CONSERVATION BUSINESS PLAN

EASTERN NORTH AMERICA/SOUTHERN CONE GRASSLANDS

Updated: August 2, 2013

Updated: August 13, 2013

1. **Summary:** Introduction and definition of the linked geographic areas covered. Followed by identification/list of the conservation targets: Species, habitat types, ecosystem functions. Use PIF scores to establish priority target species. Brief description of the current situation and conservation need (i.e. an over view of why is this geography is in need of conservation attention for the targets identified). Brief citation of major prior conservation plans or other key documents this CBP is built upon (citation listed in appendix). Note on CR/EN endemic species: These should/can be listed as conservation targets. Care should be taken, however, to build a Conservation Business Plan that does not focus too specifically on individual species but rather seeks to address threats that the migratory and endemic species have in common. *(Section length = approximately 2-4 pages; draft to be filled out prior to PIF V meeting.)*

The grasslands of North and South America are like mirrors. The historical and current threats they face are similar, generally connected to agricultural markets and land use. Agricultural intensification, replacement of natural grasslands with non-native pastures, crops and forestry plantations, clean farming practices, over-grazing, and altered fire regimes are among the shared causes of habitat alterations contributing to grassland bird population declines in both hemispheres. The avifauna in each system has consequently suffered population losses, and solutions to halt their declines may look similar despite the distance between these two areas. Some bird species spend a part of their annual cycle in each system, connecting the grasslands of the two hemispheres, and relying on the fate of both systems to sustain their populations.

Populations of bird species dependent upon grasslands have been rapidly declining in the Americas. In fact, grassland-dependent bird species have declined more than any other avian group in North America, and are the most threatened group of migratory birds in South America. From 1966 – 2011, 16 of 28 grassland-dependent bird species populations significantly declined in North America, while only one species increased (Sauer et al. 2013). In Canada alone, grassland breeding birds have declined by nearly 40% since the 1970s (State of Canada's Birds 2012). Due to severe, unabated declines, Bobolink (*Dolichonyx oryzivorus*) and Eastern

Meadowlark (*Sturnella magna*) have been recently added to Ontario's Threatened list, and are slated to be listed nationally. Losses in agricultural habitat due to succession in far eastern North America contribute to declines there, but throughout the breeding range in North America, loss of agricultural grasslands such as hay and pasture to row crops present a serious, ongoing threat that will likely continue, with the most recent large-scale threat due to conversion to corn and soy for ethanol and biodiesel (Wright and Wimberly 2013) and energy development (Copeland et al. 2009). Agricultural intensification in general and frequent mowing to harvest hay during the breeding season continue to compromise nest productivity on remaining grasslands, particularly in eastern North America. In South America [insert your favorite alarming statistics/facts here]. The conservation of natural grasslands in South America, and the redirection of land use and agricultural management practices in both hemispheres, are all urgently needed to halt declining trends in grassland bird populations.

Systems and species addressed in the Business Plan

This business plan outlines specific, highest-priority projects, as agreed upon by grassland bird experts in both hemispheres, to address the most critical full life cycle research and conservation needs of the suite of species that: a) winter in the Southern Cone or major transit/migration stops in South America and breed in grasslands in North America; or b) are resident species in the Southern Cone; or c) are short-distance migrants in South or North America with major portions of their ranges east of the Rocky Mountains. Key stopover/wintering areas shared by long-distance migrants include Bolivia's eastern lowlands and the Llanos grasslands of eastern Colombia and western Venezuela. The Caribbean can also be an important stop for some species but is not considered explicitly in this Plan.

Our long-term goal is to implement strategies in grassland landscapes that will benefit the full suite of eastern North American and South American grassland bird migrants. Focal species were selected to serve as umbrella species, and their plans as templates to follow for other species or suites. The Plan, however, is not intended to be limited to their needs; the entire suite of species was considered during the development of this Plan.

Each focal species serves as a centerpiece for a component of grassland landscapes: Bobolink as a North American species that migrates to the Southern Cone; Henslow's Sparrow (*Ammodramus henslowii*) as a short-distance migrant; and the following as grassland species that breed in the Southern Cone as residents or short-distance migrants: Saffron-cowled Blackbird (*Xanthopsar flavus*), the "capuchino" seedeaters (*Sporophila palustris, S. cinnamomea, S. hypochroma*), and the Ruddy-headed Goose (*Chloephaga rubidiceps*).

