



Toward a National Bird Education Strategy

VERSION 3.1

Note: This is a draft strategy, intended to stimulate discussion. Please send your comments to: BENstrategy@BirdEducation.org



A perspective presented by the
Bird Education Network (BEN) Committee of the
Council for Environmental Education

www.birdeducation.org



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Executive Summary

We come from a rich tradition of bird education and bird conservation. These twin efforts, from the end of the 19th century to the 21st century, have been most effective when developed in tandem.

We propose the development of a National Bird Education Strategy to address present-day opportunities and the problems facing bird education. In that spirit, we have launched a Bird Education Network (BEN), at the Council for Environmental Education, to bring clarity and direction to the mission of bird education and related bird conservation.

Ideally, our bird education strategy reminds bird educators in the U.S. where we have come from and helps indicate where we want to go, with a specific plan, the roadmap, to arrive at our desired destination.

While our strategy is national in scope, it is also inter-American in spirit, exploring hemispheric connections based on our counterparts' particular needs and our own strategic education and conservation priorities.

Fundamentally, we bird educators must "present a case for birds" - stressing the importance of birds, bird-connections to a broader natural world, and the connections uniquely shared through birds with each other as stewards of our planet.

With this in mind, we have identified *five priority bird conservation problems* facing us today. These five priority bird conservation issues confront not only the U.S., but beyond in terms of: habitat loss, modern industrial life, insufficient public awareness, insufficient funding, and inter-American concerns. Understanding and explaining each of these five problems and recognizing that they are *both biological and non-biological* are essential to crafting an effective modern bird education strategy.

We propose to build an inclusive network for bird educators, one that promotes a shared vision of a future bird-literate society but still can tackle the practical intermediate steps - short-term goals - to get us closer to that possibility. To that end, we espouse broad instruction (at all levels and ages) with specific targeted constituencies and audiences, taking into account what the U.S. and the hemisphere may look like in the near future.

We expect this approach to generate new enthusiasm and direction in bird education, leading directly to more effective bird conservation. The building of such a new network and vision will overcome seemingly disparate outcomes in bird education and conservation when the efforts are seen as *hopeful, creative, and, most importantly, cumulative*.

“Ultimately we at BEN are connecting bird educators at all levels to be more effective”
-The BEN Committee

Introduction

“Birds, it must be admitted, are the most exciting and most deserving of the vertebrates; they are perhaps the best entrée into the study of natural history, and a very good wedge into conservation awareness”

-Roger Tory Peterson (1908- 1996)

The twin efforts of bird education and bird conservation are on the brink of great opportunities and advances in our country. Perhaps never before in our history have there been so many Americans interested in, or simply curious about, birds. But, simultaneously, there are major challenges which present themselves to the cause of bird education, given the fact that widespread interest in our birdlife is usually sketchy, not comprehensive. Similarly, there are deep, enduring problem which confront the very conservation of our birdlife, with the onslaught of habitat loss, the issues of mortality attributed to the modernity of American life, the larger issues of hemispheric migration and conservation, and the near overwhelming and looming issue of carbon emissions and related global warming.

Given such current circumstances, it is time to address the potential role of bird education - and bird educators - in a comprehensive fashion. As Roger Tory Peterson claimed just a few years after the publication of his historic *Field Guide to the Birds* (1934), an interest in birds is the best way to what he called “broader biological vistas.”

We propose the development of a National Bird Education Strategy to meet these present-day opportunities and problems for bird education. We have launched a Bird Education Network (BEN), housed in the Council for Environmental Education, in an effort which we hope will help bring clarity and direction to the mission of bird education and related bird conservation.

The basic elements of such a National Bird Education Strategy will be presented in the following pages. Ideally, our strategy should provide the background purposes for our targeted expectations. Moreover, out of that strategy will have to grow a plan. (Likewise, a stand-alone plan, without a strategy, is inadequate, given our circumstances.) While our strategy is currently intended to be national – with a U.S. geographic scope – our vision includes important inter-American and international lessons and implications. Our bird education strategy should tell American bird educators where we have come from and where we want to go, the plan being the specific roadmap that will help us arrive at our desired bird education and conservation destination.

Our strategy may seem lengthy to some of our colleagues, but we have a specific case to make, to clarify our roots as a bird education community and to present our particular perspective on the barriers ahead and what it may take to overcome those barriers.

The content for this new national bird education effort has these major subject headings beginning on the

following pages:

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BIRD CONSERVATION THROUGH EDUCATION

The Bird Education Network (BEN) supports dynamic education to advance bird conservation action. BEN is connecting bird educators at all levels to become more effective. Through our cumulative efforts and a shared vision, we can promote a societal trend toward effective bird stewardship. BEN wants to bring clarity and direction to the mission of bird education and related bird conservation.

BEN's approach will:

- Share our past to help direct the future of bird education.
- Identify priority bird conservation problems.
- Help create a bird-literate society
- Take practical steps to accomplish short term goals related to bird education and conservation.
- Provide bird education relevant to everyone.

Our Distant Past, Our Common Mission

“It is interesting and encouraging to see how the whole world (our world!) is waking up to our interest in birds. I’m so glad of it- it makes one hope something may be done to preserve them”

-Olive Thorne Miller (1831- 1918)

From the very beginning of the bird preservation movement at the end of the 19th century, the role of bird education was prominently intertwined with efforts for bird conservation. It is, therefore, appropriate to review some of the highlights of our bird education past, deliberating over the efforts that combine the appreciation and the conservation of our North American birdlife.

It began with the desire of concerned women - starting with well-to-do Easterners - to end the unnecessary slaughter of birds for the feather adornment on hats and clothing, to end the trade of bird parts, to confront themselves and an American public with an alternative vision of care and conservation. The early state-based Audubon societies, starting to form at the end of the 19th century and which embodied this effort, were the combined manifestation of bird appreciation, consumer interests, and bold political action. Dominated by energetic women, they were a potent display of creative influence at time when women were officially powerless, without the vote, without a voice in the halls of power. These were not the only actors at the birth of the bird preservation movement, but they were essential.

Their actions took many forms, from formal consumer pledges, to promoting community ordinances and regulations, the celebration of local “Bird Days,” the delivery of bird-appreciation content in thousands of classrooms across America, and the demand for Federal legislation to end the feather trade.

The classroom experience was led by teachers - again, mostly women - in social standing at least one rung below the Brahmin originators of the bird protection movement. Both before and after the passage of the historic Lacey Act of 1900 which sealed the fate of the feather trade, these teachers imbued the children in their charge with a love of birds and the understanding that birds must be cared for and saved. The old-fashioned word, “imbue,” was invariably used to describe their foundational work, combining appreciation and conservation. While their lessons were more often than not full of anthropomorphism, mixing science with sentiment, their essential message of loving birds and saving them was effective. A veritable army of almost forgotten and nameless “imbuers” influenced perhaps millions of school children at the time. Most importantly, and despite its flaws, the effort actually worked!

A parallel and sometimes intersecting development was the “Nature Study Movement” led by Anna Botsford Comstock and other educators in the late 19th and early 20th centuries, a call to study nature, not simply books. The movement was particularly popular in the Northeast, West, and Midwest.

Moreover, the grave economic downturn of 1893 gave the Nature Study Movement further grounding and purpose, since one message was to appreciate the beauties and simplicities of rural life and to avoid the temptations of city living. Both movements of teacher-imbuers and nature-study advocates relied on the

enthusiasm of mostly women teachers with few tangible resources - either scholarly or practical - except those created themselves.

A great source of materials and resourcefulness would be the early Junior Audubon Clubs which experienced two major cycles of upsurge during their existence, first in the early 'teens into the 1920s and again in the 1930s. The Junior Audubon Clubs provided low-cost pamphlets as core texts for thousands of classrooms and for devoted teachers across America. (By the time the U.S. entered WWII, Audubon could justifiably boast that more than nine million American children had held membership in the Audubon Junior Clubs since their inception in 1910.)

In the 1930s there was another model of bird conservation education personified by Rosalie Edge and the Emergency Conservation Committee (ECC). This small group, harsh critics of the then "conservation establishment," ostensibly addressed themselves to concerned conservation and bird advocates, but were most successful in influencing non-conservationists in power, often key decision-makers.

At the same time, from the late 1920s into the 1930s, there was the slow but steady rise of concerned hunter-conservationists. They were central to the acceptance of the new profession of "wildlife management," driven by Aldo Leopold and his colleagues, to restore and improve habitat and to educate their ranks about the clear limits of the resources which drove their interests. Much of this concern had a wetland orientation, since what started as over-farming and wetland draining to supply the troops with food (especially staple grains) during World War I reached its apogee soon thereafter only to crash dramatically in the "dirty 30s" and The Dust Bowl. (In the far West this also was evident with the channeling of waterways to "tame" the land, but with dire bird-and-wildlife consequences.) Here was the core of our second crisis in bird conservation in modern times. Hunter-conservationists had to acknowledge that our wildlife was not everlasting, and that birds and other over-exploited species needed - indeed, required - an ethic of stewardship.

By the end of the Second World War, a "can do" attitude pervaded confident Americans from coast to coast. Outwardly, it seemed that we could resolve all problems through the use of technology and mass production. Our population growth (in the post-WWII baby boom), suburbanization, and the dawn of the "chemical age" appeared invincible - as well as comforting. This hubris was slowly unmasked through the study of our excessive use of pesticides and other chemicals designed to "conquer" nature, but with inherent devastating consequences. By the publication of *Silent Spring* by Rachel Carson in 1962, the dangers of our third bird crises in modern times became evident, despite powerful institutional resistance to the contrary. Birds were the symbols as well as the actual victims. The DDT crisis ravaged birds, especially those at the top of the food chain, such as Bald Eagle, Osprey, Brown Pelican, and Peregrine Falcon. We also discovered that we were not only poisoning nature, we were poisoning ourselves in the process.

Therefore, we Americans have witnessed and addressed three bird crises from the end of the 19th century through the first three-quarters of the 20th century:

- the slaughter of birds for commerce (feather and even market hunting), giving rise to the bird preservation movement
- the abuse of agricultural lands and the drainage of wetlands (crashing in the midst of the Depression), giving meaning to the new craft of wildlife management and wetland conservation
- the excessive use of the most offensive pesticides and chemicals, resulting in what we today call environmentalism.



Each of these three crises was more complicated than its immediate predecessor, each one demanding a higher level of education, understanding, and action.

Our fourth modern bird crisis is taken up in the next section.

Implications: We come from a rich heritage of bird education and bird conservation. Each of these two threads, from the end of the 19th century to the latter part of the 20th century was most effective when running in tandem, in concurrence, one with the other. With that history in mind, it is highly instructive to see how the first three modern North American bird crises were confronted and how each gave rise to special comprehensive efforts to explain the threats to birds and, simultaneously, to save them.

