eBird: A Two-sided Market for Academic Researchers and Enthusiasts

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JISC Content

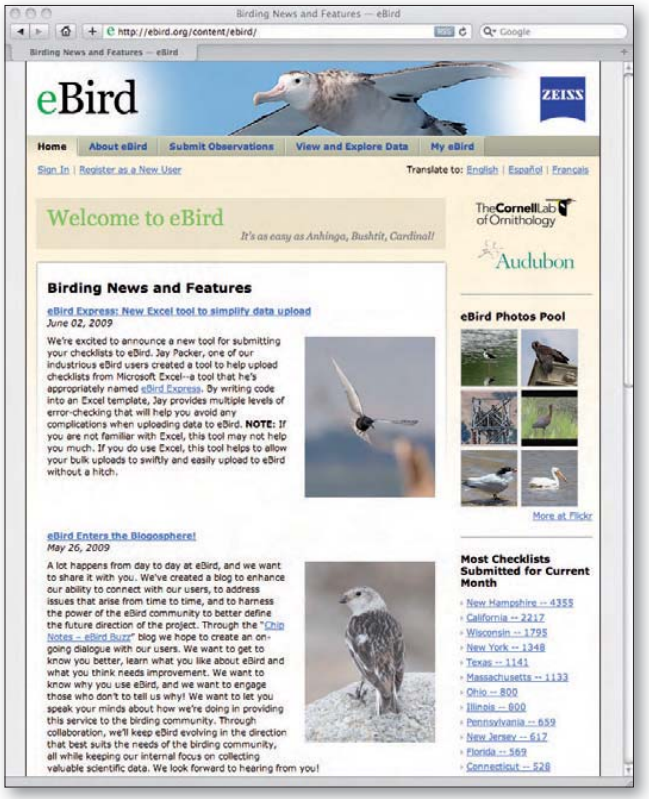
Ithaka Case Studies in Sustainability

The Information Science Department at the Cornell Lab of Ornithology is home to eBird, a site where birdwatchers of all levels – from weekenders to academic researchers – can record their avian sightings and upload them for future use by scientists. The site serves a two-sided market: on one side, the birdwatchers (or 'birders') who record and share their observations, and on the other side, the scientists who use that data for research. This project is notable for the level of interest it generates from users; for the range of revenue streams it draws from, including a corporate sponsorship and a franchising service for its core software; and for its home in a department which, despite its academic roots, encourages entrepreneurial activities. Through an examination of eBird, this case study will approach several larger questions for digital project leaders: How can academic digital projects think about increasing user interest? In what ways can a project maintain an Open Access core while generating revenue from premium services? And how might digital resource leaders approach the tension between project mission and revenue generation through a combination of sustainability strategies?

Introduction

If Facebook revolutionised social networking for college students, then the Cornell Lab of Ornithology spearheaded a similarly path-breaking online community for bird lovers. Launched in 2002 as a joint project of the Cornell Lab of Ornithology's Information Science Department and the Audubon Society with a National Science Foundation (NSF) start-up grant, bird enthusiasts can use the eBird website to record their avian sightings and share those observations with other birders and with scientists. Users log in to their 'my eBird' account and enter information from their latest birdwatching trip, save those observations in their personal lists, upload old sightings from spreadsheet software or use the site's mapping tool to learn which bird species have recently been seen in a given region. By aggregating online the data that birders had previously been collecting offline, the project strives to create a dataset useful to scientists: birders' observations are funnelled into a separate Open Access virtual repository, the

This case study was researched and written by Matthew Loy as part of the Ithaka Case Studies in Sustainability project.



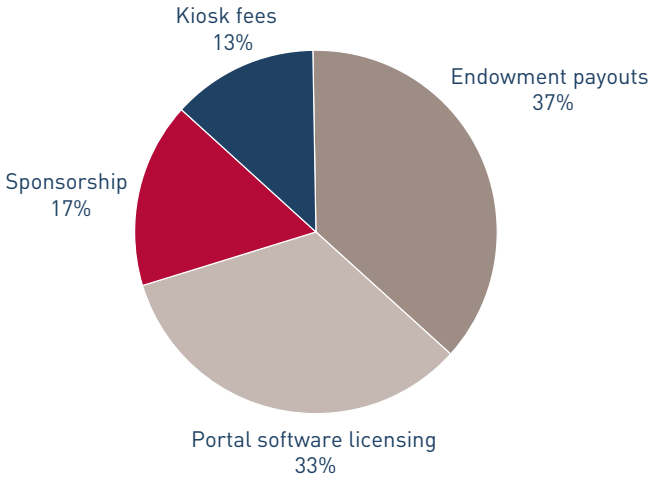
Avian Knowledge Network (**www.avianknowledge.net**), where researchers can download data from eBird and other projects.[1]

> *If Facebook revolutionised social networking for college students, then the Cornell Lab of Ornithology spearheaded a similarly path-breaking online community for bird lovers.*

1 Steve Kelling, the director of information science at the Cornell Lab of Ornithology, reported that there are at least 12 complete downloads per week of the Avian Knowledge Network's dataset, which includes more than 58 million records as of May 2009.

