

**Upper Mississippi River and Great Lakes Region Joint Venture  
Technical Committee Meeting Minutes  
27-28 April, East Lansing FWS Field Office**

**Technical Committee Members:** John Castrale (IN DNR), John Coluccy (DU), Mike Eichholz (SIU), Dave Ewert (TNC), Bob Gates (OSU), Diane Granfors (FWS-HAPET), Dan Holm (IL DNR), Dave Luukkonen (MI DNR), Mike Roell (MO DNR), Greg Soulliere (FWS-JV), and Tom Will (FWS-MigBirds)

**Subcommittee Ad Hoc Members:** Ron Gatti (WI DNR), Melinda Knutson (FWS-Refuges), Steve Lewis (FWS-MigBirds), Mike Monfils (MI NFI / MSU), Brad Potter (CMU), Mark Shieldcastle (OH DNR), and Wayne Thogmartin (USGS). Pat Brown (MI NFI) and Bob Russell (FWS-MigBirds) were unable to attend the meeting.

**Guests:** Greg Butcher (Audubon) and Ellen Paul (The Ornithological Council).

**April 27 (Wednesday p.m.)**

After a welcome and review of meeting goals, Greg Soulliere reviewed progress on action items identified at the December 2004 JV Technical Committee meeting. A brief review of the March 2005 JV Management Board was also provided, as well as an update on the revised wording of the JV Flex-fund RFP (request for proposals). Wording in the RFP has shifted significantly to better focus on research and monitoring that builds our science foundation for improved conservation decision making.

The remainder of the afternoon included presentations and discussion associated with the JV Implementation Plan revision. Mike Eichholz provided a presentation on a *Web-based Literature Data Base for Avian Conservation Planning*, which was followed by three presentations on model-based bird conservation planning tools: *Regional Resource Assessment Project* (Tom Will), *Comparing Model Approaches Used at HAPET-East* (Diane Granfors), and *Models to Inform Avian Conservation Planning* (Melinda Knutson and Wayne Thogmartin).

**Action item:** Greg S. will provide copies on CD of each of the presentations to Technical Committee and Ad Hoc subcommittee members.

New components of the revised JV Implementation Plan outline were reviewed. This outline reflects a theme of “separate planning” (by bird-group) and “integrated action” (all-birds), much like the approach being used by the Prairie Pothole and Playa Lakes Joint Ventures. The adjustment evolved out of discussions held at the December Technical Committee meeting, and subsequent meetings with representatives from other JVs. The need for separate planning resulted in the formation of subcommittees who will develop JV bird-group conservation strategies. Each subcommittee includes experts on that bird group, at least one person with experience in biological modeling, plus a Chair (or co-chairs) to coordinate strategy development. Integrated action will be detailed in the primary JV Plan and it will involve the pooling of subcommittee recommendations to target bird conservation practices based on priority, effectiveness, and efficiency.

The afternoon ended in further discussion about the implementation plan and roles of subcommittee members. Information items were provided in preparation for Thursday's meeting: lists of species of concern, completed and ongoing biological modeling efforts by species, and bird-group conservation strategy outlines.

### **April 28 (Thursday a.m.)**

Bird-group sub-committee goals were reviewed before breakout sessions, and Chairs were asked to take minutes and provide a meeting summary at the end of the morning. Subcommittee meeting notes (or enhanced summaries) are included on pages 6-20 (below). Following the breakout sessions, there were several important comments in the general group discussion:

The National Wetland Inventory (NWI) has great potential for use by subcommittees. However, these data are aging and may need revision in many areas. Perhaps Barb Pardo should discuss with other JVs a collective approach to resolve NWI challenges. Brian Huberty (FWS Region 3 NWI coordinator) may be receiving some JV funds for a NWI effort. In addition, the DU (Ann Arbor office) is completing a NWI revision for S. Michigan, partially funded by the JV. There has also been some wetland probability modeling completed (Wayne T. can provide details).

**Action item:** Greg S. will ask Barb Pardo about possible collective JV support for updating / improving the NWI for bird conservation planning purposes.