Our More Recent Past

“It was a spring without voices. On the mornings that had once throbbled with the dawn chorus of robins, catbirds, doves, jays, wrens, and scores of other bird voices there was now no sound; only silence lay over the fields and woods and marsh... Even the streams were now lifeless... No witchcraft, no enemy action had silenced the rebirth of new life in this stricken world. The people had done it themselves...”

- Rachel Carson (1907-1964), *Silent Spring* (1962)

The third bird crisis, addressed in the 1960s and 1970s, unleashed a flurry of actions and resolutions. In fact, the message of *Silent Spring* informed and inspired millions, and it helped launch scores of organizations - local and national - and push legislation and regulation that was vital to a healthy environment: the creation of Environmental Protection Agency (1970), Clean Water Act (1972), Clean Air Act (1972), the DDT ban (1973), the Endangered Species Act (1973), and others.

On the ground in the bird community there was also the establishment of regional bird observatories. (In the 1930s and pioneered by the same assertive Rosalie Edge, Hawk Mountain Sanctuary was created, a site which can be viewed as an American proto-bird-observatory. In the 1950s, there was also the creation of the Cornell Laboratory of Ornithology which can also be viewed as a mega-bird-observatory and education center. But these two were outlying pioneers.) The late 1960s and 1970s saw the creation of a spate of “regular” observatories, regional in character and based, in large part, on European models, starting with our Canadian colleagues at Long Point Bird Observatory at Long Point, Ontario. Soon there were others, for example, Point Reyes Bird Observatory, Manomet Bird Observatory, and Cape May Bird Observatory. Without coordination, they spread across the U.S. and Canada, embracing - at different levels of intensity - regional bird conservation and related education.

On the most elemental level, bird interest grew apace. The practice of backyard birdfeeding was spreading, especially since the late 1950s, but it burst forth in the 1970s in a huge way, creating its own “backyard industry,” first incoherently, and then with some self-awareness.

Similarly, the avocation of birdwatching or birding (leaving the home to enjoy birds) found popularity in the 1970s and 1980s that it had not experienced in decades. The interest continues; the attraction grows. (Witness the publication of multiple recent field guides, the proliferation of quality binoculars, and the millions of dollars spent annually on motels, food, gasoline, and airfare connected to birding field trips.) Curiously, our success in this growing trend has also been our failure. Environmentalism, the outgrowth of the third crisis in bird conservation, has actually become accepted, part of our American cultural norm in many respects. From a concern over recycling in the recent past, to a growing awareness today of “sustainability” and “green living,” the long-term impact of environmentalism has been remarkable. Society today would never have known to look, let alone accept, the validity of today’s climate change dangers had it not been for the foundation of environmental thinking of recent past decades. Still, when the fourth bird crisis was identified, distinguished by the fact that whole suites of species - e.g., forest, grassland, shore - were in decline and for a multitude of distressing reasons, the “bird movement” was ill prepared to address it.

To many Americans at the time, the plight of our birds was “just another crisis,” virtually competing with Pandas, rainforest loss, world population pressures, the ozone hole, acid rain, and oil spills, for the attention of the public, a public swamped with a myriad of pressing ecological concerns.

By the time the Manomet Bird Observatory called for a conference on the dilemma facing Neotropical landbird migrants at its Woods Hole Meeting of December 1989, the fourth American bird crisis of modern times had been identified.



The actual causes of our fourth bird crisis were difficult to identify, not a particularly helpful situation in presenting the case to an American public inured to what appeared to be the “ecological crisis of the month.” Still, the upshot was Partners in Flight (PIF), launched the following year (1990), a cooperative effort to address landbird conservation among a variety of public and private partnerships through common conservation goals. The PIF effort, and its resulting list of priorities, was actually modeled on the waterfowl plan predecessor, the North American Waterfowl Management Plan (NAWMP).

The Waterfowl Plan, a U.S.-Canadian set of waterfowl population and habitat goals started in 1986, was the actual prototype for all the Bird Conservation Plans to follow. The vision of the North American Waterfowl Management, to recover waterfowl populations, was innovative not only because its perspective was international in scope, but also because its implementation would function at the regional level. The success of NAWMP became dependent upon the strength of regional partnerships, called “Joint Ventures,” involving federal, state, provincial, tribal, and local governments, businesses, conservation organizations, and individual citizens, all developing implementation plans focusing on areas of concern identified within the Plan.

The current Bird Conservation Plans - for waterfowl (NAWMP), landbirds (PIF), waterbirds (Waterbirds for the Americas), and shorebirds (U.S. Shorebird Conservation Plan) - have been wonderful in identifying - virtually “discovering” - the real international and hemispherically-shared biological resources, the prioritization of species of concern, and the broad landscape-scale issues. They have all clearly focused on biological evaluation, objectives, and strategies.

Indeed, the Bird Conservation Plans that grew out of this fourth modern bird crisis have been bold and visionary; at the same time they have been incomplete from our perspective, most times incapable of delivering a justifying image to those beyond the already committed. The Bird Conservation Plans have been a blessing for bird conservation practitioners, but not necessarily for the uninitiated, and certainly not for the simply “bird curious.” As such, these fine plans have been essentially biocentric, unable to deliver a broader perspective of self-justification to the public.

Each Bird Conservation Plan lacks an effective educational delivery mechanism, and appears to most non-professional non-biological outsiders to become largely the home for biologists speaking to managers. This is not to say that education, outreach, and communications efforts were not made through the Bird Conservation Plans. In truth, some direct and accompanying educational efforts around the Plans were dramatic and sweeping (such as the vision for International Migratory Bird Day and the Shorebird Sister Schools, and some of the highly creative early PIF efforts). Still, each of these became - often by necessity, but certainly in reality - the functional caboose on the Bird-Plan train.

Almost simultaneously, the Cornell Laboratory of Ornithology (CLO) was developing educational efforts linked to the phenomenon of “citizen science.” This embraced a vision of popular involvement, broad-based understanding,

and engagement, combining a participatory effort among educated bird devotees with the necessity of collecting data, ultimately to understand and to save birds. While the original model may be the Audubon-based Christmas Bird Count, starting in 1900, CLO's efforts toward citizen science were more specific, going back to their Nest-Record Card Program of the 1960s. Citizen science was also given a boost, even before it was given a name, through the work of Chandler Robbins and the inauguration of the Breeding Bird Survey in 1965 under the auspices of the US Fish and Wildlife Service and the Canadian Wildlife Service.

CLO would come to define what citizen science was to become with such newer ventures as Project FeederWatch (originally pioneered by Long Point Bird Observatory), the related House Finch Disease Survey, the Birdhouse Network (and follow-up NestWatch), Birds in Forested Landscapes, and Golden-winged Warbler Atlas. All of these aimed to put citizen-observers in programs with scientists to collect vital bird information.

These many background actions simply accentuate our present mission as bird educators to embody a 21st-century strategy - and the specific plan growing out of it - to appreciate and save birds.

As bird educators, however, we first need to stress why birds are, in fact, "the best entrée into the study of natural history," and related awareness.

For us, there are at least three essential - yet simple - reasons: birds are *attractive, accessible, and ever-present*:

1. Attractive birds can capture the attention of people - young and old. Their often bright colors and wonderful songs draw us to them. If some people find other aspects of nature unappealing, say, snakes, insects, or frogs, these people often have an opposite attitude toward birds.
2. Accessible birds are highly visible and relatively easy to see - except for shy or cryptic species - and are present in all habitats - from backyards, to downtown parks, to seashores, to mountains, to deserts, to swamps.
3. Ever-present birds are found outdoors at all seasons, year-round – winter, spring, summer, fall. Moreover, they will often change seasonally; when one set of birds leaves, another set takes its place. This is not the case in other very attractive elements of nature, for example, butterflies or flowers.

We also have four other, lesser, reasons for "why birds?": they are *emblematic, international, popular, and full of history*.

4. Emblematic birds are the symbols of our conservation efforts for more than a century (e.g. egrets and herons during the period of Bird Protection, waterfowl during the "dirty thirties," the avian DDT-victims on the top of the food chain, such as Bald Eagle, Peregrine Falcon, Osprey, and Brown Pelican). As such, these birds are also important indicators of our ecosystems, acting as a gauge of habitat change and "telling" us how we are faring as stewards of our planet.
5. International birds have a hemispheric aspect that is unique. Through their spectacular and mysterious migrations they connect us - quite literally - to other places, other people, other issues, a shared resource.
6. Popular birds are those that are simply appreciated. From the phenomenal growth of backyard birdfeeding to the mild forms of avitourism and ecotourism to cover the interest of the casual and avid birdwatchers, general curiosity over birdlife in the United States continues to grow.
7. Historically, birds are also the best known of our vertebrates, with a chronicle of regular and continual exploring of birdlife by enthusiastic non-professionals. Enter, if you will, citizen science and the ability to contribute to accumulated knowledge. Historically, birds are also woven into the cultural heritage of this country,

from Thanksgiving Day, to hunting, to wonderful literature and music.

For these seven reasons, birds can serve as a *portal to a much bigger world of appreciation, understanding, and conservation.*

When the Council for Environmental Education called for a “National Gathering” to be held in February 2007, on the theme of “Bird Conservation through Education,” the idea was to provide a forum for discussion, network building, and planning further the reach of bird education efforts in North America and beyond. The four specific goals were to:

- initiate the development of a national bird education network
- highlight the most critical messages to be communicated through bird education efforts
- examine outreach to diverse audiences as a priority goal within bird education and share successful methods for involving diverse audiences in bird education
- share success stories in bird education through case studies and interactive discussions

The meeting itself was a phenomenal success, with more than double the intended participants (155 vs. 75) from over 100 organizations and with sessions packed to the brim. The meeting illustrated the crying need for just the sort of network and dialogue envisioned in the meeting’s original call. If there was a shortcoming to the conference, it was the insufficient time to cover so many important aspects of bird education.

While the participants arrived without a preconceived agenda, just a desire to learn from each other and to share experiences, they left having passed two significant resolutions:

Resolution in Support of Bird Education: Participants of the 2007 Bird Conservation through Education Conference urge that education about birds designed to bring about action to protect and enhance birds and their habitats be supported strongly and that such education be emphasized in the formal school curriculum and given high priority in agency and organization education programs.

Resolution for developing a Bird Education Plan: Participants in the 2007 Bird Conservation through Education Conference recommend that a comprehensive plan for education about birds and their conservation be developed, and that this plan set priorities and recommend the most practical and effective strategy for implementing a dynamic program of bird education.