The Lab of Ornithology at Cornell University is home to several projects and units related to ornithology, including formal academic research projects, educational outreach programmes, an ornithology library and a membership organisation for bird enthusiasts, all housed at the Imogene Johnson Center for Birds and Biodiversity in the Sapsucker Woods nature sanctuary in Ithaca, New York. One of these units, the Information Science Department, is tasked with connecting the ornithology community with new technologies for data collection, distribution, management and analysis.[2,3] This mission includes engaging a wide spectrum of users, from academic researchers who require a massive volume of data for their projects, to casual bird enthusiasts who want to learn more about their hobby. The eBird website was designed, then, with two audiences in mind: individual birders who submit data, and scientists who will eventually download that data for use in research. To satisfy birders, the observation–submission process needs to be simple and rewarding; to satisfy scientists, the data must be appropriately standardised and detailed.[4] As this case study will outline, accommodating the needs of both audiences has been a key challenge for the project.

eBird's Revenue Sources



Sustainability model

Goals and strategy

As a project of the Information Science Department, eBird has been able to develop a sustainability model that relies in part on the benefit of being nested within a large department, and in part on the revenue streams that the project itself has been able to generate from a range of entrepreneurial efforts. In particular, access to the existing human and technical infrastructure supported by the Information Science Department's total budget keeps eBird's staff costs low: seven of eBird's eight budgeted staff members are full-time department employees, part of whose time is devoted to the project, while the rest of their time is allocated to other projects in the Information Science Department. This cross-subsidisation is crucial: if eBird had to operate independently, it is unlikely that the project would be able to find people with the requisite skills who would be willing to work part-time.

Costs

For 2008–2009, the eBird project has an estimated budget of approximately $300,000, of which $232,000 covers salaries and benefits for 4.25 full-time employees (FTEs).[5] This includes the full time of one web developer and the partial time of three project co-managers (each at .66 FTE), three department administrators (each at .25 FTE) and one database administrator (.5 FTE). The project incurs modest non-personnel charges of approximately $30,000, including hosting and other technology costs. The department must also return 20% of any incoming grants and earned income to the Lab of Ornithology to support the broader organisational infrastructure (estimated at $38,000 for 2008–2009).

eBird's budget must be read in the context of the entire department's financial resources, since the project benefits from this larger infrastructure. In 2008–2009, the department's budget (including eBird) was estimated at $1.9 million; revenue for the department will total an estimated $1.92 million, including $1.25 million from government and foundation grants. Salaries and benefits for the department's 20 full-time staff cost $1.2 million; the remaining $700,000 of the department's budget covers travel, software and other licensing fees, administrative support, hardware and internet access for the unit's 15 servers. The Information Science Department does not have free access to Cornell University's IT services and must pay for data hosting and back-up, but the university does provide access to the network backbone and other services. In addition, the Information Science Department's grant funding supports eBird's sustainability model. While the eBird project does not depend directly on any of the grants received by the department, these grants support other projects in the department that use the partial time of eBird employees – effectively subsidising eBird. So while grants are not reflected in the project's bottom line, they are still crucial for keeping the project's staffing costs low.

Revenues

eBird draws funding from two sources: payouts from the endowment of the Lab of Ornithology, and entrepreneurial activities, which include a sponsorship deal with a binoculars manufacturer, software customisation fees and rentals of on-site eBird kiosks.

2 For more information, see the website of the Lab's Information Science Department: **www.birds.cornell.edu/is**

3 Note that the Information Science Department of the Lab of Ornithology, under study here, is a separate entity from Cornell University's degree-granting, interdisciplinary Information Science programme in the Faculty of Computing. As a further clarifying point, the Lab of Ornithology's Information Science Department does *not* generally provide services to other departments at Cornell; it is embedded in the lab.

