

Defining the Demands and Meeting the Challenges of Integrated Bird Conservation¹

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Introduction

I thank you for the honor and the opportunity you have accorded me in addressing you this morning. I thank you for the honor, because I consider your invitation to be an acknowledgment of the work of Lower Mississippi Valley Joint Venture (LMVJV) partners to comprehend and apply the principles of integrated bird conservation. I thank you for the opportunity, because this venue has forced me to think more critically of the concept and the challenges of integrated bird conservation.

This notion of critical thinking lies at the heart of what I have to say this morning. There was a time in the not too distant past when the challenge confronting integrated bird conservation (at least in Canada and the US) was largely ideological and philosophical. It was a question of *if* and *to what extent* potentially competing bird conservation initiatives would be integrated. That challenge has been met. We no longer face a question of “if,” but rather one of “how and how well.” We no longer have the need or the luxury of debating philosophical opinions and ideological leanings rooted in the traditional game/non-game paradigm. Our intellectual energies must now be turned to defining the process and products of biological planning; to discerning the means and methods of conservation at ecoregional scales; and to articulating the concepts, models, and approaches that will ultimately define integrated bird conservation.

Herein lies the premise of my remarks: the concept, the goal, the vision of integrated bird conservation presupposes new ways of doing business. Dealing with the “how and how well” will place new demands upon established, traditional approaches to the business of bird conservation. I want to briefly define those demands and then offer my insight on the challenges that, if met, will bring us to those new ways of doing business.

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The Demands of Integrated Bird Conservation

Understanding the demands of integration bird conservation begins with a critical assessment of the North American Bird Conservation Initiative's (NABCI) goal.

- “Regionally-based, biologically-driven, landscape-oriented partnerships delivering the full spectrum of bird conservation across the entirety of North America.”

“Regionally-based...Partnerships”

Consider for a moment the call for *regionally-based partnerships*. This element of the goal presumes that habitat objectives and conservation strategies will emanate from ecologically-defined units that reflect our best understanding of how birds respond to habitats at broad spatial scales. The hierarchical framework of ecoregion delineation adopted by NABCI gives us not only a common spatial language but also a geographic framework for conservation at multiple spatial scales. Just as flyways have provided the unifying geographic theme for the regulation of harvest, Bird Conservation Regions (BCRs) will provide the geographic framework for the planning, implementation, and delivery of bird conservation programs and the geographic foundation for partnerships that will be increasingly interstate and international in focus.

“Biologically-driven...Partnerships”

The demands of a *biologically-driven partnership* are perhaps best understood by considering its converse – opportunity-based conservation. In a biologically driven partnership, conservation does not operate on the basis of an opportunistic pursuit of habitat gains; it is driven by specified biological objectives and spatially explicit priorities. A biologically driven partnership demands a departure from the traditional programmatic, opportunistic approach to conservation in at least three key areas.

First, it requires that habitat objectives be linked to population response at multiple scales. The *unifying biological theme* of integrated bird conservation is population management. We should not forget that what brings us here today as continental conservationists is not simply a bird conservation initiative. We are united, even enjoined, by a treaty between three

sovereign nations; and the purpose of that treaty is the conservation of bird populations. On the question of whether we will have population-based habitat objectives, there is little room for debate.

Secondly, a biologically driven partnership is planning intensive, but it is planning of a non-traditional sort. The agenda for this conference calls for discussions on the tradeoffs between planning and implementation. For at least the first ten years of its life, the NAWMP suffered from imprecise thinking on this very question. The debate within the waterfowl community failed to draw a clear distinction between: 1) the biological planning demanded by a population-driven approach to conservation; 2) the conservation planning required to “design” sustainable landscapes; and 3) the programmatic planning traditional to opportunity-based conservation. In the traditional planning/implementation paradigm, if we plan at all, we plan programmatically. Do not misunderstand me. There are legitimate needs, even legal requirements, for programmatic planning; and they generally lie within the realm of administrative and economic efficiencies. However, one of the most fundamental challenges facing us is the need to redefine the planning/implementation paradigm, drawing a clear distinction between biological planning, landscape planning and design, and programmatic planning. Only then can we define the proper balance between planning and implementation.

In this regard, biological planning and landscape planning have siblings. One is called “monitoring;” one, “evaluation;” and the other, “research.” They will remain run-aways until those planning distinctions are drawn. Therein lies the third demand of a biologically driven partnership: creating a clear linkage between science and management. That linkage, long sought but seldom attained, is within our grasp. It is nothing more, and nothing less, than explicitly stated, testable assumptions as to how populations are responding to habitat manipulations. If we will articulate, as conceptual models, the assumptions upon which management operates, we will provide focus for research and a framework for monitoring and evaluation. We must realize that in a programmatic, opportunistic approach to conservation, monitoring and evaluation are, in fact, largely non-essential. We need do little more than track accomplishments. However, when management operates on the basis of explicitly stated, testable assumptions regarding population/habitat interrelationships; when management seeks not simply to gain habitat but to sustain populations; monitoring and evaluation are suddenly essential. Until then, they will be viewed as a largely superfluous diversion of limited resources from the opportunistic pursuit of habitat gain, and will not be missed at the conservation table.