Implications: The fourth modern American bird crisis involves threats to entire suites of species in decline: shorebirds, waterfowl, waterbirds, landbirds, and even non-migratory resident birds. Multiple Bird Conservation Plans have emerged to quantify the crisis and to focus on biological evaluation, landscape-scale objectives, and strategies. One particular strength of these plans has been their inter-American perspective. These fine Plans have still been unable to deliver successful broad educational messages based on conveying the nature of the crisis and presenting an understandable resolution to an American public. Fundamentally, bird educators need to “present a case for birds”: to stress the importance of birds, the bird-connections to a broader natural world, and now to ourselves. We are uniquely positioned today to take advantage of new opportunities and a new consciousness over these issues.



The Five Priority Bird Conservation Problems

“As soon as we take one thing by itself, we find it hitched to everything else in the universe”

-John Muir (1838- 1914)

Now we examine what we have identified as the five priority bird conservation problems confronting all of us today. We approach this with a pair of assumptions:

- If we can identify the core bird conservation problems, we can seek core answers.
- If we entertain core answers we can formulate a plan for explaining them and popularizing them through the work of dedicated bird educators.

The first two major issues, appropriately enough, are the sweeping biological and near-biological threats that face birds and their conservation today:

- 1) Habitat loss** - This is the gargantuan issue that overwhelms, or may seem to overwhelm, all others. From north to south, whether we deal with the massive conversion of boreal forest through forestry and mining, mountaintop removal, coastal development, forest and grassland fragmentation, intensified agricultural and livestock practices, spreading suburban development, exotic invasive plants, or stress to bottomland/riparian habitat, this is the single most substantial issue to be considered.
- 2) The "insertions" of modern industrial (and post-industrial) life** - These are issues that drift away from strict habitat and biological concerns, although they may share many of the same characteristics or even overlap with habitat loss. The mortality factors that are associated with the growth of human populations and modern living include such elements as glass (from small homes to skyscrapers) and related distracting light, greenhouse gasses (from automobile engines and coal-fueled power plants) communications towers, wind-farms, pesticides, toxic substances, fire suppression, fences, and even longline fisheries. (This category is often where that “indicator issue” often appears, for example, in regard to facing daunting climate-change. In fact, the issue of climate change is so large - with its implications for such concerns as sea-level rise, mountain-top habitat loss, and desertification - that it may overwhelm other subsets within this category.)

The next three major concerns are not characterized by biological and near-biological factors previously described - “hitched to everything else in the universe” - as Muir presciently indicated a century ago. Instead, these next three major issues today are concerns that overflow into the political, economic, and social realm. Just as Muir identified what we can identify today as a functional “pre-ecological awareness” in the early 1900s, we bird educators need to stress today dimensions to bird conservation, those additional non-biological concerns, to fortify the vital biological/habitat issues. We need to show how all of these are interrelated. If Muir presented what could be considered a “pre-ecological” approach, we offer a modern “post-ecological” approach, one that combines intertwined political, economic, and social elements.

- 3) An insufficient number of people know (or care enough) about birds** - If we know about the habitat and modern-living issues that threaten our birds, we need simply to make people aware of them to the point of concern or action. The fact that an insufficient number of Americans are concerned about birds – concerned

enough to make a difference in their lives or birds' lives - is, in itself, a bird conservation problem. This problem of awareness accentuates the need for a socially-determined (not solely biologically-determined) agenda to evaluate and target both broad and specific constituencies and audiences for bird conservation.

4) Not enough funding for birds - Again, the fact that there is currently not enough funding for birds is, itself, a bird conservation problem. We need to understand the sources to pay for bird conservation and bird education. We need to explain the sources and how they might be expanded, if necessary.

5) Our hemispheric challenges - While the Bird Conservation Plans have arrived at a vision of biologically-based conservation that goes beyond our national boundaries, there are hemispheric issues that clearly go beyond the biological. These include language, culture, mere distance, the complexities of inter-American politics, marketing for sustainable agriculture, and economic disparities. These challenges cobble our effectiveness, as we try to save birds. We need specific bird-educator efforts to overcome these challenges.

Therefore, we have five issues to consider, while we confront our multiple and combined education and conservation tasks.

Implications: Understanding each of the five priority bird conservation issues today and fully recognizing that they are both biological and non-biological, ecological and post-ecological, are prerequisites to addressing the problems.

Addressing Each of These Five Problems

“The conservation battle cannot be a short, sharp engagement, but must be grim, tenacious warfare - the sort that makes single gains and then consolidate these gains until renewed strength and a good opportunity makes another advance possible ”

- Ira N. Gabrielson (1889-1977), first director U.S. Fish & Wildlife Service, *Wildlife Conservation* (1941)

None of this is simple. In fact, the problems that we face can sometimes seem overwhelming. But they need not be, and bird educators should be comfortable in explaining these challenges, just so that potential solutions can be explored and understood.

1) Habitat loss - Most of these issues are beginning to be addressed in the Bird Conservation Toolkit (see Appendix B). The aim of this toolkit is to outline the outreach and education efforts on the highest priority habitats and issues initially identified through the Partners in Flight North American Landbird Conservation Plan. The approach starts with an outline of those threats common to landbirds across the continent, followed by more specific treatment for each of major Avifaunal Biomes -groups of Bird Conservation Regions that share similar avifaunas. (See Appendix A for a map of these Biomes.) The Bird Conservation Toolkit is intended to provide a framework for how the habitat-based bird conservation issues can be addressed through education. For each biome, there has been is being developed a chart outlining the conservation issues identified in the Conservation Plan, with corresponding education messages, audiences, as well as action items and tools or programs for each issue. These outlined messages and audiences should be invaluable for bird educators, guiding us to the very arguments and people (often the land managers, land owners, and crucial local and national policy-makers) that can make a significant difference for these specific issues in bird conservation. (A sample of the start of this toolkit is included as Appendix B.)

2) The "insertions" of modern industrial (and post-industrial) life - These are not the strict biological and habitat issues, but the "near-biological" ones, as already described. Many, but not all, of these education messages and audiences are addressed in the Bird Conservation Toolkit described in #1 (sampled in Appendix B) - such as wind power and glass. Some of the issues, as complex as they are urgent, have audiences that are extremely varied or broad. For example, auto emissions and coal-fired power plants - driving a global climate change that is all-embracing - touch virtually all Americans. Birds here serve as a disturbing indicator of change, and the lessons for green energy development, conservation, and mitigation will impact the entire country. Correspondingly, virtually every American can play a role. Contrariwise, the issue of fire management is a much narrower one that is not a strict issue of habitat loss as much as it is a modern consequence of habitat abuse - a human-induced convenience - where natural communities that are fire-adapted and fire-dependent suffer from region necessities that militate against a sensible fire policy to incorporate natural ecological consequences. Thus, these peculiar industrial and post-industrial requirements are more difficult to address.

3) An insufficient number of people know (or care enough) about birds - This socially-determined bird conservation problem demands that we evaluate and target both broad and specific audiences. If all we do is try to convince the people *directly* connected to the habitat and modernity issues described in #1 and #2 above, entire vital and dynamic sectors of the American population will fall between cavernous cracks. Therefore, we have outlined six broad groups of Americans who deserve special attention below, under “Constituencies and Audiences.”



4) Not enough funding - To address the problem of bird funding, we bird educators, in conjunction with our bird conservation allies, need to identify the most important funding sources for birds. It is vital for all of us to realize that Bird Conservation Plans are simply bookshelf-occupiers until they are made real through sufficient funding. Fortunately, most of the vital sources for funding are “already on the books,” core legislation or practices that do not need to be created from scratch, just utilized more fully. These funding vehicles are described below, under the section titled, “Funding for Birds.”

5) Our hemispheric challenges - One of the finest elements of the Bird Conservation Plans - as already mentioned - has been their ability to embrace a vision of conservation that goes beyond our national boundaries. They recognize that our bird resources are shared resources, that our conservation concerns must be at least inter-American in scope (also and for some species, Oceanic or Asian). Still, the plans are wedded to viewing these issues through biological lenses. As such, the issues are already beginning to be addressed from the habitat and modernity vantage-points addressed above in #1 and #2, the habitat and post-industrial concerns. At the same time, there are other, parallel, vital hemispheric issues that require awareness and addressing. These challenges are hemispheric issues that bird educators, moreover, are ideally suited to tackle. These are the concerns that include language, culture, mere distance, the maze of political structures (often unfriendly to birds) differing from country to country, North/South as well as South/South, marketing and related information on sustainable agriculture (e.g., coffee and cacao), and economic disparities. To take on the biological and near-biological issues while not confronting these other encumbrances is actually a prescription for conservation failure. In reality, these non-biological hemispheric issue, a real interdisciplinary challenge, must be addressed *simultaneously with* the biological issues. In fact, anything positive that reduces those challenges and creates communications and understanding can be viewed as helpful.

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The mission of American bird educators must include the adoption and explanation of each of these five priority bird conservation problems and show how they are intimately interrelated, despite the initial impression that we educators might be forcing the blending of unconnected disciplines.

With these five priority bird conservation problems, as with other key concepts outlined in this strategy, we need to express common messages and themes. We bird educators do not always need to “speak with one voice” as much as we need to be “in harmony” with multiple common messages addressed to varied audiences.

Our future lies, in the words of no less a scientist than E.O. Wilson in *Creation: An Appeal to Save Life on Earth*, in our ability to bridge the three great branches of learning: the natural sciences, the social sciences, and the humanities. We bird educators need to be willing to assume at least part of that dignified calling.

Implications: Understanding the five priority bird conservation issues today is good; explaining them is simply vital. To do that, we bird educators need a multidisciplinary approach.

GLOBAL WARMING: The 800-pound gorilla we can't ignore

Nothing seems more all-absorbing in environmental concerns today than the issue of global warming. While global warming is embedded within our issue #2 for bird conservation - the "insertions" of modern life – it is clearly the largest and most attention-getting of our human-created problems, an outgrowth of modern life.

With a global rise in temperature and an accompanying rise in sea-level, for example, natural ecosystems and their birds will have a difficult time adjusting. Atolls, glaciers, mangroves, boreal and tropical forests, polar and alpine ecosystems, prairie wetlands, and native grasslands will likely suffer most. Ocean temperatures and circulation patterns will affect the populations of all sorts of plant and animal sea-life, also impacting our seabirds and our shorebirds. Moreover, while human activity – mostly through agricultural development – has impacted more than half of our U.S. wetlands, global warming threatens much of the remainder.