4 For example, if a birder notes only that she saw a sparrow in Central Park in New York City, that observation will be of very little use to scientists. Researchers need more specific information: the exact location of the birding walk, the time of day, the distance covered during the walk, the sex of the bird and other information. Observations that are of greatest use to scientists are those that include a count of *every* species the birder saw during her outing, not only birds that are rare or colourful. It is just as important for a scientist using the aggregated data to know that a birder saw 15 common tree sparrows as it would be to know that a birder saw the rarer yellow-bellied sapsucker. (If rare species alone were reported, the aggregated demographic and migration data would be skewed and thus less valuable for research purposes.)

5 All budget figures and estimates were provided by the project leader. For further detail on the financial data presented in this report, please see Appendix B: Summary of revenues and costs.

Endowment. Approximately $110,000 of the Information Science Department's share of the Lab of Ornithology's endowment payout figure is allocated to eBird. Steve Kelling, Director of Information Science at the lab, expects the endowment payouts to drop over the next several years as a result of the broader economic slowdown; as a result, the department may need to shift more endowment funding to projects that, like eBird, do not directly receive NSF funding.[6]

Earned income streams. eBird receives approximately $190,000 from its revenue-generating side projects: $100,000 from customised versions of the eBird portal software, $40,000 for on-site kiosk rentals and $50,000 through a sponsorship deal with Zeiss Optics. These projects help expand eBird to a wider audience while balancing the budget. In addition, cash from entrepreneurial projects can contribute to a leaner budget: Kelling sometimes prefers to use revenue generated from these sources to pay salaries, as using grant money for salaries can entail paying additional fringe benefits.

Franchising eBird: customised eBird portals and on-site eBird kiosks. As the audience for eBird grew, the Information Science Department was approached by independent wildlife and conservation organisations who wanted to use eBird's software for their own members and visitors – and were willing to pay to do so. The department has taken advantage of this opportunity to actively promote eBird to new audiences in two ways: by licensing customised versions of the eBird portal to other groups, and by renting on-site 'eBird Trail Tracker' kiosks to nature centres and wildlife refuges. The franchised portals and kiosks leverage existing eBird technology – which is available free to users online – to generate revenue. These projects also help advance the mission of the department: data submitted to the customised portals and the Trail Tracker kiosks feed back into the central eBird database, adding to the richness and value of that resource. Perhaps most important, according to project co-manager Chris Wood, is the kiosks' potential to bring eBird to audiences who might not otherwise know of the project.

The department franchises eBird software by licensing customised versions of the database portal to individual wildlife and conservation societies. The department charges these organisations an initial fee (around $10,000) for customisation and set-up, and an annual maintenance and hosting fee of 10% of the initial payment. There were nearly 30 customised eBird portals operating as of February 2009; approximately one-third of these are for regional US birding or wildlife societies, one-third are for birding organisations in the Caribbean and Latin America, and one-third are for organisation-specific projects (for example, the Department of Defense eBird portal).

The cost of the portal set-up is mostly staff-related. Each new portal requires around a week of programme development time to brand the site with the host organisation's logo and customise it to highlight content of interest to their users, such as information about local species. After that, one of eBird's three project co-managers usually spends an additional week training the new organisation how to use and maintain the resource. Other costs, according to Kelling, are 'pretty minor'.

The department also licenses the eBird Trail Tracker kiosks to nature centres and wildlife preserves. Nature centre visitors can use these stations to see which birds have been spotted recently in the area and can enter their own bird sightings into eBird. The kiosks also have an educational component laid on top of the eBird data-submission interface to help nature centre visitors identify birds: they provide species profiles that include descriptive text, images and audio files of birdsongs. Although the Trail Trackers are located at nature centres, their data is hosted at the Lab of Ornithology, so eBird staff members can push new content and features onto the kiosks regularly. Nature centres pay the department $3,000 for the set-up of the machine, with an ongoing $2,000 annual maintenance fee. Approximately 40 kiosks were being rented to nature centres as of December 2008.

> *"eBird generates between $20,000 and $50,000 in annual revenue from its corporate sponsor, Zeiss Optics."*

Corporate sponsorship. eBird generates between $20,000 and $50,000 in annual revenue from its corporate sponsor, Zeiss Optics. This maker of binoculars approached eBird about sponsorship because of the strong match between their products and the site's birding audience. Kelling believes that Zeiss perceives significant value in reaching eBird's 200,000+ unique visitors per year: the US Fish and Wildlife Service has estimated that Americans spend as much as $32 billion annually on products, services and travel related to birdwatching, of which $471 million is spent on binoculars and spotting scopes.[7]

Negotiating this sponsorship – the value of which is connected to the number of eBird users who click through to the Zeiss website from the company's logo in the eBird site banner – was possible for the department in part because they could rely on the expertise of the Lab of Ornithology's full-time development officer, who negotiates sponsorship deals across the lab's

6 Unless otherwise noted, all quotations from project staff members and other individuals knowledgeable or associated with the project are drawn from interviews conducted as part of this case study between August 2008 and March 2009. A full list of interviewees is included in Appendix A.