“Landscape-oriented...Partnerships”

A landscape-oriented approach to conservation demands that conservation delivery be discriminatory. By this I mean delivery programs operate in tandem, in awareness of one another, discriminating between and among landscape features and priorities, pursuing a pre-established design of predicted sustainability. Again, what is the converse of a discriminating approach to conservation? It is the traditional opportunity-based approach.

“Delivering the Full Spectrum of Bird Conservation...”

“The full spectrum of bird conservation” – at first glance, we might assume the phrase means simply “all birds and all habitats.” But let’s assume for a moment it means something more, that it speaks to the *full spectrum of the bird conservation enterprise*. Traditionally, as an enterprise, bird conservation has operated in two broad realms, science and management. Two realms, too often separated. Now there is a third, something that lies between and that can potentially connect the two – the process of assessing, modeling, predicting, and planning sustainable landscapes. If we are to deliver these three spheres of bird conservation, perhaps we need a framework for organizing the parts and pieces into a comprehensive whole. But if our focus is the *enterprise* of bird conservation, should we be thinking less of a framework and more of a model, a business model for regionally-based, biologically-driven, landscape-oriented partnerships – a business model that allows us to apply existing resources to new ways of doing business.

The Challenges of Integrated Bird Conservation

But I’m getting ahead of myself. Let me summarize the demands of integrated bird conservation and speak to the challenges. In doing so, I will return to my original premise: the concept, the goal, the vision of integrated bird conservation presupposes new ways of doing business. At the most basic level, the challenge facing us is one of shifting the conservation paradigm away from opportunity-based conservation to conservation driven by specified objectives and spatially explicit priorities – in short, a conservation paradigm based not on opportunity but on predicted sustainability. But a challenge stated so broadly is unmanageable and largely unattainable. We must break it down into more manageable parts that can perhaps guide our collective actions.

Challenge: Redefine the Planning/Implementation Paradigm

In this regard, our first challenge is to redefine the planning/implementation paradigm. We should begin with a clear characterization of the current paradigm: “program-specific planning in support of opportunity-based implementation.” Opportunity-based conservation, no matter how well it picks and chooses among the opportunities of the moment, is largely insensitive to population/habitat interrelationships or the ability of a constantly shifting landscape to sustain populations at prescribed levels. For this reason, it is largely insensitive to the principles of landscape ecology, population ecology, and adaptive resource management. Integrated bird conservation requires a new planning/implementation paradigm in which *biological planning and conservation design support a programmatic pursuit of predicted sustainability*. Conservation will always be delivered through agency-specific programs. But in the new paradigm, program delivery will be supported by biological planning and guided by a conservation “blueprint,” that “pre-established design of predicted sustainability.”

Where might we begin ushering in this new paradigm? I believe we begin in the traditional forum of program planning. One of the sessions of this conference deals with “Integrating Bird Conservation Objectives into Federal Land Use Plans.” I suspect the experiences that will be recounted reflect an attempt to infuse one of the principal *products* of biological planning (population-based habitat objectives) into the *process* of programmatic planning. While doing so is critically important, we cannot stop there. There are in fact three processes that must be integrated. We must establish within the minds of administrators and on-the-ground managers a clear relationship between biological planning, conservation design, and the program planning traditionally associated with conservation delivery. Only then will we be operating under a new planning/implementation paradigm.

Challenge: Define the Process and Products of Biological Planning

Our second challenge is that of clearly articulating the process and the products of biological planning. This challenge is closely allied with the first, because it will be difficult to redefine the planning/implementation paradigm without a well-established process of biological planning and without well-defined (and anticipated) products. I suggest we begin with critical thinking on the concept of a sound biological foundation. The phrase “establish a sound biological foundation” is at risk of becoming a cliché unless we more clearly articulate process and products. As regards products, here is the best answer to date of LMV partners. We operate under the assumption that the LMV Joint Venture will not have a sound biological foundation until these products are in

place – thus attaining the products serves as a goal for our collective efforts.