The driver is the greenhouse effect, with the production of carbon dioxide, methane, and other ingredients. North America, with its use of fossil fuels for transportation, industry, and home life, is the largest per capita producer of carbon dioxide in the world. As such, auto emissions and coal-fired power plants touch virtually every American... and virtually all our birds.

Birds here serve as a troubling indicator of change, and the lessons for green energy development, conservation, adaptation, and mitigation will impact the entire country, if not the entire planet.



Constituencies and Audiences

“Our ability to perceive quality in nature begins, as in art, with the pretty.”

- Aldo Leopold (1887-1948)

As mentioned at the outset, lots of Americans are interested in birds.

According to the USDA Forest Service's National Survey on Recreation and the Environment (NSRE), birdwatching (or birding) in the U.S. is at 81.4 million participants (2006). This is up from 69.9 million in 2003. The latest survey asked whether interviewees did or did not participate in any birdwatching activity, and whether it was their primary activity, or was associated with some other activity. The NSRE researchers also tracked parallel birding days, with the most recent number standing at an astounding 8.2 billion annual birding days!

Similarly, the US Fish & Wildlife Service's "2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation" also showed a recent jump in the category of Wildlife Watching (where birding is the acknowledged lion's share). From 2001 to 2006, the increase in both around home and away-from-home wildlife watching rose, respectively, 8% and 5%. Of the 71 million people who enjoyed wildlife watching in 2006, almost a third (32%) took trips more than a mile away from home. Overall expenditures related to wildlife watching trip-related spending went up significantly during those years, to an increase of 40%.

Before we start cheering, we have a sobering reality to accept: That growing bird interest is wide, but it is not very deep. If people care about birds, and we can accept that many American are at least “bird-curious,” then they don't seem to *care enough or know how to help*.

We have literally millions of people to move from appreciation and simple awareness ultimately to action - a potentially powerful force indeed.

Large sections of the public may be interested in birds because they are pretty, and/or they are conveniently present in their backyards, and/or they are part of the change of seasons. We bird educators recognize that those interest are nothing short of glorious. They are the *start* of fuller appreciation, where most people begin to be aware of birds in natural landscapes. These reasons are to be lauded, nurtured, and, most importantly, intensified.

For a pair of examples at a somewhat higher level of interest, witness the great advances since the early 1990s with birding trails and with birding festivals across the country. These developments are very exciting, but they are not usually integrated with a bird conservation message and sophisticated interpretation (with some outstanding exceptions). Avitourism and economic impacts are stressed - which can all be very good - but cumulative and accompanying education and conservation is usually not emphasized.

These problems can be remedied if we view our purpose as bringing people a message of the wonder and appreciation of birds *linked* to the necessary tools and actions to save them. We maintain that those sequential connections must be made.

Still, our tasks as a bird education network will be less effective – even chaotic, random, and without specificity -

until we have a common view of education itself and an agreement on the roles of constituencies and audiences.

Basically, our view of education is as inclusive as possible. It includes outreach, promotion, informal and formal, all audiences, and information dissemination. Our view of education also assumes the important element of interpretation, a process that forges intellectual and emotional connections between interests of the audiences and the meanings inherent in the resource. Ultimately, the desired and essential end result will lead to changing behavior, behavior which ultimately helps to save birds.



As a bird education network we also need to differentiate constituencies from audiences. Constituencies are those people and institutions involved in bird education and conservation that should have a direct relationship to our Bird Education Network. They are the practitioners already involved in bird education and conservation - nature centers, bird business/stores, birder organizations and bird clubs, bird observatories, zoos, museums, refuge and park friends groups, master naturalist programs, concerned and involved teachers and teacher-programs. Of course, national organizations and government agencies are also viewed as constituencies. Constituencies are then those people and groups with an active and ongoing affinity to bird education and often to each other, those who have access to a broader hearing.

Audiences are that broader hearing, the people directly addressed by the network constituencies. They can be the members of the local garden club, the visitors to the nature center or zoo, the customers at the birding specialty store, the readers of popular nature and outdoor magazines.

In short, our Bird Education Network exists to connect our strategic constituencies which, in turn, provide access and information to broader audiences. In such a construct, the constituencies can become the intermediaries for the common and agreed upon messages and themes presented to the broader audiences.

Ideally, an effective network should help constituencies, the major actors within bird education, to address common themes through clear messages to their audiences, the recipients of the information.

A helpful Bird Conservation Toolkit (an approach previously titled the “Matrix”: see Appendix B, starting on page 40) can correlate conservation threats and necessary actions. The proposed Toolkit should identify most of the important constituencies and audiences outlined under, #1 and #2, the key people to reach under the issues of habitat loss and many of the insertions of modern industrial and post-industrial life. (Some of these are the crucial decision-makers who can make a real difference on these issues.)

But there are other targets, socially defined target audiences, both medium- and long-term audiences whose importance is based on what America has become and what it will look like in the very near future.

We in the Bird Education Network stress six additional broad groups of Americans (beyond those reached under the issues of habitat loss and the insertions of modern industrial and post-industrial life) deserving special attention, and potentially reached through active bird conservation constituencies. We outline those audiences here with some hints on each of their respective informational constituencies:

1. Students (mostly K-12)

When our bird protection foremothers sought to imbue schoolchildren with a concern for birds starting at the end

of the 19th century, they were dealing with a country that was overwhelmingly rural (over 60% rural in 1900). Today we have a country, overwhelmingly urban and near-urban (over 80%). Today, moreover, our teachers at all levels are facing tasks - for 54.3 million school-age children - that are far different, with children increasingly removed from the outdoor experience, with children who have other - mostly indoor - distractions, and under circumstances where the classroom scene is consumed with “teaching to the test” under “No Child Left Behind” (NCLB).



The problem has also been thoughtfully captured by Richard Louv’s *Last Child in the Woods* (2006), which revealed the staggering divide between children and the outdoors. The social, ecological, and even psychological consequences threaten an entire generation - or more - of America’s youth.

We bird educators know that an antidote - in part at least - can be applied in the formal school curriculum. Given the developmental benefits of bird relate activities, the incorporation of bird concepts into the formal education setting would be in the best interest of both our students and birds.

We are fortunate that *Excellence in Environmental Education - Guidelines for Learning* (Pre K-12) (NAAEE, 2004) can offer perspectives on environmental education for students. The Guidelines provide students, parents, educators, home schoolers, administrators, policy makers, and the concerned public a set of common and voluntary guidelines for environmental education that can be adapted by bird educators. Threshold expectations are presented for students toward the end of elementary, middle, and high schools.

They cover four “strands” or expectation goals to address environmental issues, each developed specifically for respective grades and appropriate ages:

Strand 1—Questioning, Analysis and Interpretation Skills

Strand 2—Knowledge of Environmental Processes and Systems

- 2.1 the Earth as a physical system
- 2.2 the living environment
- 2.3 humans and their societies
- 2.4 environment and society

Strand 3—Skills for Understanding and Addressing Environmental Issues

- 3.1 skills for analyzing and investigating environmental issues
- 3.2 decision-making and citizenship skills

Strand 4—Personal and Civic Responsibility

These can be addressed ambitiously to the 38 million children in kindergarten and elementary grades and the 16 million in middle and high schools across the country. If the ultimate goal of this sort of desirable environmental education is the development of “an environmentally literate citizenry,” we bird educators aim for a bird-literate society to those ends.

Moves to improve the “No Child Left Behind” (NCLB) legislation to include new resources and incentives to states to enhance environmental education (but not add any additional tests or requirements on school systems), could be helpful, especially as they would focus on teacher training and capacity building. Such a “No Child Left Inside” (NCLI) approach would give states new incentives to create environmental literacy plans to make sure graduates better understand their environment and would help fulfill an obligation to educate young people about the environment - including birds - to enable them to become responsible natural stewards.

It almost goes without saying that to reach students, our prime constituencies must be the teachers in the schools, the most powerful lever in American education. For this, our approach must include the development of best-practices for training educators to teach about birds and bird related issues, to empower educators to use bird education as tools in their classrooms.

In addition, whatever opportunities avail themselves to reach children in creative ways *outside the school surroundings* - e.g., scouts, community service, nature centers, summer camps, pre-school settings, and church groups - should be vigorously pursued.

Reaching students in family surroundings must not be neglected. “Connecting with nature”- and for out part, connecting with birds - is talked about much today, and it should be connected with families. Yes, youngsters need unstructured time with nature, discovering birds on their own and with their peers, but they also need the opportunity for that discovery within the family unit. Moreover, family time spent outdoors discovering birds is as valuable to the adults as it is to the children.

All of these efforts - in the classroom and outside - are not efforts that will provide immediate returns. In fact, they are usually long-term investments with only long-term consequences, those that will pay off in the future. In fact, unless a foundation is created in K-12 education, taking advantage of the post-secondary experience for bird conservation is made that much more difficult.

While we stress K-12 education here, we are aware that birds can play a very important role in post-secondary education. Ornithology courses are often part of the training for students majoring in biology, wildlife management, conservation biology, environmental science, and other basic and applied biological fields. And general education bird courses geared toward non-biology majors can fit into a traditional liberal arts education. Each of these presents opportunities to *broaden the approach* towards birds across traditional disciplinary lines. Moreover, there are creative ways to approach birds through the social science fields of Economics, Sociology, and Government. And, increasingly, there are numbers of pioneer instructors in the areas of Anthropology, Literature, Art, and related fields who can also focus on human-bird interactions in creative ways. Creating well-rounded teachers is crucial. Including bird courses in the training of biology and life-science teachers and general elementary education teachers will strengthen their ability to include birds in their own classroom experiences. Indeed, birds provide opportunities, to make links across the curricula, and these opportunities should not be ignored.

2. Boomers (and other adults)

In 2008, baby boomers started turning 62 years old. This generation (born between 1946 and 1964) embraces a huge number of adults, 77 million. These Americans constitute the largest, healthiest, best-educated generation in history. Some observers have called this generation the “pig in the python,” and it is a demographic bulge moving across our current line of sight.

The boomers, moreover, are not a single homogeneous social entity; they are actually made up of several different generational cohorts, each with its own distinctive characteristics. The oldest, for example, currently

entertaining retirement, find themselves with more free time than they have had in their lives. The youngest may just be starting to view an “empty nest.” In either case, they are experiencing prime ages for volunteering. Surveys indicate that they are less likely to simply “volunteer” in a traditional sense, but seek “quality,” “purpose,” and “giving back” with increasing frequency. This is an opportunity bird educators cannot afford to miss.

In addition, many boomers often seek to recapture the outdoor discoveries they experienced in their own youth, experiences they often had to put on hold while building families and crafting careers. This subset of the boomers is crucial. Many of them will have memories of idyllic times outdoors, in travel, and with some wondrous aspect of nature. They already have outdoor interests - or at least curiosity - that stand in stark contrast to those of young children today.