7 Genevieve Pullis La Rouche, *Birding in the United States: A Demographic and Economic Analysis: Addendum to the 2001 National Survey of Fishing, Hunting and Wildlife-Associated Recreation* (Washington, DC: US Fish and Wildlife Service, August 2003), p. 15. Available online at **www.fs.fed.us/outdoors/naturewatch/start/economics/Economic-Analysis-for-Birding.pdf**

various units.[8] Kelling believes that this revenue stream, however, is particularly vulnerable: as the economy worsens, the sponsor may want to renegotiate the amount it pays to eBird.

Key factors influencing the success of the sustainability model

Recognising the two-sided market: Birders and scientists

eBird's value to scientists depends in part on the site's ability to attract a large number of users who frequently submit their birdwatching observations. However, when eBird launched in 2002, it was designed with the needs of scientists in mind. According to Kelling, the working assumption was that birdwatchers would submit their observation checklists out of an altruistic desire to help scientists (and birds), and that this level of participation would be sufficient for scientists; relatively little planning was done with individual users' needs in mind. With this approach, eBird was able to build usage to a plateau of 40,000–50,000 observations per month, but submissions did not rise above that point. The novelty of the project and the altruistic instinct to contribute to the scientific process were apparently not enough to grow the site's audience or encourage more frequent submissions of checklists. To maintain and increase the value to scientists, the project would need to address its other core audience.

> *"According to Kelling, the working assumption was that birdwatchers would submit their observation checklists out of an altruistic desire to help scientists (and birds), and that this level of participation would be sufficient for scientists..."*

'What do birders want?': Creating incentives for users and editors

In light of the need for a greater quantity of data, the department's leader realised within two years of the project's launch that the site needed to be re-focused on the needs of the birdwatchers who provide the initial observation data. By doing so, he hoped

to increase both the total number of contributing birders and the frequency of their observation submissions. To address these user needs, Kelling turned to the birdwatching community to find new leadership for eBird. In 2005, he hired Brian Sullivan and Chris Wood and later Marshall Iliff, and tasked them with creating a new, user-centred experience for eBird. All three had significant prior experience in ornithological fieldwork but also had contacts in the larger world of birding enthusiasts. Kelling valued both these connections and the three new hires' 'vision' of the tools and functionality that would draw birders to the site.

The three project co-managers agreed that the early version of eBird 'didn't have what birders wanted', according to Wood. 'So we tried to think of things that birders like. And birders love lists – life lists, state lists, backyard lists, year lists, month lists...' The early version of eBird did not allow for birders to create and store such lists; instead, the observations, once submitted, disappeared into the large, anonymised database for use by scientists. To engage birders, the department created tools to allow them to generate and store these records in user accounts on the eBird site. Today, these simple records account for 80% of the project's page views. In addition, the project leaders wanted to add a visualisation element to the site, so they used Google Maps to develop a function for mapping the locations of bird observations.

These features were envisioned as the 'candy' to attract a larger audience of birders to the site. And this user-centred approach seems to have worked: in 2008, eBird attracted 227,000 unique visitors, and nearly 10 million individual bird sightings were recorded on the website. Statistics from the month of January, a popular month for birdwatching because of the appearance of migrating birds, are particularly telling: the number of observations submitted in January 2008 was 25% higher than the number from January 2007, and the number submitted in January 2007 had increased by 20% over the January 2006 total.[9]

'What do scientists want?': Quality control of data with user-generated content

Although eBird has shifted strategy to emphasise the needs of individual birders, the aggregated dataset is still intended for end use by scientists. To ensure the usability of the data, the project leaders have instituted both automated and hands-on quality-control mechanisms.

8 In 2008–2009, the Lab of Ornithology was supported by 20 sponsors at the $1,000–9,999 level, and six corporate sponsors, including Zeiss, at the $10,000+ level. Many of these sponsors sell optics equipment or otherwise cater to the birding community.