Bobolink has received wide support as a focal species for many reasons: 1) declining population trends; 2) listed as Threatened in Ontario and in all of Canada under SARA, listed in Appendix II

of the Convention on Migratory Species; 3) migration routes and wintering areas, and some of the associated threats are now known, and this research will continue in Canada in 2013 and 2014; 4) winter range (which we define to include long "stops" Oct-Dec) overlaps with all or portions of the winter range of several other species in this group: Upland Sandpiper (*Bartramia longicauda)*, Buff-breasted Sandpiper (*Tryngites subruficollis)*, American Golden Plover (*Pluvialis dominica)*, Swainson's Hawk (*Buteo swainsoni)*, Dickcissel (*Spiza americana*); 5) Bobolink is a charismatic, and widespread (although declining) species that engages a diverse set of partners, providing clear links between the Canada, the U.S., and South America; 6) Bobolink has been a focal species for research and conservation in the Southern Cone during the last decade; 7) a USFWS call for proposals to develop a Bobolink full life cycle conservation plan provides one of the first opportunities to develop such a plan to serve as a model for other species. Henslow's Sparrow was chosen as a focal species because: 1) it has declining population trends, 2) it is of conservation concern from local to global scales; 3) progress has already been made on an initial full life cycle model for the species; 4) it is tightly linked to CRP availability; and 5) the species provides a full life cycle link to southern U.S. grassland systems (e.g., longleaf pine).

The Southern Cone focal species were selected on the basis that they are rare endemics that are already the focus of existing conservation efforts. They serve as umbrella species for many other bird species of conservation concern, as well as being good indicators of overall integrity of Southern Cone grassland systems. They also represent the main threats to grassland birds in the Southern Cone -a mix of habitat loss and degradation, and direct use (trapping and hunting).

The development of similar plans for other species included in this process, especially those with conservation needs that are not addressed by one of our focal species, should not be considered a lesser priority because they are not an initial focus for the group. Other species included in this process are those listed above that winter in the Southern Cone (American Golden Plover, Upland Sandpiper, Buff-breasted Sandpiper, Swainson's Hawk), and elsewhere in South America (Dickcissel, in Venezuela). We will also address species of conservation priority that breed in eastern North American grasslands (Grasshopper Sparrow, Eastern Meadowlark). Finally, we will address a suite of species that breed in South America, to be determined.

Our ultimate goal for this suite of grassland bird species is to determine where during the life cycle populations are limited, and how, and the most effective ways to address threats underlying limitations. This Business Plan serves as a decision support tool, identifying spatially-specific information gaps and conservation strategies that ensure long-term sustainability of

populations within a full life cycle framework (including inter-seasonal dependencies), and informing full life cycle demographic models.

To build on existing consensus-based strategies and conservation priorities, we referred to conservation plans and other documents already developed for so of the species in the suite of interest. Ontario developed a Recovery Strategy (McCracken et al. 2012) in response to the list of Bobolink and Eastern Meadowlark under their Species at Risk Act (SARA). We drew on their background materials, objectives, and strategies, which were developed collaboratively with many stakeholders from the scientific, conservation, and agricultural communities. Full life cycle conservation plans for Bobolink and for Grasshopper Sparrow (*Ammodramus savannarum*) were in their initial phases of development in tandem with this process, and we consulted with authors to ensure this Business Plan and those plans were mutually consistent and supportive. It is our hope that those plans may serve as a basis for other grassland species' conservation plans. We also ensured this Plan was coordinated with a new climate change modeling effort for Midwest grassland systems, and include among its target species Henslow's Sparrow, Grasshopper Sparrow, and Bobolink (Zuckerberg pers. comm.).