Also in contrast to students, boomers can produce near-immediate “returns” in the area of bird education. They have money (important for individual contributions or for planned giving); they increasingly have time; they vote. The constituencies to introduce them – or re-introduce them – to these opportunities include Master Naturalists, park or refuge Friends, even Elderhostels.

Post-boomer, younger adults, particularly in the suburbs, are often reached *with* their children, and often exhibit less free time to devote to bird-oriented education and conservation. Often the best way to reach them is through bird-oriented family activities.

3. Communities of Diversity (minorities)

In May of 2007, the minority population of the U.S. surpassed 100 million: 44.3 million Hispanics, 36.7 million non-Hispanic Blacks, 12.9 million Asians, and 2.3 million Native Americans. In seven short years, it is estimated that five states and the District of Columbia will have projected majority status consisting of these minorities. Viewed as a whole, they will not be “minorities” at all. Those states are California, Nevada, New Mexico, Texas, and Hawaii. To that list, we can add Maryland by 2020 and the states of Arizona, Georgia, and Florida by 2025.

Making a special effort to reach communities of diversity with a message of bird stewardship is not an issue of “political correctness.” Quite simply, it is a question of survival and practicality. These new majorities - in the above listed states - will be making the conservation decisions in those states in the near future. Even at the most elemental level, please consider: How many rare, endangered, and “species of conservation concern” are in those states? There are far too many to ignore the consequences.

Additionally, bird appreciation and conservation cannot be seen as an interest only of the well-to-do, of middle-class whites, or of educated dilettantes. That is not a long-term healthy prescription for bird education and conservation. Moreover, all communities of diversity, by their mere existence, merit serious bird education attention.

Birdwatching historians have contemplated the role of the illustrated bird field guide and the introduction of inexpensive binoculars as “democratizing” bird study, saving it from an elite future. This is only partially correct; the availability of those tools has only presented the *potential* for bird-study democratization today. That potential can only be fulfilled if extra efforts are consciously made to reach otherwise neglected or under-served audiences.



The programmatic constituencies available to reach under-served communities of diversity are harder to identify, and this, perhaps, is not surprising. Special efforts must be made to find them, especially emphasizing the issue of like mentors and role models, peers, as well as the repeat opportunities to explore birds through whatever openings are available. Often, existing community groups, faith-based groups, as well as schools may lead bird educators to the vehicles to reach these under-served communities of diversity.

4. Birdwatchers

We can view the birdwatchers - or birders - in many ways. First, we have the broad and loose 40+ million feeder owners. They have curiosity and at least the start of an awareness of stewardship. They think they are doing "something good" for birds, and that is wonderful. We bird educators should nurture that interest and that excitement in an effort to extend it to embrace a broader view. The feeder-watchers and the related \$3.5-billion-per-year birdfeeding and backyard industries are crucial to the acceptance of more meaningful bird education and conservation. Their interest is what continues to introduce so many Americans to birds.

On the other end of the spectrum are the avids, bird club members, bird magazine readers, and even supporters of bird observatories. They often will emphasize field skills - particularly the development of their own personal field skills - to the exclusion of other elements of bird study. Far fewer in numbers, when compared to the feeder-watchers, they have a passion for the birds, but can often miss the importance of *balance* in their interest which under the best of circumstances combines the challenge of identifying birds, the mission of broad instruction, and the commitments to conservation action, in short, packaging a holistic approach to birds.

(Holism - from *holos*, a Greek word meaning all, entire, total - is the idea that all the properties of a given system, be they biological, chemical, social, economic, mental, or linguistic, cannot be determined or explained by its component parts alone. Instead, the system as a whole determines in an important way how the parts behave.)

Finally, there are many target groups of birdwatchers between the feeder-watchers and avid birders. Sometimes those between "the merely curious" and "the totally dedicated" are the most eager and most inclined to learn - both field skills and related stewardship behavior.

As indicated above, these audiences - at all levels - are reached through the potential constituencies of bird clubs, magazines, observatories, birding specialty stores, even the Internet.

The advantage of each of these groups of birdwatchers is that they are *already* interested in birds.

5. Hunters

The reliable organized mainstay of 20th century conservation, hunters came to their station during the second crisis of bird conservation in the 20th century and they have maintained a vital role since. They continue to be well organized, focused, and effective.

Today, however, they are also under simple demographic duress, with their numbers in stasis or even in decline. In the recent and previously cited "2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation" (USFWS), it was reported, for example, that between 2001 and 2006, overall hunting participation dropped 4%.

The influence of today's 1.7 million duck hunters and over 4 million upland bird hunters can be measured by their enormous contributions to bird habitat - through taxes, licenses, and, most impressively, through voluntary

contributions.

This important audience can be reached through their organizations, their publications, their forums. Fortunately, most of their organizations have already bought into the broader bird conservation agenda – via the vital Bird Conservation Plans and Joint Ventures. What is missing, however, is an ongoing constructive dialogue at local levels between the consumptive and non-consumptive bird devotees. Effective bird education and conservation cannot be deemed successful until both the consumptive and non-consumptive communities engage in across-the-board conversation and joint action. The Bird Education Network can help to build that missing conversation.

6. Landowners

The total land area of the contiguous 48 states is approximately 1.9 billion acres. Alaska adds an additional 365 million and Hawaii slightly over 4 million, bringing the total to nearly 2.3 billion acres. Of that total, about 72%, or nearly 1.4 billion acres is privately owned. Thus, it is critical that bird educators help provide the owners of these private lands with the motives and the tools to conduct bird conservation on their lands. We will not conserve birds solely on refuges, national forests, national parks and other public properties.

About two thirds of these 1.4 billion acres are cropland, grassland pasture, woodland pasture, and range. Much of the ownership of this agriculturally associated land is held by about 3 million individuals, partnerships, and corporations. Two-thirds of the country's private land is owned by about 1% of the population or 3% of the households. Moreover, fewer owners hold the country's rural private lands than at any time in the 20th century. Ownership of farmland is such that the number of owners today has declined more than 45 percent since the middle of the 20th century, and ownership has shifted to non-farmers and non-ranchers.

There are some additional concerns on the land-use horizon. Cropland use has been declining since the late 1970s; grassland pasture and range have declined since 1900; and most disturbingly, each year the U.S. loses about 2 million acres of open space, farms, and forests to development.

The reliable stewardship of this remaining private land is vital to the future of our birds, and those left in a position of responsibility over this land are a constituency that bird educators must address.

There are three general ways that these private lands can be treated as bird-friendly. The first is through simple individual and corporate acts of trustworthy ownership, keeping the land in as good shape as possible for birds and other living things. A certain number of private landowners will respond to bird conservation needs if they are simply made aware of the issues and the opportunities.

The second way, for farmland, is through the use of conservation measures under the Farm Bill, such as the Conservation Reserve Program (CRP) or the Wetland Reserve Program (WRP), essentially contracts of multi-year conservation leases. (See "Funding for Birds" in the next section for Farm Bill details).

The third way is through the use of permanent agricultural or conservation easements, to protect the land in perpetuity.

Bird educators can help clarify the real options for land security, what's best for birds and the land, and why. But securing private lands for conservation and appropriate management is only part of the issue. There needs to be education *beforehand*, education *during* security acquisition, and education *after* appropriate management issues are in motion.

If bird educators can understand the needs and interests of the 1% of our fellow Americans who control two-

thirds of the private land in the country, then a dialogue of mutual interest can proceed. The familiar challenge is to identify groups of individual and corporate landowners and then to figure out how to reach and motivate them.

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Regardless of the constituencies and audiences involved, it is important to realize that different people within our defined broad groups have different motivation, especially when we consider bringing people from a curiosity about birds to an ethic of stewardship. The awareness-to-commitment process may not always be sequential. A multidisciplinary approach cannot seek to force our constituencies and their audiences into a straightjacket of linear progression. We must “do what works.”

Nonetheless, there seem to be at least three underlying essentials which research has shown are necessary to promote bird conservation action among Americans:

1. A reason to care: This may be a sense of caring and appreciation for birds and nature that has come about from early positive experiences in the outdoors. The reason can also be much more basic or practical. (e.g., “A bird hit my window” or “If I don’t work to protect wetland habitat, there won’t be any more ducks for me to hunt.”) Actions in those cases are not based on any deep intimacy with nature, but are still very real and can result in long-term positive outcomes that equal or exceed those achieved by people who are motivated by an ethereal appreciation of birds and nature.

2. An expectation of success built on actual experience: Americans will not assist birdlife if they think they are going to be wasting their time or if their effort appears doomed. In order to engage in activities to preserve or enhance birds and bird habitat, they need to be reinforced to feel that they can participate successfully and initiate change. Without the personal feeling that they can make a difference, underlain by the knowledge that they have the needed skills and experience to engage successfully, most people, no matter how knowledgeable, will not get engaged.

3. Knowledge of ecology and of the causes of bird-oriented environmental issues: Sometimes knowledge comes before action; curiously, more often knowledge comes after the commitment to action has been made, rather than leading to it (e.g., “I really want to do something to protect these endangered Piping Plovers. Guess I’d better read up on threats to their nesting sites.”).

Implications: As bird educators in a growing network we need to differentiate our constituencies (the intermediaries) from the audiences (the recipients) to be effective. Similarly our network constituencies will need to consider the essential biological and near-biological players identified under the Bird Conservation Toolkit plus six important audiences. This does not mean that every constituent can possibly reach each of the Toolkit-impacted or each of the six broad audiences, just that in an effort to establish bird education priorities, these six groups are our intended overall targets:

- Youth - the future
- Boomers - the present
- Communities of Diversity - the under-served
- Birdwatchers - the interested
- Hunters - the reliable
- Landowners – the holders

Funding for Birds

“The time to protect a species is while it is still common.”

- Emergency Conservation Committee, 1934 (Rosalie Edge, Irving Brandt, Willard D. Van Name)

If bird conservation and education is perceived of as “expensive” by many Americans today, then they have little appreciation for how expensive it could be tomorrow. Spending money on birds now - to address our fourth modern bird crisis - constitutes wise use of our resources, real conservation. It is far wiser to secure a bird species’ future now, before that species ends up in the conservation “emergency room,” officially Threatened or Endangered.

We are fortunate in that we have a systemic foundation for bird conservation through the Bird Conservation Plans. But what use are these plans sitting on the shelf without adequate funding to make them effective?

Moreover, we need funding to sustain a public commitment for birds, to pay for some of the enjoyment and appreciation among an American populace, increasingly interested in our birdlife. Paying for this “education and appreciation” – a phrase we prefer over “education and recreation” - is an essential compliment to on-the-ground habitat conservation.