9 One potential measure of the value of the eBird concept may be that at least one commercial competitor has emerged. Birdpost (**www.birdpost.com**) is an online community for birders which boasts its emailed 'Rare Bird Alerts', a function for mapping sightings of birds and an iPhone app. Although use of the site was free as of March 2009, the project's founders have said publicly that they plan to convert the site to a $50 per month subscription-based resource (without advertising). See the video presentation at: 'Birdpost | TechCrunch 50 Conference 2008, available at **www.techcrunch50.com/2008/conference/presenter.php?presenter=85**

eBird's content-submission procedures were designed to ensure that the data is as useful as possible to scientists. Birders who wish to submit their observations to the eBird website first complete a free registration process, which includes optional collection of demographic information. Then, the user pinpoints the location where he or she went birdwatching and enters more detailed information: the number of each species spotted, the length of the birding walk, the time of day and other factors. Once the report is submitted, it passes through a series of data filters which were manually built for the project and are constantly adjusted by eBird's project managers and its network of 400 volunteer regional editors. These filters flag any suspect sightings – for example, if an eBird user has claimed a sighting of the relatively rare ash-throated flycatcher in the middle of a New York summer, the filter automatically flags the submitted observation.

Flagged submissions are automatically forwarded to one of eBird's volunteer regional editors. The editor reviews the observation and then corresponds by email with the submitting birder to verify the data. The editor might do this by helping the birder think about whether he or she misidentified a common bird as a rare one, or by suggesting that the birder submit supporting documents such as photographs to verify the sighting. Entries that pass through the automatic filter or that are validated by a volunteer subject editor are then fed into the larger eBird database; this data, in turn, is funnelled to the Avian Knowledge Network virtual repository, from which scientists can extract data for research purposes. (Even observations that aren't verified, including casual observations, are not lost or rejected. Although the unverified data are not funnelled into the Avian Knowledge Network, users can still save those observations in their personal 'my eBird' space on the website.)

> *"The eBird project managers also work to educate the community about how to create more valuable observations."*

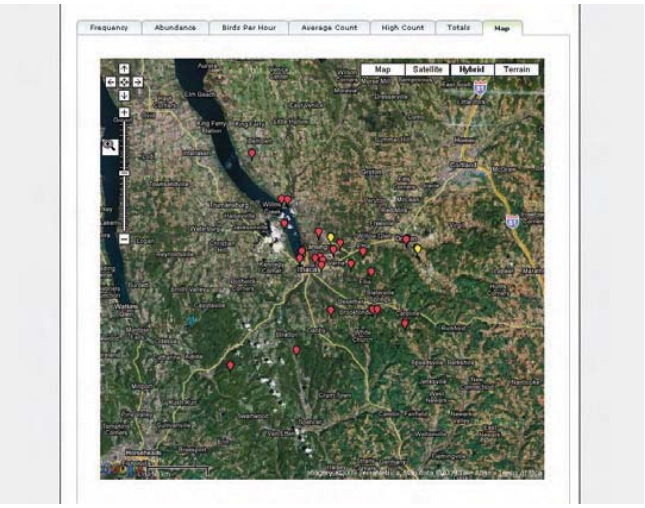
The eBird project managers also work to educate the community about how to create more valuable observations. Some of this training occurs one-on-one, through the correspondence described above; other education occurs system-wide. The project managers think of user-submitted observations as falling into one of two broad categories: 'casual observations' and 'effort-based observations'. Casual observations offer very little in the way of data beyond the species of bird sighted, and they don't claim to be an exhaustive list of all birds seen on a particular birding trip. Effort-based observations are much more valuable to scientists: they include contextual data about the birding observations such as time, place and distance walked, and the birders who submit these observations also try to include a record for *every* bird sighted – not just the unusual species. (The project managers have found that the more granular the data requirements, the less likely birders are to submit observations – so it is important to balance the specificity of the data the managers ask for against the need for a large quantity of submissions.) To encourage a greater number of effort-based observations, the eBird project managers began posting blog entries on the site's homepage encouraging more scientific techniques in birdwatching. The director of the department believes these posts are having the desired impact on the quality of the observations: as of December 2008, approximately 70% of submitted observations were effort-based.

Building bridges between users: eBird's regional editor network

As mentioned above, quality-control measures made possible by computerised filters and human subject editors are critical to maintaining the scholarly value of the resource. This labour-intensive process would not be possible without the 400 regional volunteer editors who offer their time to spot-check questionable submissions. Some of these editors are professional ornithologists; others are bird enthusiasts taking part in the long tradition of intense non-academic participation in ornithology. These editors devote anywhere from one hour every three months (in a region with relatively low eBird participation, like North Dakota) to 15 minutes per day (in a high-participation area, like eastern Massachusetts) to checking submitted observations that the data filters have flagged.