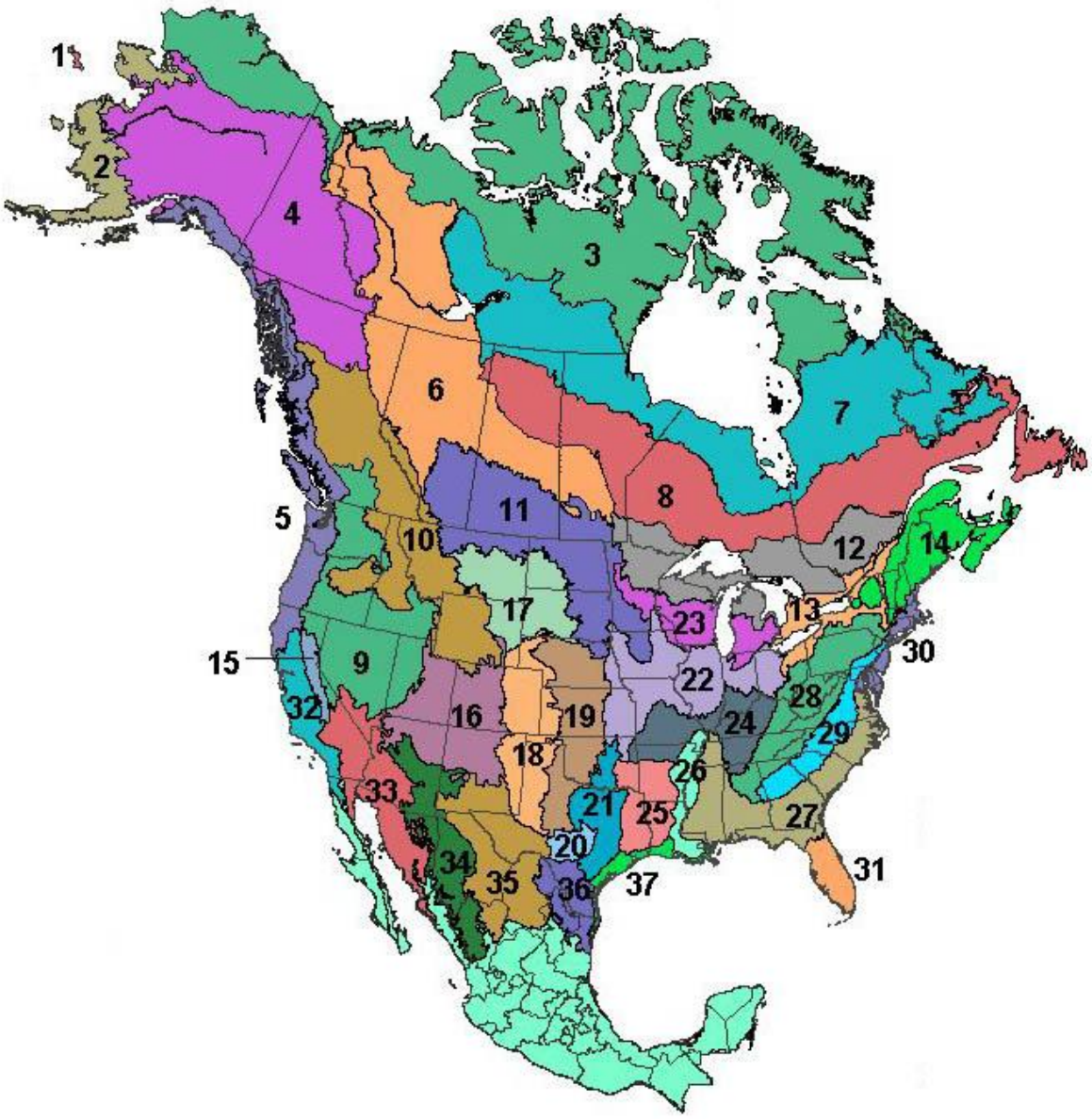
Add relevant Southern Cone plans/projects here that will be used/coordinated with

International plans
- PIF
- Shorebird

National plans
- South American
- North American
  - US
  - Canada

Ecoregions
- Joint Ventures
- States
- Important Bird Areas
- Local landscape level plans

Need maps
- Range maps
- Habitat maps



Bird Conservation Regions in Canada, United States, and Northern Mexico.

