILLING THE IMPLEMENTATION VOID

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Two US federal agencies, the US Forest Service and the Bureau of Land Management, are jointly responsible for managing approximately 1,781,000 km2 of public lands. Managers are facing threats to public resources of unprecedented scale and severity with dwindling budgets and fewer personnel, and their ability to innovate is often constrained by policies and institutional barriers. Worsening budget shortfalls are resulting from national funding cutbacks and emergency internal borrowing to respond to natural disasters like catastrophic wildfires. This has created an "implementation void" due to the loss of technicians who perform on-the-ground implementation of policies, plans, and rules related to conservation and restoration. We propose a model of integrating a nonprofit internship program with existing federal volunteer programs to leverage funds and human power to fill this void. Nonprofits can leverage diverse funding sources over multiple years, bypassing current shortfalls of agency budget cycles, and are mission-driven to achieve these objectives. The existing federal volunteer programs are an affordable way to put "boots on the ground," but are traditionally limited to those who are willing and able to volunteer, and be without compensation, for extended periods. Our model would select interns through a competitive process and award recipients with a supplemental stipend. The intern would function as full-time agency staff, but be required to devote a percentage of their time to a pre-determined conservation or restoration project. These projects, defined in consultation with regional community leaders, NGOs, and agency staff, would have high potential value and otherwise lack the necessary funding or staff. The local or regional focus of these projects allows communities to have a meaningful impact in protecting and restoring their public lands through tax-deductible donations to support the internship program's project.

SEMINATURAL FORESTRY CAN SUSTAIN LAND SNAIL ASSEMBLAGES: A CASE STUDY ACROSS FOREST TYPES IN ESTONIA

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Snails are an integral part of many forest ecosystems. Their sensitivity to timber harvesting seems to depend on multiple and sometimes counteractive factors. Some snail species have been proposed to indicate natural forest conditions, and old-growth forests with abundant dead wood have been reported to be most species rich. Other studies, in contrast, have demonstrated richer snail fauna in young managed forests, and clearcutting has been hypothesized to be less detrimental on wet soils. We examined forest management impacts in 100 stands, which represented a balanced design of five site types and four management types (old and mature forests, retention cuts and clearcuts, harvested 5-11 years ago). We collected ca. 20,000 individuals of 70 species and found that snail assemblages differ between site types. Dry pine forests with sparse vegetation and little woody debris were most distinct having only scant snail assemblages. Stand scale analyses showed that snail assemblages are tolerant of seminatural timber harvesting in all studied site types. We found neither strongly negative nor positive responses to timber harvesting for any species, no influence of the amount of woody debris or any species preferring old growth. In fact, several species that have been claimed to indicate natural forest tolerated timber harvesting well, and they were rather more abundant on clearcuts than in closed stands. The single retention trees on cut sites did not have remarkable impact on snail assemblages. Thus, seminatural forestry in such humid temperate climate and on calcium poor to moderately rich sites seems to sustain comparatively intact snail assemblages. The tolerance might be explained by lack of soil scarification on clearcuts and allowing natural regeneration instead of planting pure coniferous stands. However, snail assemblages are prone to combined effects of various intensive techniques, as can be demonstrated for cutting activities in artificially drained swamps.