Challenge: Define the Methods and Create the Capacity for Landscape-Level Planning and Assessment

In defining the challenge associated with biological planning, I used the words *process* and *products*. The challenge associated with landscape-level planning requires different words: *methods* and *capacity*. *Our challenge is to define the methods and create the capacity for landscape-level planning and assessment*. As regards methods, I believe we face a special urgency in defining how conceptual models of population/habitat interrelationships can be used in tandem with readily available, though imperfect, spatial data on land use and land cover to characterize, predict, and model the ability of a landscape to sustain priority species. Why the urgency? Because until we demonstrate this capability, we will not be successful in shifting the conservation paradigm from the opportunistic pursuit of habitat gain to conservation by design. The principles of landscape ecology and ecosystem management, which lie at the heart of integrated bird conservation, will remain largely esoteric abstractions until we demonstrate the power of conceptual models and geospatial data in multi-scale assessment and planning.

In this regard, creating a capacity for landscape-level planning and assessment is nearly synonymous with integrating geospatial and information management technologies into the business of bird conservation. We could say that this aspect of integration is out of our hands, that it hinges on the budgetary priorities of administrators. While this proposition contains an element of truth, it is on the whole false. We have the power of partnerships, and we should redouble our efforts to develop within Joint Ventures and Bird Conservation Regions geospatial and information technology (IT) partnerships. In doing so, let's not mistake the tools for the products. The product we seek is not simply “GIS” (Geographic Information System). Our IT partnerships should be focusing on products such as decision support models, conservation planning atlases, and web-enabled population monitoring programs.

Challenge: Articulate the Business Model(s) that Will Support a Fully Integrated Bird Conservation Enterprise

If we accept the premise that the vision of integrated bird conservation assumes, requires, or even implies new approaches to the business of bird conservation, it is only a short jump to the realization that existing resources must somehow be applied to those new ways of doing business. The demands and challenges enumerated herein are at

once and the same fundamental and complex. We find ourselves no longer operating simply within the hierarchy of our respective organizations. Integrated bird conservation thrusts us into a new web of interrelationships. Yet complexity does not preclude order; and the order we seek we must create within the concept of a business model that encompasses and encapsulates the web. Here is the model that currently guides partners in the Lower Mississippi Valley.

A Business Model for Integrated Bird Conservation

Foundational to the model is the idea of three distinct but interrelated spheres of bird conservation and the building of a partnership infrastructure that maximizes the energies and resources within each sphere and increases the connectivity between the spheres. In that regard, let's look first within each sphere and then at the connecting infrastructure. As we look inside each sphere, think of the people who populate it, their purpose in the bird conservation enterprise, the products of their efforts, and the partnership infrastructure internal to that sphere.

The Biological Foundation Sphere

In the broadest sense, it is the science community that resides within the biological foundation sphere. From this community, an integrated bird conservation partnership will draw biologists with specialized knowledge of species/habitat interrelationships, schooled in the testing of hypotheses and assumptions or experienced in the techniques of monitoring and assessment. Their singular focus would be the process and products of a sound biological foundation. The partnership infrastructure within this sphere generally would be one of working groups specific to the taxonomic focus of each of the major bird conservation initiatives. These working groups would be recognized at the national level by their respective initiatives thus clarifying the relationship between those initiatives and the Joint Venture in question. It is worth noting that integration of the initiatives within this sphere is limited to energy and ideas, not biology. A sound biological foundation will be specific to the ecological demands of the major species groups.

The Conservation Design Sphere

The people operating within this sphere merit the label *conservation planners*. Recognizing however, that the transition from opportunity-based conservation to a conservation-by-design paradigm is in its infancy, this sphere of bird conservation tends to be sparsely populated. Ideally it is filled with planning-oriented biologists with geospatial analytical skills and with broad knowledge of landscape conditions, programmatic capabilities, and multi-scale relationships. Their focus is one of translating conceptual models of population/ habitat interrelation-

ships into spatially explicit priorities at multiple scales and developing decision support models and conservation blue-prints that can guide the delivery of conservation programs.

The concepts of sustainability and integration are at the forefront of this sphere's concerns. The stock and trade of its populace is spatial analysis of the habitat variables considered most responsible for population response and the GIS modeling required to build geospatial decision support models.

The Conservation Delivery Sphere

The bulk of any Joint Venture's conservation infrastructure will reside within this sphere. It is populated by the management-oriented biologists responsible for on-the-ground delivery of conservation programs. While integrated bird conservation seeks something as fundamental as a shift in the conservation paradigm, it must be stressed that it does not require a departure from program-based conservation. It requires, simply but fundamentally, a departure from opportunity-based delivery to delivery driven by a pre-established design of predicted sustainability. In that regard, it seeks not a change in the internal processes or procedures of programs but rather a change in their external orientation. However, integrated bird conservation demands something more of the on-the-ground manager. Let's think for a moment of their role in a regionally based, biologically driven, landscape-oriented partnership.