Dickcissel	Eastern Meadowlark	Grasshopper Sparrow	Henslow's Sparrow	Swainson's Hawk	Bobolink
22	22	19	24	11	11
19	19	17	22	18	13
11	24	18	23	9	12
21	21	11	28	35	17
26	27	22	19	17	14
24	28	24	12	19	23
25	37	29	11	10	22
18	25	28	21	32	28
17	31	21	27	16	19
37	26	9	13	34	8
27	29	23	30	36	6
23	13	10		21	10
36	23	12		6	9
20	18	27		33	30
12	35	13		37	18
29	12	32		22	24
35	16	30		20	29
28	36	26		12	16
13	34	25			
16	11	20			
30	20	34			
	14	5			
	30	35			
	17	16			
	33	36			
	8	6			
		37			
		15			
		14			

This figure shows the BCRs that each species occupies in the breeding season by rank of % of population (PIF Population Estimate database). All BCRs included in or above the red box in each column represents at least 4% of the population. The colors match the top Bobolink BCRs to look at overlap among our focal species.

You'll see BCRs 11,22, 17 and maybe 23 are good matches. This does not include any of the shorebirds. Their BCRs are…

American Golden Plover 4,3,6

Upland Sandpiper 11,17,23,22,12,13,14,28,30

Buff-breasted Sandpiper 3

To me this indicates we should be thinking about BOBO and UPSA and not HESP.

Roz: I see the basis of our species selection as upland grassland bird species of conservation concern:

- That winter in the Southern Cone and breed in North America (not shorebirds that occur along South America coast only): Bobolink, Upland Sandpiper, Buff-breasted Sandpiper, American Golden Plover, Swainson's Hawk

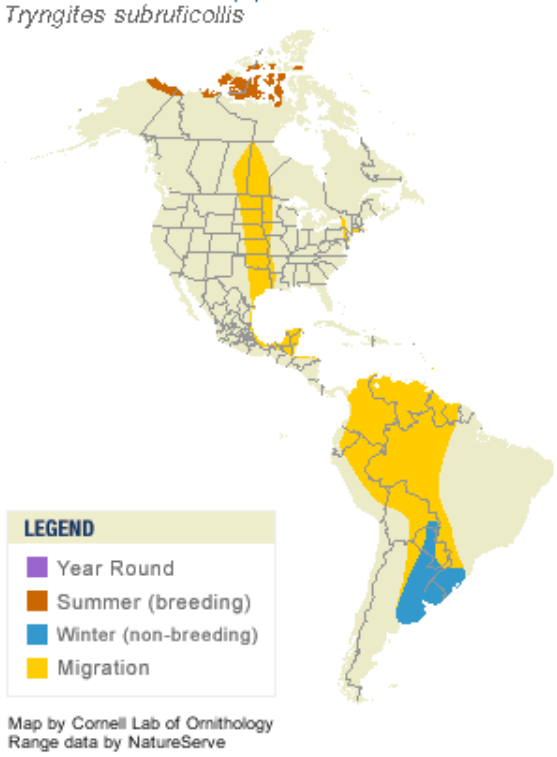
- That have a significant portion of their breeding population in eastern North America and/or are not included in the Great Plains – Chihuahuan Desert group: Henslow's Sparrow, Dickcissel, Grasshopper Sparrow, Eastern Meadowlark, Northern Bobwhite

The Southern Cone contingent focused on additional species that did not necessarily overlap in exact range and/or habitat with the above species. In fact, they sought to represent the range of habitat in the Southern Cone.

Main BCRs for species that winter in Southern Cone: 3,11,13,17,19,22,23

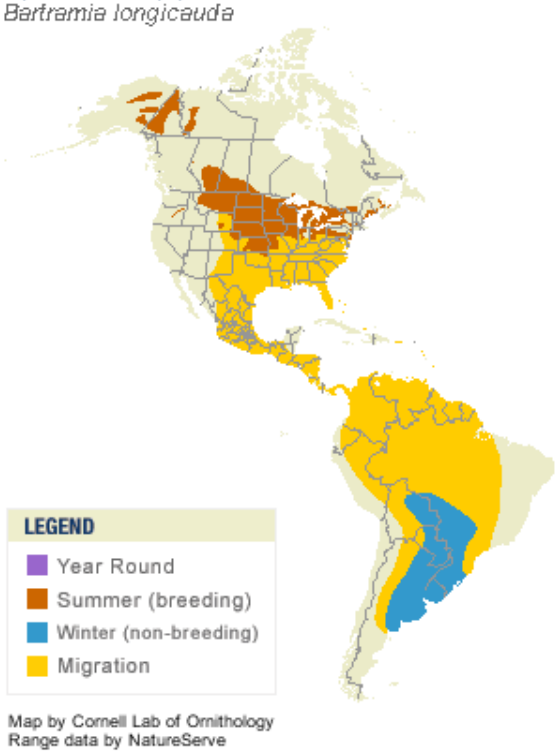
Range Maps for species that Winter in the Southern Cone