Non-governmental organizations, businesses, and individuals can only contribute so much, alone and isolated. They need creative government spending - Federal, State, Local - that takes on the larger issues and helps create public-private partnerships to foster innovative bird conservation and education.

While there is not enough funding currently made available for these tasks, that does not mean that there are not the Federal and State vehicles to deliver those funds. In fact, almost all the needed bird education and bird conservation could be delivered through existing legislation “already on the books.” All that is necessary is the additional dollars to make that happen.

Moreover, with economic downturns and declining state and federal agency budgets, education easily slips to the bottom of the priority list. (The cause of bird education doesn't seem to produce the instant, visible, and quantifiable results that are so critical to convince funders that “something important” is being accomplished.) The funding issues facing bird educators are huge but not insurmountable.

For example, to be effective in the federal agency arena, bird education has to be relevant to agency performance. The effort needs to be institutionalized, preferably codified with attendant performance measures. Currently, the Government Performance and Results Act (GPRA, 1993) is driving the standards, and will do so for a long time. Still, if the process can be moved along with due diligence, shifting an agency from general awareness to specific action, the consequences can be favorable.

We outline below most - *but not necessarily all* - these important funding programs crucial to maintain healthy and abundant bird populations through the U.S. (and even beyond our borders) as well as to sustain a level of bird education and appreciation commensurate with our needs. This list we present is a baker’s dozen set of programs.

Colleagues in the bird conservation arena may find the mix curious, insofar as environmental education funding is so prominent; likewise some colleagues in the bird education field may find it odd that on-the-ground bird conservation funding has such a bold place in this list, ostensibly a list directed to bird educators. In formulating this strategy, however, we maintain that the future of birds requires funding that has us *stand on both legs*. As bird educators, with a holistic vision of birds, we must balance ourselves upon twin footings: learning about birds and saving them.

If anything, we need to stress the importance of this blending of crucial funding vehicles. Today almost all are funded through Congressional action, and almost all are under-funded. Our baker's dozen are presented here in no particular order (and are described mostly using 2008 funding levels):

1. The Neotropical Migratory Bird Conservation Act of 2000 sustains a grants program which supports partnership programs to conserve birds in the U.S., Canada, Latin America, and the Caribbean. Projects include activities to benefit bird populations and their habitats such as research and monitoring, law enforcement, and outreach and education. Full funding would constitute the authorized \$5.5 million annually, as opposed to the \$4.5 million that the program has recently received.
2. The North American Wetlands Conservation Act (NAWCA), created in 1989, provides funding for conservation projects for the benefit of wetland-associated migratory birds in the United States, Canada, and Mexico. NAWCA is authorized at \$75 million annually, but gets only about \$43 million.
3. State Wildlife Grants support a wide variety of wildlife-related projects by state fish and wildlife agencies throughout the United States. These are derived from state and territory "Wildlife Action Plans." The program only receives about \$74 million, while the original Teaming With Wildlife effort aimed at \$350 million for an expanded program. Delivery of state funding through the parallel - and underutilized - Wildlife Conservation and Restoration Account would also make broad "wildlife-associated education and recreation" projects eligible for funding.
4. The Land and Water Conservation Fund (LWCF) is the oil-and-gas revenue conservation royalty intended to replace non-renewable resources (oil and gas) with renewable resources (land/habitat conservation). On the books since the mid-1960s, LWCF has languished for some time, seriously underfunded by Congress. The program's authorized annual funding level from oil-and-gas revenue has been \$900 million since 1977. (Half - \$450 million - was to be used for federal land-based conservation, the other half for state-side projects.) Not only has the authorized Federal limit not been approached for 30 years, but the state-side funding has been notoriously under-funded over the decades.
5. One could say virtually the same thing for UPARR, the Urban Park and Recreation Recovery established in November 1978, authorizing \$725 million over five years to provide matching grants and technical assistance to economically distressed urban communities. The purpose of the program is to provide direct Federal assistance to urban localities for rehabilitation of critically needed recreation and park facilities (including rehabilitating existing nature centers). UPARR has not been funded since 2002. Until that point UPPAR was responsible for more than \$272 million in environmental education and recreation grants to economically distressed neighborhoods in over 40 states.

6. The National Environmental Education Act of 1990 established a program within the Environmental Protection Agency (EPA) to arrange environmental education initiatives at the federal level and to provide national leadership for the public and private sectors. (The program awards grants for educating elementary and secondary school students and training teachers, supports fellowships to encourage the environmental professions, etc.) Authorized at \$12-\$14 million, Congress continues to fund the program at no more than \$9 million annually.



Four programs within the USFWS budget (numbers 7 through 10 below) deserve particular attention:

7. USFWS Science and Science Support provides invaluable information on the status and trends of bird species necessary for sound management decisions through the Division of Migratory Bird Management. The Division, a vital link to the creation, revision, and implementation of current Bird Conservation Plans, has among its goals the conservation of bird populations in sufficient quantities to prevent them from being considered as threatened or endangered, and to ensure Americans the continued opportunities to enjoy both consumptive and nonconsumptive uses of migratory birds and their habitats. This office currently receives about \$30 million annually.

8. The Migratory Bird Joint Ventures are regionally based partnerships of public and private organizations dedicated to the delivery of bird conservation within their boundaries. Originally formed to support programs involving waterfowl and wetlands, the Migratory Bird Joint Ventures have ambitiously embraced an "all-bird approach," to provide additional capacity for partnership development and enhancement, and to expand monitoring and assessment efforts. Joint Ventures currently receive about \$10.8 million annually, but would need about \$15 million merely to start addressing their expanded all-bird mission (and, ideally, end up five years later with annual funding of almost \$30 million).

9. National Wildlife Refuge System Operation and Maintenance is a large but vital program. It maintains the management of over 96 million acres of habitat, dedicated to wildlife. Over the past few years, NWRs have had flat or declining budgets, below \$400 million per year, forcing each FWS Region to implement downsizing plans. The 2008 budget has risen to \$434 million. Still, merely to "stand still," NWRs need an additional \$15 million annually. To meet fundamental wildlife conservation and public-use mandates and to address the Operations and Maintenance backlog, NWRs would require at least \$765 million annually.

10. Wildlife Without Borders (WWB), within USFWS Division of International Conservation, is a mainstay of bird conservation, particularly in Mexico, Central America, and the Caribbean. These programs are essential for long-term conservation efforts, focusing on developing in-country capacity. At this time, they are currently funded at about \$4.3 million annually.

11. Similarly, there are International Programs, within the USDA Forest Service, supporting an array of extremely effective bird conservation projects - especially in Latin America and the Caribbean, "Wings Across the Americas, - with a relatively small budget. The funding for the past couple of years has been about \$8 million annually.

There are at least two other anomalous programs, either funded uniquely, or under a different legislative cycle:

12. The Migratory Bird Hunting and Conservation [Duck] Stamp and the Junior Duck Stamp are two are related, but different programs.

Over the 75 years since its creation in 1934, the “Duck Stamp” has collected over \$700 million for the acquisition of more than five million acres of wetland and grassland habitat for the Refuge System. (In addition to waterfowl, many other wetland and grassland birds have benefited.) The Stamp accumulates about \$25 million per year - from hunters, collectors, and conservationists - 98% of which goes directly to secure habitat. The number of stamps sold per year has been dropping over the past two decades, while the need to protect habitat increases.

The Junior Duck Stamp Conservation and Design Program, starting in 1989 and established by Congress in 1994, is an art and science program to teach wetlands habitat and waterfowl conservation to students in kindergarten through high school. The program helps students communicate visually what they have learned through an entry into the Junior Duck Stamp art contest. This non-traditional pairing of subjects brings new interest to both the sciences and the arts, crossing cultural, ethnic, social, and geographic boundaries. It is mostly self-sustaining, receiving no substantial Federal funding with the exception of minor administrative costs.

13. The Farm Bill, since 1985, has not simply been a farm subsidy-delivery mechanism for farmers, it has become - at least in part - a major conservation-delivery mechanism for millions of acres of habitat.

The farm bill, passed about every five or six years has probably shaped more conservation and put more funding on the ground than any other suite of legislation. Tens of millions of dollars per year have gone into the conservation planks of the Farm Bill, including the important Conservation Reserve Program (CRP), the Wetlands Reserve Program (WRP), and the Grassland Reserve Program (GRP). Newer elements in the Farm bill - such as Sodsaver - may prove to be essential in saving birds and bird habitat. Every time the Farm Bill comes up for discussion, there are gargantuan efforts to re-arrange the conservation elements, making the legislation a regular battleground for conservation.

*

As indicated at the outset of this section, these 13 areas represent most - but certainly not all – of the important funding programs. Annually, several other federal agencies with natural resource management responsibilities, including but not limited to the National Park Service, Forest Service, Bureau of Land Management, USGS (Biological Resource Discipline), and Department of Defense agencies, receive funding for wildlife management programs, or other programs that benefit birds. In many cases, some of these funds are used to support important outreach and education programs. Our bird education network should encourage their continued funding.

Bird educators also need to be prepared to discuss the possibilities of new legislation that can provide funding for birds, whether they deal with climate change mitigation, transportation, education (e.g., NCLI), or state wildlife funding.

Implications: We bird educators need to be able to explain core funding sources for bird conservation and education as comfortably as we are able to explain the threat to birds from boreal forest loss, mountaintop removal, longline fisheries, or suburban development. Besides simply supporting this baker’s dozen funding sources, we need to be able to justify the blending of funding for on-the-ground bird conservation with bird education, how one hand, figuratively, washes the other. This contributes to a holistic approach to birds.

Our Key Messages

“But now ask the beasts, and let them teach you; and the birds of the heavens, and let them tell you. Or speak to the earth, and it shall teach you.”

- Old Testament, Book of Job 12-7

The responsibilities of nature stewardship - for birds and the Earth - cut across virtually all inspirational callings, from the ancient East to the modern West. While it is not the task of bird educators to harken back to all these many roots, it is wholly appropriate to link the spiritual (in the most general sense) to the practical and day-to-day encounters we have with birds.

These sensitivities have developed across the ages from poetry, to art, to music. In fact, our bird protection foremothers relied on these in many ways, and we can learn from their experiences even today. Birds continue to be relevant in even the most contemporary of cultural contexts.

Including the *wonder* of birds can be an innovative part of reaching conclusions about the need to save them.

Therefore, bird educators need to raise the model of a holistic bird education that includes the joys of watching, the task of educating, and the responsibilities of conservation stewardship. This approach can be viewed as post-ecological, linking to often neglected components by otherwise well-intentioned and thoughtful professional bird conservationists.