There are three things needed from the on-the-ground manager without which integrated bird conservation will not work:

- *Site-scale management decisions that address species-specific biological needs at multiple spatial and temporal scales.* Managing at multiple scales is perhaps the most fundamental principle of landscape ecology or ecosystem management; yet it is confounded by the fact that in an absolute sense habitat change can be accomplished at only one scale – the site scale. The demand is for site-scale decisions that reflect multi-scale considerations. Providing the information necessary for those decisions must be the overriding focus of those that reside within the biological foundation and conservation design spheres.
- *Site-level resolution of inter-specific conflicts.* There is no small number of managers and administrators operating under the misconception that integrated bird conservation requires that the needs of all birds be met on every acre or even every management area. We need to help managers realize that not only is this not so, they are on the front lines of resolving the potentially competing needs

of the myriad species using the landscape. They are, however, held to an extremely high level of accountability – their collective site-specific decisions must contribute to a landscape that sustains all endemic species.

- *Assistance in tracking habitat change and population response.* It is, after all, the on-the-ground manager who is on the ground where habitat change and population response are occurring. If given well-designed procedures and protocols for tracking and monitoring and the ease of web-enabled reporting, they can provide the information critical to a biologically driven, landscape-oriented partnership.

In that regard, I think I speak for all LMV partners in saying that our experiences indicate that managers are ready and willing to meet the demands and challenges of integrated bird conservation if those of us residing in the other spheres give them the requisite tools.

Connectivity and Interrelationships Between the Three Spheres of Bird Conservation

Hopefully it is apparent that the relationship between the three spheres is cyclic, iterative, and nonlinear. As just alluded, it is the process of tracking and monitoring habitat change and population response that provides the most direct connection between the biological foundation and conservation delivery spheres. Data on habitat change and population response provide the information for testing assumptions that provide the knowledge for refining population/ habitat models, which reconnect the biological foundation sphere to the conservation design sphere. Better population/habitat models in turn provide the biological basis for reiterative refinements of the “pre-established design of predicted sustainability” which in turn reconnects the conservation design sphere to the conservation delivery sphere. (At this point I should note that not only information moves between spheres, but sometimes people. The key requirement of this model is that the individual be cognizant of the need to change role and focus when moving to a different sphere.)

The connectivity demanded by this model requires a partnership infrastructure of its own: an administrative, policy-level partnership; and a technology partnership. The policy-level infrastructure comes in the form of a management board. Ultimately it is the responsibility of the wildlife administrators that sit on a Joint Venture Management Board to oversee the business and to ensure that all facets of the bird conservation enterprise are functioning in a cyclic, iterative manner. In a perfect world they will have at their command a fully staffed Joint Venture Office that can, on a day-to-day basis, guide, facilitate, and nurture the myriad people

and partnerships operating within a “regionally-based, biologically-driven, landscape-oriented partnership.”

As to technology, the “Digital Revolution” that is enveloping our society is in many respects a revolution in connectivity; and through the information technology partnerships alluded to earlier, we must harness the power of that connectivity. In the LMV, we are seeking to build technology partnerships through the concept of a “geomatics network.” The idea is simple enough – focus the GIS and information management resources of Joint Venture partners on the development of specific products that will move data and information between and among the three spheres. I cannot overemphasize the importance of being product oriented (after all, this is the *business* of bird conservation we are talking about.) At the moment, the LMVJV Geomatics Network is focused on four products directly related to connectivity: a “Conservation Planning Atlas” for each of the two BCR’s that encompass most of our Joint Venture (Mississippi Alluvial Valley and West Gulf Coastal Plain/Ouachitas); a web-enabled Reforestation Tracking System; and a web-enabled Shorebird Tracking System.

In Summary...

In closing, I want to relate an anecdotal experience that to me captures the essence of Partners in Flight’s contribution thus far to the cause of bird conservation. A few years back when those of us in the US were still locked in the game/nongame paradigm and when the question of integrating bird conservation initiatives was still very much unanswered, in a quiet conversation between just us, my very dear and very astute friend Scott Yaich made an observation that brought order and clarity to all that was swirling around us. His observation was this: Until the emergence of Partners in Flight (PIF), the conservation of nongame wildlife was relegated to backyard wildlife programs and nature trails; but those days were rapidly drawing to a close. PIF’s ecoregional planning was beginning to produce the science-based population goals and habitat objectives that would allow us to move the conservation of nongame birds into the mainstream of wildlife conservation.

This accomplishment cannot be overstated, and the people responsible for it are largely those of you here today in this room. Through your efforts, bird conservation has been the seminal force in transcending the game/nongame paradigm. Moreover, your efforts have positioned bird conservation for something even larger. *The demands* of integrated bird conservation engage us in a continent-wide experiment in applying the principles of ecosystem management, landscape ecology, adaptive resource management, and sustainable use. *The challenges* provide us an opportunity to make integrated bird conservation the seminal force in

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bringing these long sought principles into the conservation mainstream. The organizers of this conference have created a forum that can once again galvanize

your ideas and energies for the challenges ahead. Let us now be about the business that brought us here. Thank you.