Buff-breasted Sandpiper
Tryngites subruficollis



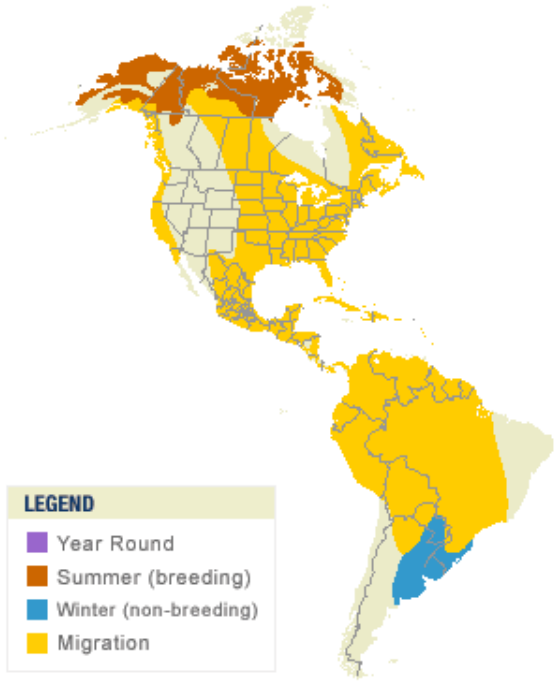
Map by Cornell Lab of Ornithology
Range data by NatureServe