There is overlap in habitat characteristics for wetland-bird groups, especially in temporary and seasonal wetlands. The Shorebird Subcommittee mentioned that Mike Runge (FWS) is developing a habitat management system for both shorebirds and waterfowl. The Landbird Subcommittee suggested we determine if literature reviews have been completed on bird species of concern or other aspects of bird conservation important to developing bird-group strategies. There was a fear that we may be redoing work that has already been completed by others.

**Action item:** All bird-group subcommittee members please share sources of information useful in bird-group strategy development. Forward literature reviews or other relevant collections of information directly to appropriate committee members or to Greg S. for distribution.

Finally, we discussed bird conservation grant opportunities, including IAFWA Regional Conservation Needs grants and USGA/FWS Quick Response grants. The purpose of these grants was reviewed, but the match requirement for the IAFWA grant was undetermined.

**Action item:** Greg S. will gather more information on these two grant opportunities and forward to appropriate committee members.

### **Technical Committee Meeting Wrap-up / Next meeting**

The next full meeting of the JV Technical Committee will be held at the Midwest Fish and Wildlife Conference in Indiana (December 2005). However, bird-group subcommittees plan to communicate and meet in the interim to continue progress on bird-group conservation strategies.

**Action item:** Subcommittee Chairs (Dave E., Tom W., Dan H., Bob G., John C. and Greg S.) will coordinate research and writing assignments to complete the planning portion of the bird-group conservation strategy outline (see below). The foundation for this effort should be in the bird-group meeting minutes on pages 6-20.

## **Outline for Joint Venture Bird-group Conservation Strategy (Waterfowl, Landbirds, Waterbirds, and Shorebirds)**

### **1. Planning**

- a. Background and context (relative importance of JV to bird group)
- b. Population and habitat trends (breeding and migration)
- c. Biological foundation (identify ecological relationships / conservation challenges to be used to develop goals, objectives, and conservation strategies)
- d. Assumptions (incomplete knowledge requires assumptions; state explicitly)
  - i. Key uncertainties
  - ii. Research needs (build conservation knowledge, test assumptions)
- e. Population goals (JV, BCR, state breakdown)
- f. Species-group habitat goals
  - i. Focal species (high priority due to declines **or** high rate of occurrence / primary range in JV **and** habitat needs reflect a suite of species)
    1. Abundance and distribution (range, relative density)
    2. Threats (primary landscape-scale concerns)
    3. Limiting factors (breeding / migration habitat factors impacting one or more vital rates)
    4. Actions and treatments (habitat objectives) determined via biological models

### **2. Action**

- a. Developing landscape vision (with habitat objectives)
- b. Identify focus areas, habitat needs and conservation strategies
  - i. Protection, restoration, and enhancement
- c. Measure performance
- d. Monitoring and evaluation
  - i. Measure population response to conservation action
  - ii. Examine influences on populations at various scales
- e. Develop decision support tools
- f. Adaptive conservation (adjust protection / restoration strategies)
- g. Funding needs and timetable
- h. References / literature cited

## **BCR 22 Draft Plan Meeting (Thursday, April 28, 1:00 – 3:00 pm)**

**Attendance:** Greg Butcher, Dave Ewert, Bob Gates, Diane Granfors, Melinda Knutson, Steve Lewis, Ellen Paul, Greg Soulliere, and Tom Will

Greg Butcher and Ellen Paul asked that reviewers of the draft BCR 22 plan stay after the JV Technical Committee meeting to discuss review comments and how to improve the usefulness of the next version of a BCR 22 plan. We discussed what a contemporary BCR Plan should contain, however, we also recognized the sophistication of bird conservation planning has increased dramatically since the contract was let for this effort. The use of biological modeling was deemed beyond the scope of this BCR plan. The group recommended that general information in other regional bird plans (i.e., PIF landbird plans, FWS shorebird plan) not be extensively repeated. The document should be an all-bird conservation plan based on priorities identified in continental and regional bird plans, the conservation literature, and the expert opinions collected at the two BCR 22 meetings. The next version of the plan should have the following adjustments:

1. Recognition of the audience -- Some reviewer comments suggested the plan should be accessible to everyone, including landowners who want to know what they should do with a specific piece of land. However, the primary audience is the JV implementation team (JV Partners) and not the general public. Other users might include state or federal wildlife agency staff and bird planning experts.
2. The following should be omitted from the draft plan:
  - a) Recommendations (consider listing options for actions and go thru +/- of each option).
  - b) Detailed descriptions of the PIF physiographic regions – just include a shorter description of the BCR but not the PIF physiographic regions.
  - c) BCC/RCC columns from tables.
  - d) PIF columns from waterbird, waterfowl, shorebird tables.
3. The following should be added to the draft plan:
  - a) Detailed captions on each map, including complete and descriptive titles and how the map was generated. Maps, other figures, and all tables must be able to “stand alone,” with adequate information so that readers do not have to reference the document text to understand material being presented.
  - b) “Walk-around” of the region, describing major community types and the birds they support (for instance, where were most of the Indiana wetlands).
  - c) Table of information about habitat associations and bird densities for priority species (this could be a substantial amount of new work) – Perhaps use LINK to get info on likelihood of occurrence – Consider a table showing the species x probability of occurrence ranked 1-5 as was done for BCR 23 – Tom W. or Wayne T. will e-mail it to Ellen P. and Greg B. – May require consultation w/ species experts in the region – not sure if feasible, especially within time frame.
  - d) Classify birds into suites, listing species assemblages likely to occur together in given landscape cover types - If this task is too daunting, then at least complete a list of priority species

(breeding, migratory, and wintering) that occur in the BCR in manageable numbers and should be considered collectively when planning conservation actions.

#### 4. Formatting and Product Delivery

- a) Text must be in The Wildlife Society publication format (see TWS Bulletin or Journal).
- b) FWS Region 3 will not provide web services for the document.
- c) The plan should be provided in a pdf file and it can be reproduced and emailed.
- d) The document must also be provided to FWS Region 3 in a MS Word file.
- e) Timing - have final draft ready for review by end of August, final report done by end of October

## Species-group Subcommittee Meeting Minutes (April 28)

### Waterbird Subcommittee Meeting

Meeting Attendance: Steve Lewis, Mike Monfils, Wayne Thogmartin, Dan Holm, and Ellen Paul (guest). Subcommittee members Bob Gates, Diane Granfors, and Greg Soulliere were unable to attend because they were working in other subcommittee meetings. The subcommittee recommended adding Bob Russell (FWS) to the group because of this extensive waterbird expertise.

The Waterbird Subcommittee was asked to address five topics if time allowed: 1) Approve/refine list of species of greatest conservation concern, 2) Review background/context for bird group or key species occurring in JV, 3) Identify focal species and relationships (species that might represent suites; better studied species; species with wider distribution across BCRs or JV, 4) Discuss strategy to generate focal species habitat objectives linked to population objectives, and 5) Determine necessary tasks and completion dates.

Steve Lewis noted that the North American Waterbird Conservation Plan (NAWCP), Version 1 was completed in 2002. The primary focus of Version 1 centered on providing a continental perspective on the status and conservation of colonial-nesting waterbirds. A Steering Committee currently is working on Version 2 of the NAWCP which will include more guidance on status and conservation of non-colonial waterbirds (marshbirds). Steve noted that the NAWCP does not set population level or habitat area goals because there is a high level of uncertainty associated with waterbird population information at the continental scale. Instead, the NAWCP accommodates population and habitat goal setting at regional scales within sixteen waterbird conservation planning regions.

Linda Wires (University of Minnesota) has been contracted to write the Upper Mississippi Valley/Great Lakes Waterbird Conservation Plan (UMV/GLWCP). The UMV/GLWCP covers Bird Conservation Regions (BCRs) 12, 13, 22, 23, and 24 and, thus, overlaps most of the Upper Mississippi River and Great Lakes Region Joint Venture (UMRGLRJV). Steve Lewis mentioned that he is helping to coordinate development of the UMV/GLWCP. Steve reviewed the status of the UMV/GLWCP and shared draft information that addresses waterbird conservation issues specific to the UMRGLRJV, including the following handouts: 1) Completion status of sections in the UMV/GLWCP, 2) Summary of conservation, management, and stewardship priorities for waterbird species in the UMV/GL by Bird Conservation Region (BCR), 3) Habitat preferences of selected waterbird, waterfowl, and shorebird species during the breeding season (this allows the identification of habitat guilds and focal species that can be used as umbrellas for integrated habitat conservation), 4) Review of historic and current population trends and benchmark timeframe for waterbird species in the UMV/GL, 5) Population estimate, population trend, and management objective for waterbird species in the UMV/GL by BCR (where available), and 6) Outline of regional occurrence, regional abundance, regional threats, and conservation needs for thirteen waterbird species in the UMV/GL.