As we consider this approach, we must re-visit our previously outlined real and potential constituencies and our funding for birds.

Clearly, most of our bird education constituencies wish to deliver bird education at some level. Usually, they see it as something that their members or supporters desire. However, either they lack the expertise, the staff, and/or the tools to implement this education in a meaningful way, or they suffer from a pattern of diminishing commitment. These potential constituencies may often discuss education in their strategy meetings, only to finally set it at a low priority compared to their habitat, membership, and legislative goals. We bird educators need to deliver the confident message to agency and organizational leaders that bird education is *integral* to meeting their long-term goals.

Bird education formulated in a holistic fashion is a package that must be offered to our constituent allies, real and potential. To be effective in bird education, to take advantage of that “very good wedge into conservation awareness,” to engage “broader vistas,” to benefit other wildlife and their habitat, to stress those “indicators” linking us all, we must strive to deliver a message that will make clear that:

- Birds benefit when people learn about bird conservation and take action to protect birds and preserve their habitats.
- Wildlife in general benefits because education that promotes steps to protect birds and their habitats improve living conditions for a wide variety of plants and animals.
- People benefit because an environment that birds can thrive in is a healthy environment for humans.

Holistic bird education also means for us that every one of the five major conservation problems must be addressed by bird educators. We will do the environment, the birds, our bird education colleagues, and our culture a disservice if we do not accept this course of core themes.

Implications: We bird educators must spell out how our themes and messages are interdependent. At the same time bird educators should not be overwhelmed by the weighty magnitude of bird conservation, nor should we be bogged down by inconsequential tasks that don't connect with a larger vision. If we wish to achieve "Bird Conservation through Education" - the original theme of our first National Gathering - we need to bear down on the five major bird conservation problems before us to connect people to birds and to instill behavioral changes aimed at conservation.

Time for Engagement - The Essence of a Plan

“The great end of life is not knowledge but action.”
- Thomas Henry Huxley, British Biologist (1825-1895)

In some important ways, our bird protection foremothers dealt with problems practically opposite ours today: Many of them had intimate familiarity with nature, but no real teaching resources. Today, what we seem to have among many teachers and instructors is a lack of familiarity with nature, but plenty of resources!

We need to utilize those resources in a better way, and as a network of bird educators, we should be equipped to prepare our constituencies and their audiences - formal and informal - for that reality. Our intent should be to match the enthusiasm that infused the advocates in the early bird protection movement. They confronted the first modern American bird crisis; we are confronting the fourth. We need to create a new army of modern imbuers with a common overarching vision. We should aim to equip our constituencies with the ability to tackle all five of the bird conservation problems on the way to creating a bird-literate society.

With those objectives in mind, we would first aim at some short-term goals to address the needs of U.S. bird educators (also see Appendix C):

1. Make the Bird Education Network a primary nexus for information about bird education, bird education programs, and bird education materials nationwide.
2. Increase the knowledge base and provide information on the availability and adoption of “best practices” for delivering bird education that has conservation consequences.
3. Distribute information on “model” state, local, and national bird education programs and materials.
4. Develop key partnerships with leading professional organizations, conservation networks, business groups, and governmental bodies to advance better training devices and effective training for bird-focused education.
5. Participate in working groups, professional societies, conferences, and meetings necessary to further holistic bird education.
6. Broaden the content of scientific bird meetings to include more prominent education emphases which illustrate the potential and the power of bird education.
7. Maintain active communications with constituencies through websites, listservs, newsletters, and other communications mechanisms. (This would include periodic reports on the state of bird education accomplishments and needs.)

8. Identify, fund and create bird education resources that are needed but do not yet exist.
9. Outline specific steps to maximize effectiveness in engaging underserved communities of diversity (youth and adult) in bird appreciation and conservation. (This would include bi-lingual understanding and related skill-building.)
10. Initiate meetings, conferences, and working sessions to meet the objectives of the strategy, especially through an annual meeting, a “National Gathering.”
11. Use the “National Gathering” to share experiences, to review this strategy, to hone a respective - and adjustable- plan, and to identify the societal keys to understanding the best ways to advance bird education with an aim at bird conservation.
12. Establish a series of recognition efforts and awards for practitioners, sponsors, supporters, and local programs.
13. Influence the existing Bird Conservation Plans to develop “best practice” educational tools (with measurable objectives) to be used to promote bird conservation on a regional basis and by different audiences.
14. Influence all the existing Migratory Bird Joint Ventures to include education and outreach staff to implement regionally based bird conservation education programs.
15. Secure the inclusion of bird education as an integral part of the national certification program for interpretive naturalists.
16. Explore synergistic connections for bird education with our counterparts in Canada, Latin America, and the Caribbean based on *their* particular needs and our strategic education priorities, all designed to overcome barriers.



From our perspective, the Bird Education Network (BEN) is not *the* answer, nor is what we have presented here necessarily the full or finished strategy. We maintain that a plan is embedded in the strategy and grows out of the strategy. And a plan for advancing bird education must be flexible and adjustable, reflecting changing biological, social, and economic circumstances.

Having declared that we do not have all the answers, and perhaps because we do not have all the answers, we are ready to suggest that bird educators should forge a new modern 21st-century mission. As such we need a broad network which includes the adoption and explanation of each of the described five priority bird conservation problems and shows how they are intimately interrelated. We aim for a vision which includes a future bird-literate society but still can tackle the practical intermediate steps - short-term goals -

to get us closer to that possibility. We espouse broad instruction (at all levels and ages) with specific targeted constituencies and audiences, taking into account what America will look like in the near future. We promote a holistic and multidisciplinary balance to bird education that blends the sheer pleasure of appreciating, with the task of sharing increased knowledge, all leading to the indispensability of changed behavior and conservation action to save birds.

As we work through a series of tasks for bird education, we insist that there is no one way to deliver bird education with an eye to bird conservation. We must not insist that all bird educators “re-prioritize” their work to reflect a single priority component. We do think that bird educators, to be effective, should share a broad common view and engage in mutual support.

Implications: In many respects we in BEN are looking to be a key part of a larger movement adopting our bird education concerns. To that end we have outlined a number of short-term objectives. We wish to build a broad movement for bird education with our distinct and discernable message. We advance a holistic approach. Ultimately, we feel there is *no one correct way* to the “right” bird education, but we insist on the opposite: *There is only a correct multidisciplinary way.*

Measuring Success

“I for one , refuse to be depressed. Sobered, made thoughtful, but not depressed. Ways can be worked out that will preserve stretches of wild country. The moves will be made before it is too late. Mankind will come to realize that wilderness is important. That real wilderness must continue.”

- George Miksch Sutton (1898 - 1992), *At A Bend In A Mexican River* (1972)

How will we know if we bird educators have succeeded?

If, by the middle of 2011, we have achieved at least half of the sixteen numbered items in the previous section we could say that we are on our way to reaching the potential starting point for a bird-literate society.

For example, if we have a network that functions, a lively listserv, effective annual National Gatherings, formal communications linking us between Gatherings, delivering our priorities to Bird Conservation Plan meetings and professional Environmental Education meetings, the development of ‘best practices’ for bird education inside the Bird Conservation Plans and in harmony with classroom opportunities, and making advances to overcome inter-American barriers, then we can count that as success.

Success means building a bird education movement that reaches different constituencies and audiences and consciously focuses on behavioral changes aimed at conservation. Success means building upon and exploring the five priority bird conservation problems. Success means crafting programs and training constituencies (both inside and outside the classroom) to address bird education audiences on our priorities. Success means building on the articulated expectations and needs of U.S. bird educators (see, for example, Appendix C.) Success also means starting small and building regional presence, ideally through multiple regional coordinators.

Once we have achieved at least half of our sixteen characteristics of success, we could seriously envision an America with the following measurable bird education elements, all getting us closer to what a bird-literate U.S. might ideally look like. The hallmarks of such a favorable situation in the U.S. would include much of the following two dozen tentative long-term goals:

1. 30 large U.S. cities will be recognized as "bird friendly" cities (i.e., using as a model the USFWS Urban Bird Treaty program, pioneered with Chicago and including Philadelphia, Portland, St. Louis, Boston, and other cities). Characteristics of “bird friendly” cities should include “lights out” components, especially during migration-time.
2. In addition to the habitat-based emphasis of the cities program mentioned above, at least two-thirds of these cities (i.e., 20) would have ongoing urban-birds programs that are specifically designed to reach under-served minority communities in bird awareness and stewardship.
3. 30% of large U.S. cities will host annual bird festivals
4. Bird festival offerings nationwide will increase by 50%.

5. 40% of U.S. schools will incorporate bird education into the curriculum.
6. 30% of U.S. schools will have designated bird feeding/bird watching stations, combined with school habitat programs, wherever possible.
7. 20 additional states or regions within states will implement newly designated birding trails, each with education and conservation components. These trails will include urban areas whenever possible.
8. Bird-related businesses will increase by 40% in response to increased awareness, popularity, and the desire to promote bird education and conservation by the public.
9. Bird feeding and backyard habitat maintenance (e.g., native planting, less fertilizer, cats indoors) will assume a mainstream following similar to current recycling efforts and awareness.
10. Through an educational campaign, the commitment of national nurseries and plant dealers will be secured to stop selling invasive plants known to degrade bird habits.
11. Migratory Bird Hunting and Conservation [Duck] Stamp sales will increase by 50% due to an increased awareness and education among non-consumptive sectors.
12. The Junior Duck Stamp Program will increase in schools by 50% and will be integrated with the U.S. Postal System, providing a yearly "semi-postal" stamp to raise funds for bird education in the schools.
13. Launch mentoring programs - "take a friend birding" – through State Wildlife Agencies in at least 20 states.
14. Adult-oriented "Master Naturalist" programs with essential bird content will be established across 25 states.
15. At least 10 states will launch gubernatorial annual "state of the birds" reports (similar to what has been done in the UK), informing the public about the state of the state's birds and what the public can do to help.
16. State-based "citizen science" will be initiated through all the revised State Wildlife Action Plans to engage citizen scientists to collect data on the breeding, migration, and wintering of their birds, in addition to regular avian surveys of bird habitat at risk. Such programs will also engage NGOs with recruitment, education, and training.
17. Not only will bird-compatible agricultural practices will be fostered by major state agricultural boards/commissions, but "evolved" County Conservation Boards will move beyond agricultural issues on

to a wildlife-, habitat, wildlife-recreation- and education-focus (such as exists on the Iowa situation) and will spread to embrace at least 30 states with a related mission of bird education and on-the-ground conservation.