Upland Sandpiper
Bartramia longicauda



Map by Cornell Lab of Ornithology
Range data by NatureServe

American Golden-Plover
Pluvialis dominica

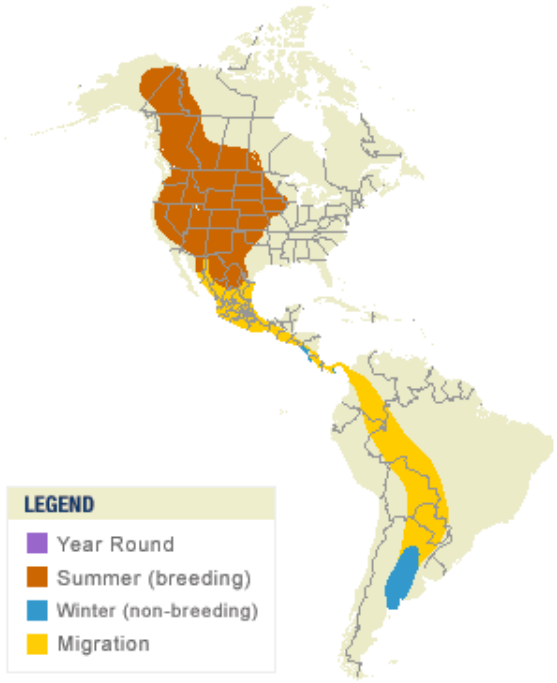


Map by Cornell Lab of Ornithology
Range data by NatureServe

Bobolink
Dolichonyx oryzivorus

Map by Cornell Lab of Ornithology
Range data by NatureServe

Swainson's Hawk
Buteo swainsoni



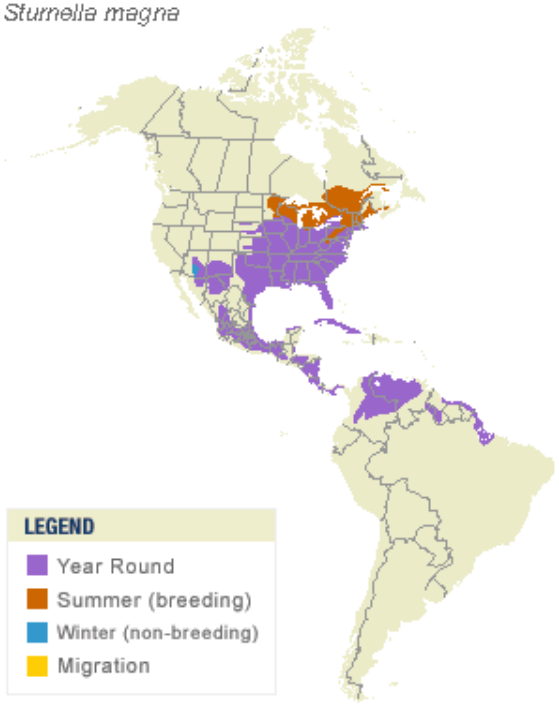
Map by Cornell Lab of Ornithology
Range data by NatureServe

Dickcissel
Spiza americana

Map by Cornell Lab of Ornithology
Range data by NatureServe

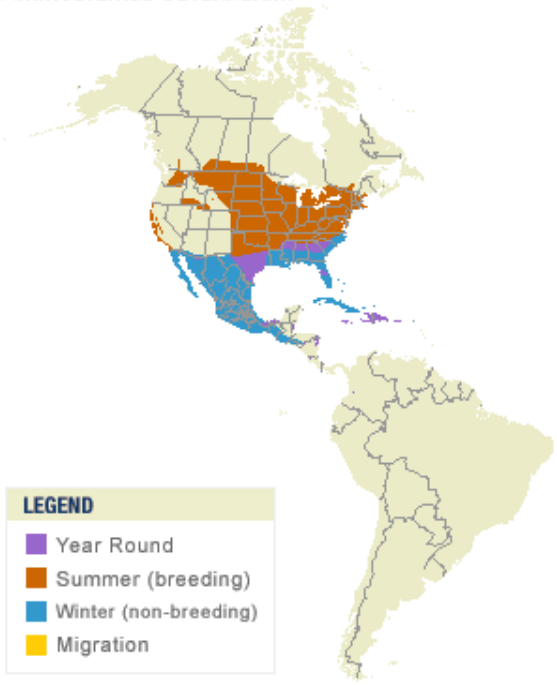
Range Maps for Resident and Short Distance Migrants found in Easter Tallgrass Prairies

Eastern Meadowlark
Sturnella magna



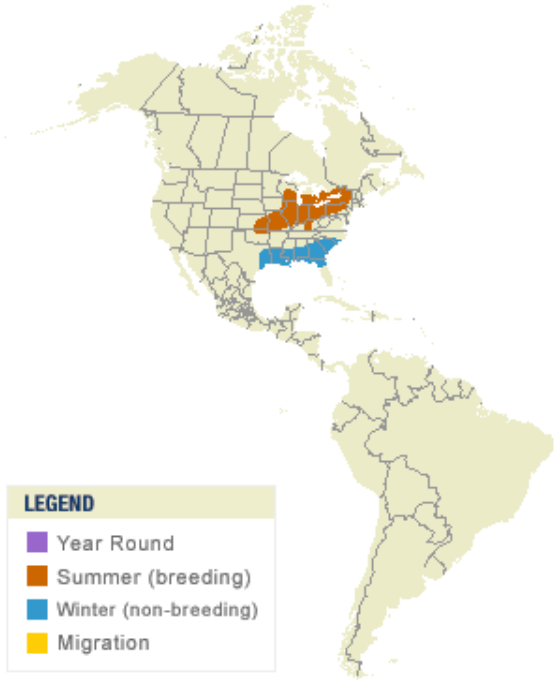
Map by Cornell Lab of Ornithology
Range data by NatureServe

Grasshopper Sparrow
Ammodramus savannarum



Map by Cornell Lab of Ornithology
Range data by NatureServe

Henslow's Sparrow
Ammodramus henslowii



Map by Cornell Lab of Ornithology
Range data by NatureServe

2. **Goal Identification for Conservation Targets**: Conservation targets = those elements of biodiversity that the Conservation Business Plan intends to focus on and protect. They can be a species, a habitat or ecological system, or an ecological process. Start with a list of the most critical birds of concern for the linked geographical areas covered, and add other species, habitats or ecological functions if the team feels it appropriate.