> *"...quality-control measures made possible by computerised filters and human subject editors are critical to maintaining the scholarly value of the resource."*

Much of the three project managers' work involves cultivating the data-curation network of regional editors: recruiting and maintaining participation from regional editors and ensuring that eBird meets their needs. (Because the three project managers were well known in the birding community before Kelling hired



them, eBird's regional editors are often personal contacts interested in supporting the project.) The project co-managers told us that in many cases, the regional data editors are already deeply embedded in local ornithological communities, and may appreciate the recognition that working with eBird confers – for these regional editors, participation in eBird at this level is an extension of their professional or personal passion for birding. In addition, the project co-managers see these regional editors not just as unpaid data cleaners, but as a key part of the eBird experience: they view the back-and-forth emails between editors and individual birders as an online correlate to the mentor–mentee relationship that they say has always existed in the birding community.

Fostering an entrepreneurial mindset in an academic setting

The Lab of Ornithology actively encourages the Information Science Department to develop revenue-generating projects that complement the mission of the lab. Kelling and others from the Information Science Department can consult with the Lab of Ornithology's board, which includes business professionals from outside the ornithology community. And to foster revenue-generating initiatives, the lab has agreed to provide 'loans' to specific programmes of the department in the past; in these situations, the Lab of Ornithology allows an individual start-up project's account to carry a deficit. The expectation is that the lab will be repaid for covering the project deficit – meaning that the lab must be confident that these initiatives have a solid, workable business plan. The development of the eBird Trail Tracker kiosks was funded in this way, as was a portion of the development of another Information Science Department project, the Birds of North America ornithology reference e-resource.[10] Although the department does not release the exact amount of the loan or the timeframe for repayment, Kelling points out the significance of the Lab of Ornithology assuming the risk associated with such loans. If one of these loans were not repaid, the lab would likely not make a similar gesture in the future, curtailing the range of possible activities around eBird and other projects.

> *"As Kelling likes to say, 'It's not like we're going to get a raise' for pursuing entrepreneurial projects."*

At the same time, the motivation for entrepreneurial behaviour is the advancement of the department's mission as a whole rather than financial gain *per se*. As Kelling likes to say, 'It's not like we're going to get a raise' for pursuing entrepreneurial projects. That eBird can generate revenue through these efforts is a clear sign that the project is filling a niche in drawing citizens into the scientific process – and the revenue powers the department's further work in this space. Kelling also believes that the department's attention to entrepreneurial projects has contributed to a positive reputation for the department among funding organisations: funders who see the success of the department's previous initiatives may feel comfortable that their money will be spent on carefully planned, sustainable projects.

10 The Birds of North America reference resource is available at **http://bna.birds.cornell.edu**

Benefits and challenges

The Information Science Department generates revenue from multiple streams to cover the costs associated with eBird. This allows the project a measure of security in a challenging economic climate: the effect of a drop in one revenue stream may be minimised by the stability of other streams. And because eBird is embedded in an established and relatively well-resourced department (within an equally established and well-resourced research centre, the Lab of Ornithology), the project has access to the extensive pre-existing technical and human infrastructure to make this possible. For example, the Information Science Department employs web designers who can devote parts of their time to eBird while also performing work on other department projects; as another example, the marketing manager for the department's Birds of North America reference e-resource also devotes some of his time to promoting the eBird Trail Tracker kiosks to nature centres (even though his time is not explicitly covered by the eBird budget).