18. A dozen training and delivery systems – on the national and regional level - will be created for a variety of bird education programs to reach specific groups of educational professionals, both formal and non-formal.
19. 25% of municipal Parks and Recreation Departments will offer bird watching as lead program options in addition to traditional sports, art and crafts programs.
20. New partnerships will be formed with national groups such as Boys and Girls Clubs of America, Boy Scouts, Girl Scouts, 4-H, and Future Farmers of America to advance programming related to birds and their conservation.
21. Model bird programs of “personal inter-American exchange” – involving internships, equipment collection/transfer, work-visit programs, and “conservational” Spanish – will increase in the U.S. by 70%.
22. Build an informed bird-compatible coffee consumer movement (not unlike the efforts behind the awareness that appeared over 100 years ago over the feather-trade) that links bird educators, coffee businesses, birders, and general conservationists for a sustainable coffee sector.
23. Funding for bird education by businesses and corporations will increase 75% due to mainstream interest.
24. Robust funding outlined in the “Funding for Birds” section will approach full authorization and expenditure levels, essential to make all these outstanding programs outlined immediately above possible. If necessary, up to three new, specifically dedicated, funding mechanisms for bird education through federal agencies will be initiated.

These are ambitious goals. But they also present realistic hope for the future.

When the American public is presented with frightening scenarios of avian disaster - along with the rest of the natural world - too often the result is a feeling of powerlessness. To this we offer in contrast a knowledge of what ails birds and practical ways to address these problems, an effort to exercise some control over the future, even if the results may appear small at first.

If we can measure them, in aggregation, we can count that as success.

Implications: Having presented a series of ambitious long-term goals, a vision of what a bird-literate U.S. might look like in the future, we also think that these hallmarks represent a realistic aspiration. Moreover, seemingly disparate outcomes in bird education and conservation can be truly powerful if they are seen as *hopeful, creative, and, most importantly, cumulative.*

Keeping It All Together

“We cannot win this battle to save species and environments without forging an emotional bond between ourselves and nature as well - for we will not fight to save what we do not love.”

- Stephen Jay Gould (1941-2002)

We don't have all the answers. Perhaps more importantly, however, we think we have most of the right questions in light of the fourth modern American bird crisis. Today, there is excellent bird education going on across the country. What is missing is a network to share mutually accepted themes - aimed at improved practices and fostering real bird conservation.

Build a grouping of bird educators is fine, but a loose assemblage of bird education practitioners simply doing what has always been done will not achieve what is needed. We need a *dense network based on mutual support and a common vision*. We need to *connect* bird educators in order to be more *effective*. If we build that *network*, we all can benefit.

We aim to build such an effective network of practicality and *hope*. If we act, and act at some level of cooperation, there is a brighter future possible. In addition, we plan to act against the seemingly pervasive gravitational pull of ecological fatalism and resulting paralysis. Things *can* be done to learn about birds and to save them.

We wish to introduce and cultivate a model of holistic bird education, a way to move toward a bird-literate society.

We invite others to join in this effort, together to cooperate in making this approach to bird education the key to appreciating birds, and ultimately saving them... and ourselves in the process.

BEN Committee:

Paul J. Baicich
Josetta Hawthorne
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This is draft strategy. It can be found posted on the BEN website accessible from the bottom of this page:
www.birdeducation.org/strategy.htm

Please send your comments to:
BENstrategy@BirdEducation.org

In the text of the message, simply include your name, mailing address, phone number, and, if applicable, your organization, title and website.

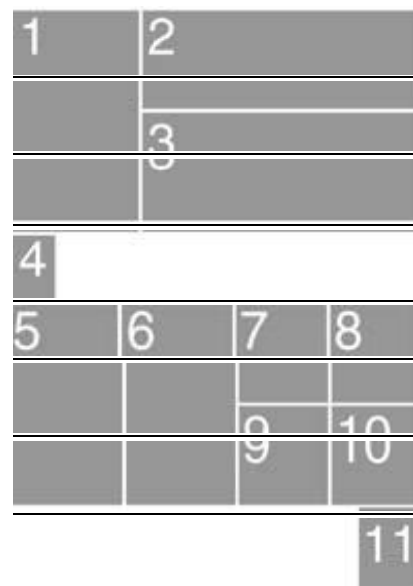
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- 1-Council for Environmental Education
- 2, 6, 8, 11-Jim Williams
- 3, 4, 9, 10-Wild Bird Centers of America
- 5- Texas Parks and Wildlife Department
- 7-U.S. Fish and Wildlife Service

Additional Photos:

Stock photos on pages 6, 9, 11, 15, 18, 19, 21, 27 and 32 provided by www.clipart.com.



APPENDIX A – North American Biomes



This map shows the Avifaunal Biomes in North America, based on degree of shared landbird avifauna among Bird Conservation Regions (BCRs: outlined in the background). In addition to these seven biomes, the Bird Conservation Toolkit (see Appendix B) also covers Atlantic and Pacific pelagic zones.

APPENDIX B. Sample Bird Conservation Toolkit



Varied Bunting

Bird Conservation Education

Linking Educational Resources with Conservation Priorities



Greater Sage-Grouse

	Geographic scale	Conservation Issue	Message	Audience	Action	Examples of Targeted Resources
Example 1	National	Loss of habitat	All birds are dependent on habitat and each species has particular habitat needs. Habitat loss remains the most critical conservation issue for most bird species.	Educators	Changes in land-use can help to provide enough habitat to maintain healthy populations of North American landbirds throughout their native ranges.	Activity: "Home Is Where the Forest Is".* Students explore the effects of habitat changes on birds, and learn how they might affect local land use planning.
Example 2	Regional Intermountain West	Loss and degradation of grasslands and shrublands	100+ years of unsustainable grazing has changed the structure and composition of fragile grasslands and shrublands, causing declines in many bird populations.	Land Managers	Bird-friendly grazing practices can help restore populations of birds, focusing on those species of highest conservation priority.	Regional Bird Conservation Plan with management guidelines for grasslands and shrublands.
Example 3	Local Southern Arizona	Loss and degradation of riparian woodland habitat	Riparian habitats support the highest bird diversity of any western habitat. Many are highly degraded by alteration of water flows, invasion of nonnatives, & recreational activities.	Private Land-owners	Protection by fencing and/or restoration of riparian habitats on private land can provide important habitat for riparian birds.	Hands-on habitat restoration workshop with handout, "How to enhance bird habitat on private lands."

*see *Flying Wild: An Educator's Guide to Celebrating Birds*

FOR MORE DETAILS ON THE DEVELOPING TOOLKIT CURRENTLY UNDER DEVELOPMENT THROUGH THE BIRD EDUCATION ALLIANCE FOR CONSERVATION (BEAC), CONTACT:

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APPENDIX C. Bird Education Network Survey

To better understand the goals, needs, and desires of bird educators, a small committee comprising Rick Bonney (Cornell Laboratory of Ornithology), Ashley Dayer (Klamath Bird Observatory), and Josetta Hawthorne (Council for Environmental Education) developed a short survey. It consisted of over 20 key questions and was distributed through the *BirdEd Listserv* on 14 December 2007. Over 160 bird educators took the survey.

The intent was to help everybody working in the field of bird education to develop, implement, and evaluate a variety of educational efforts that can lead to effective bird conservation through education across the U.S. and beyond.

The results present us all concepts to consider, idea about how a network of bird educators can and should develop and what it might attempt to accomplish. The survey responses were seriously considered as the BEN Education Strategy was crafted.

What follows here is *not a thorough analysis of the survey*, but a quick, three-page review, an approximate “snapshot” of our *BirdEd Listserv* participants, their background, interests, and articulated needs. Not all the survey questions/answers are reviewed. Moreover, this summary does not tell us what bird educators and bird education *should* look like (the survey is not presumed representative), but what this particular group *does* look like and currently desires.

The full survey results can be found here:

www.surveymonkey.com/sr.aspx?sm=RUM6END2tszVzL93jTq3K67P8dQTheJhQFcE2R_2f0MDQ_3d

Work Site

- Almost a third of the respondents work at a conservation organization
- The next-closest cluster of three (all between 13-15%) work either at a Nature Center, a State government agency, or a federal government agency.
- This means that over 2/3 of the BirdEd participants come from these four categories.

Job Description

- Over 40% are program managers or directors
- The next-closest cluster of job descriptions (three, with each at about 12%) are naturalists, biologists, or informal science educators.
- This means that over 3/4 BirdEd participants work in these four job areas

Percentage of work devoted to bird education:

- Below 25% 40%
- From 26-50% 26%
- From 51-75% 11%
- From 76-100% 20%
- More than 100% 3%

Years in the field

- A quarter have 6-10 years experience
- A quarter have 1-5 years experience

Bird Education budget

- Half have a budget of under \$50,000
- Almost a fifth have none
- A fifth of the respondents don't know

In our work, these audiences are rated as by degrees of importance (only top two or three figures are cited)**K-12 Students**

64% Very Important

28% Important

University Students

46% Very Important

About 25% Either Important or No Dealings with this Audience

Visitors to nature centers, zoos, aquariums

56% Very Important

22% Important

Visitor to public parks, forests, refuges

58% Very Important

About 20% Important or No Dealings with this Audience

Business People

36% Very Important

38% No Dealings with this Audience

Private Landowners

49% Very Important

About 25% Either Important or No Dealings with this Audience

Public Land Managers

49% Very Important

28% No Dealings with this Audience
Elected Officials

44% Very Important

45% No Dealings with this Audience

Top Six Tools or Materials Used in Work

73% Bird Walks

62% Festivals/Events

61% Lectures

57% Workshops

46% Curricula, "self prepared"

45% Volunteer Opportunities

Would Like Bird Education Network to (illustrate top two responses):

Hold Annual meetings

42% Would Like

31% Don't Care

Develop a journal/newsletter

45% Would Like

33% Would Like A Lot

Develop a Bird Education Website

61% Would Like A Lot

32% Would Like

Link Educators through electronic forum or wiki

39% Would Like

31% Would Like a Lot

Set Priorities for topics to include in bird-education programs

38% Would Like

31% Would Like a Lot

Need to Develop Support Materials in These Areas (illustrate top two responses, all being “Would Help a Lot” or “Would Help”)

Regionally Appropriate Curricula focused on Bird Biology

49% Would Help

37% Would Help A Lot

Regionally Appropriate Curricula Focused on Bird Conservation

58% Would Help A Lot

37% Would Help

Workshop Support Materials

51% Would Help

34% Would Help A Lot

Bird Conservation Fact Sheets

51% Would Help

42% Would Help A Lot

PowerPoint Shows About Bird Conservation

43% Would Help A Lot

39% Would Help

Bird Identification Posters

37% Would Help

33% Would Help A Lot