   A formal goal must be established for each Conservation Target. Begin with conservation goals that have been established in prior PIF Plans (e.g. the 2004 PIF *North American Landbird Conservation Plan*) or by various working groups. A conservation goal is a formal statement detailing the desired future condition of the target. The goal should *be quantitative, time-limited, impact-oriented, specific and linked to the target*. Generally it describes the long-term status for the target that is desired: "The goal for the Golden-winged Warbler is to increase its current population by 50% by 2050." If possible, the team should identify secondary goals related to the target's primary conservation goal, for example: "Increase the amount of early successional breeding habitat for Golden-winged Warbler from two million acres to three million acres by 2050".
   (Section length = approximately 2 pages. Begin with population goals established by prior PIF and working group plans. Draft to be filled out prior to PIF V meeting.)

Population estimates and trend estimates:

To serve as baseline

To build population objectives

To identify major assumptions

These will be assembled as Threats and habitats are identified. Initial population estimates and trends are presented below, and will be discussed at the meeting in Utah.

Species		Global Population Estimate	Trend
American Golden-Plover	Pluvialis dominica	500,000	current population trend is unknown
Upland Sandpiper	Bartramia longicauda	750,000	Overall increasing
Buff-breasted Sandpiper	Tryngites subruficollis	56,000	current population trend is unknown
Swainson's Hawk		580,000	0.70%
Dickcissel		20,000,000	-0.50%
Bobolink		8,000,000	-2.10%
Grasshopper Sparrow		31,000,000	-2.50%
Eastern Meadowlark		30,000,000	-3.40%
Henslow's Sparrow		402,300	-0.70%
Saffron-cowled Blackbird	*Xanthopsar flavus*	1500-7000	decreasing
Ruddy-headed Goose	Chloephaga rubidiceps	43,000-82,000	decreasing
Pampas Meadowlark	*Sturnella defilippii*	28,000	decreasing
Marsh Seedeater	*Sporophila palustris*	600-1700	decreasing
Chestnut Seedeater	Sporophila cinnamomea	2500-9999	decreasing
Rufous-rumped Seedeater	Sporophila hypochroma	Unknown	decreasing
Dark-throated Seedeater	Sporophila ruficollis	Unknown	decreasing
Black-bellied Seedeater	Sporophila melanogaster	Unknown	decreasing

3. **List of specific threats**: List of the key threats that affect the conservation targets. Identify the sources of those threats (e.g. water pollution from unregulated housing development and poor sewage treatment) and how they impact the target or its viability* (are they negatively affecting reproductive success, survivorship, or simply the number of individuals that the geographic area can support, i.e. carrying capacity?) If possible, select and identify a small number of priority threats (3-6) that the Conservation Business Plan will focus on. Threats should be considered through the full annual life cycle scale of the given target species – wintering, breeding and transit.

   (Section length = approximately 3-6 pages; draft to be filled out prior to PIF V meeting.)

   The core steering committee listed significant threats for 4 regions: North American breeding grounds, North American wintering grounds (for short-distance migrants), transit/migratory grounds (Venezuela, Colombia, Bolivia, Caribbean), and the Southern Cone, and came to agreement on the top 5 threats in each of these regions. Together, the group decided on which 5 threats were highest priority/most limiting with a focus on the Southern Cone and transit areas (threats that applied only to North America were eliminated). Then each member ranked each of these 5 threats in the context of the Southern Cone and transit regions only, based on 1) severity, 2) immediacy, 3) number of species affected, 4) long-term impact, and 5) likelihood of success in addressing at the project level. Scores for each of these categories were given a number 1 to 5, lowest to highest. The initial top five threats in no particular order were…

Annual and perennial nontimber crops - food & biofuels
Livestock farming and ranching
Hunting/Pet trade/pest control
Fire and fire suppression
Agricultural pesticides

4. **Prescribed Actions by theme:** The Breakout Group Leaders will need to organize their Project Matrix, described below, to allow fruitful discussion during the PIF V meeting.