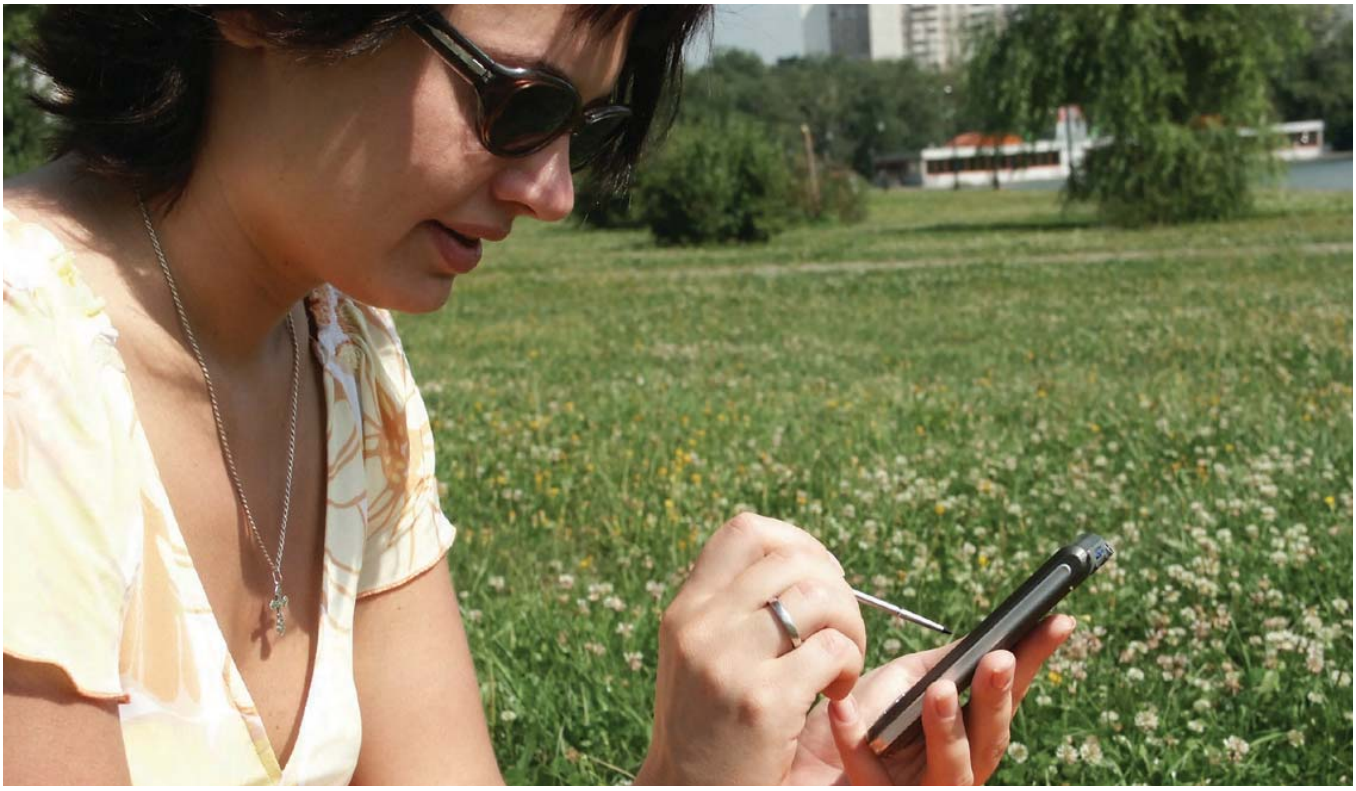
The success of the eBird project's mission depends in part on attracting a large quantity of data for eventual use by scientists – so the more eBirders, the better. These visits from eBirders help drive revenue, by attracting a corporate sponsor interested in reaching this niche audience. At the same time, the volume of use may increase the difficulty of quality control for the data. As it is, the three eBird project managers devote much of their time to communicating with the project's 400 regional editors, who act as the project's last line of data quality control. As the resource grows, the challenge of recruiting and maintaining qualified editors – without more concrete incentives for volunteering these efforts – will likely grow as well.

Broader implications for other projects

Rapid strategy shifts may be necessary to maximise a project's value. At its launch, eBird focused on the needs of scientists and did achieve some success with that approach. But after the first two years, the department's director made a decision to pursue a user-centred strategy – and bring in new leaders well positioned to carry out that approach. While no one should discount the importance of long-term planning, the reality is that projects may need to make relatively rapid, experimental adjustments in order to create the greatest value to users.

Successfully engaging with users requires deeply understanding them and their needs. The eBird project successfully identified the unmet needs of individual birders, the second side of its two-sided market. As a result of the project managers' efforts to serve this second market, scientists are getting a greater quantity of data. This would not have been possible without understanding the various constituencies the site can serve, and investing the resources necessary to study and address the needs of those audiences.

Diversifying revenue streams can be beneficial, but requires expertise and infrastructure. The Information Science Department draws revenue from an impressive number of sources, and this is possible in great part because of the human expertise and financial infrastructure available to the department. They have a staff member committed to helping draft grants to private foundations and to the NSF, Cornell provides endowment management, and the Lab of Ornithology voluntarily provides funding from its endowment directly to the department.



Furthermore, the department can draw on the programming skills of internal staff and external Cornell computer and information science students, who are hired for part-time work-study positions.[11]

eBird provides an example of supporting Open Access content and tools through the sale of customised services. The Information Science Department supports eBird as an Open Access resource by selling customised versions – without apparent detriment to the central mission of the project. This is an appealing (if highly unusual) business model for digital projects, as it makes content freely available to attract eyeballs, while monetising specific iterations or customised tools which work with that content.

A project's organisational structure can build in incentives for innovation. The Lab of Ornithology allows the Information Science Department to generate additional funds through the side projects it operates alongside the Open Access eBird portal. This acts as a driver for the department to forge ahead with new revenue-generating ideas. Although there are no individual bonuses given for the department's overall financial performance, the structure encourages members of the department to see the benefit that pursuing these projects will bring directly to their unit. In part, this may be a function of the fact that eBird is situated in the natural sciences, an area in which research units are often judged partly on how much grant funding they bring in, and in which the 'tech transfer' process allows scholars and their host institutions to benefit financially from research innovation. But no matter which discipline a project is situated in, organisational incentives for efficiency, innovation and revenue generation can be incorporated in the overarching mission goals.

11 Readers who are not familiar with the US Federal Work-Study Programme for college students can learn more here: **www.ed.gov/programs/fws**

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Appendix A: Interviewees

Note: An asterisk (*) denotes a primary contact.

Paul Allen, Assistant Director of Information Science, Cornell Lab of Ornithology, 9 December 2008

Barry A. Bermudez, Marketing Manager, Information Science Department, Cornell Lab of Ornithology, 10 December 2008

Rick Bonney, Director of Program Development and Evaluation, Cornell Lab of Ornithology, 9 December 2008

Marshall Iliff, **Brian Sullivan** and **Chris Wood**, eBird Project Co-Managers, Information Science Department, Cornell Lab of Ornithology, 9 December 2008

***Steve Kelling**, Director of Information Science, Cornell Lab of Ornithology, 12 August 2008, 9 December 2008, 18 February 2009 and 13 March 2009

Appendix B: Summary of revenues and costs

eBird, Estimates for 2008–2009

Revenue Category	Description	Approx. amount
Endowment payouts*	eBird's share of the annual payout from the Lab of Ornithology's endowment	$110,000
Trail Tracker kiosks	Rental fees from nature centres	$40,000
eBird customised portals	Licensing fees from wildlife organisations and others	$100,000
eBird sponsorship	Payment for placement of logo on the eBird banner	$50,000
Total revenue		**$300,000**

*Based on pre-recession endowment value.

Cost Category	Budgeted Costs				In-kind/volunteer contributions
	Description		Approx. cost		
Personnel		FTE	Included in budget?		
Management	3 PT project co-managers; 3 PT administrators	2.75	yes		
Content selection & production			no		400 volunteer regional data editors
Sales & marketing			no		Provided by the Lab of Ornithology
Technology	1 FT developer; 1 PT database administrator;	1.5	yes		
Total personnel costs		4.25		**$232,000**	
Non-personnel costs			Included in budget?		
Administration & overhead	20% return of revenue to the Lab of Ornithology (excludes endowment payout revenue)		yes	**$38,000**	Endowment & fundraising managed by Cornell University; office space provided by the Lab of Ornithology
Scanning, metadata, etc.	N/A				
Hosting & technology infrastructure	Software and licensing fees; hardware		yes		
Total non-personnel costs				**$68,000**	
Total budgeted costs				**$300,000**	

Explanatory note

The information presented in this table is intended as a broad picture of revenues and costs associated with the project, not as a detailed financial report. The data, which are presented in the local currency of the project, were compiled as part of the interview process with project leaders and staff, and in some cases were supplemented with publicly available documents, such as annual reports. Project leaders were asked to review the information prior to publication. The column labelled 'Included in budget?' indicates whether or not the organisation includes that category of cost in its own definition of its budget. In many cases, the information was difficult for project leaders to provide because their institution does not record information in these categories, or because the project was combined with other projects in a larger department or unit. As a result, many of the figures are rounded or best estimates. Some leaders preferred not to offer figures at all, but suggested percentages instead. Frequently, certain types of costs are provided as in-kind contributions by the host institution. Although we did not attempt to place a value on these contributions, we felt it was important to highlight the significant role they play in many projects. Because of the variability in the way each institution estimated the various categories of revenues and costs, the information presented in the table is of limited value for detailed cross-project comparisons.

This case study was funded in part by the National Science Foundation. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

Document N°: 558a