   We suggest that you set up your Project Matrix by listing each of the priority threats that the group will discuss by each appropriate Annual Life Cycle stage (wintering, breeding, transit). For each of the priority threats, begin to develop general strategies and opportunities to address them: What are viable solutions to each priority threat or opportunity?; how can it be implemented, what are the costs? What are the objectives for each strategy? Each threat can have multiple objectives, multiple strategies to achieve

them, and multiple projects that can be implemented to alleviate the threat. At the beginning, the Project Matrix may look something like this:

Priority threat 1 X wintering ...
Priority threat 2 X wintering
Priority threat 3 X wintering
Priority threat 1 X breeding
Priority threat 2 X breeding
Priority threat 4 X breeding
Priority threat 2 X transit
Priority threat 4 X transit

The results from breakout discussions will be fed into the Project Matrix, found below. For each threat, identify strategies that should be pursued, and then begin to develop a list of projects and activities that can be undertaken to alleviate each threat. Fill in the Project Matrix for each project. List the measureable results expected. Describe the time period. Describe the costs for each project/action and, if known, potential funding sources(?) What are the risks? Ensure that the Full Annual Life Cycle is considered for teach threat, as appropriate (wintering, breeding, transit).

Questions/projects to be considered could address the following:

- Species-specific projects: how can we meet the overall population goal? The overall habitat goal? The desired habitat conditions and BMPs to get there? Key focal areas identified? Management actions prescribed for what areas? Conservation and protections identified for what areas? Ongoing guard presence needed for what areas?
- Habitat projects: Is it being diminished or degraded in a way that makes it unable to support target species? Is it affecting overall carrying capacity, or a key vital rate, or both?
- Direct land protection projects: What ands are identified for protection? Public decree? Where is critical Increased onsite protection or management needed?
- Working landscape projects: how do we influence local communities? Promote bird-friendly uses of the land? In what specific areas? What industries are impacting habitat and focal species where engagement could lead to more sustainable practices?
- Policy/regulatory projects: To what extent are existing or potential future laws, regulations, policies, or judicial decisions detrimental?
- Socio – Economic/Community engagement projects: To what extent are social factors and considerations detrimental? To what extent are current or anticipated economic factors and conditions detrimental? How do we influence and engage local communities to meet their needs and the needs of the conservation targets? How can environmental education and environmental awareness projects be used to reach our goals?
- Knowledge, Monitoring and Evaluating projects: To what extent is our scientific understanding of the threats and/or necessary conservation actions insufficient? Have

the monitoring and evaluation needs for the program been adequately identified and planned for?

NOTE: For each conservation target, ensure that the Full Annual Life Cycle is considered as the team addresses each threat (wintering, breeding, transit). *Some example project can be drafted prior to the PIF V meeting, most will be filled in during the breakout sessions.*

The Project Matrix

For each project, begin to fill in a row of the Project Matrix. (This Matrix is open for review, comment and improvement) Under each list key activities for each relevant theme in a tabular form:

Key Threat (use as the organizing principle)	Stage W, B, T	Objectives	Key Theme and Strategy	Cons. targets	Project	Activity
Which of the main threats is being addressed here?	**List if: Wintering Breeding and/or Transit work**	**What is the overall objective?**	**What type of work (theme from above) and what is the strategy is being used?**	**What are the conservation targets**	**What is the project name?**	**What are the activities?**
Lack of wintering habitat and accelerating habitat degradation	Wintering	Increase wintering habitat for shorebirds in Argentina – by XXX acres overall by 2025.	Community engagement: Engage rice farmers in Argentina to promote conditions that support certification	All target shorebirds in the Grassland group	Creating bird-friendly rice fields in Argentina through farmer certification	Farmers are informed and provided incentives to move their rice field towards certification

Results of the Activity		Long-term Outcome	Timeframe	Anticipated Costs	Total Costs	Evaluation	Comments
What is the measurable result/deliverables?		**What are the measureable long-term impacts/outcomes expected?**	**What time period? How long will it take/**	**Cost/year**	**Total project costs**	**How will the project be evaluated?**	**General comments, next steps, list of potential actors, risks**
6 workshops;		X% acres added	Two years	$75,000	$150,000	Number of	

Matrix continued…

150 farmers enlisted; 3000 acres put into certified bird-friendly rice management by 2015.		toward overall Argentina habitat goal.				farmers engaged in certification; number of acres	