Next, the Subcommittee reviewed the UMRGLRJV working list of waterbird species of conservation concern and recommended that two species be added to the draft list, Whooping Crane and Forster's Tern. Briefly, the Subcommittee believed Whooping Crane should be included on the list because it has a highly imperiled status and Forster's Tern is identified as a priority species in the UMV/GLWCP.

The Subcommittee agreed that only waterbird species which breed in the UMRGLRJV should be considered as candidates for focal species because a lack of detailed knowledge about distribution and abundance of most waterbirds on migration and wintering areas limits planning efforts. The Subcommittee developed a decision matrix in an effort to help identify focal species for use in the UMRGLRJV Implementation Plan revision. Because the emphasis of the JV plan is habitat conservation, focal species were limited to those that are habitat limited. Other evaluation criteria included presence/quality of information on population estimates and trends, distribution within the JV, amount of habitat overlap with other species, conservation, management, and stewardship priority, existing models, monitoring ability, included on the Fish and Wildlife Service Division of Migratory Bird Management's "Performance Measures" list, and completed status assessments or management plans. Seven possible focal species were identified: 1) **Black Tern**; important reasons for selection included, represents host of species using semi-permanent freshwater marshes, would serve as surrogate for Forster's Tern, bitterns, rails, Common Moorhen, and American Coot, existing management plan, and available model for prairie pothole region, 2) **Common Tern**; important reasons for selection included, represents host of species using island, lake, or river and open water habitat, would serve as surrogate for other Larids, existing management plan and draft status assessment, available population estimate for Great Lakes region, knowledge of habitat needs and other limiting factors (e.g., gulls, human disturbance), monitoring ability, and high conservation need, 3) **Least Tern**; was selected primarily because it has a highly imperiled status. The subcommittee discussed the possibility of not using the Least Tern as a focal species if the Piping Plover was selected by the Shorebird Subcommittee, 4) **King Rail**; important reasons for selection included, represents host of species using seasonal wetland, emergents, variable open water, and flooded meadows to cattail stands habitat, would serve as surrogate for other rails, bitterns, and cranes, high conservation status across the Joint Venture, interest by the Mississippi Flyway Council, on the Fish and Wildlife Service's "Performance Measure" list, and available status assessment for FWS Region 3 (prepared by Bob Russell), 5) **Yellow Rail**; important reasons for selection included high conservation status across most of the Joint Venture, special habitat needs that have little overlap with other waterbirds, but includes species such as Le Conte's Sparrow and Sedge Wren, 6) **Black-crowned Night-Heron**; important reasons for selection included, represents host of species using wetlands with emergent vegetation, open water, nesting trees near wetlands, vegetated islands, and riparian habitat, would serve as surrogate for other wading birds that need nest trees and marsh birds that use similar foraging habitat, and moderate to high conservation need across the Joint Venture, 7) **Common Loon**; important reasons for selection included, represents host of species using deep water marsh, extensive open water, and lake habitat, would serve as surrogate for grebes. We discussed the possibility of not using the Common Loon as a focal species if the Waterfowl Subcommittee selected a diver species that represented deepwater habitats.

Next, the subcommittee briefly discussed some challenges associated with the UMRGLRJV planning exercise as related to waterbirds. Steve Lewis noted that there are no continental population objectives to step down for waterbirds. The UMV/GL waterbird planning effort has addressed the difficulty of working without continental population information by defining measures of current and historical distribution and abundance. This type of information is relatively good for colonial species, but poor for most marshbirds. Most waterbird species are not adequately sampled by the BBS due to their low numbers, colonial nesting, and/or secretive behavior. Thus, planning for waterbirds is weighted towards species with moderate and high conservation needs. Steve outlined general management objectives used in the UMV/GLWCP; if current population levels are the same as historical levels the objective typically is to maintain current populations, when current population levels are below historical levels the objective normally is to restore current populations to historical levels or prevent additional declines, if current population levels are above historical levels the objective often is to let populations self regulate, and if current population levels are unknown the objective is to develop and/or implement population surveys. Active population management for some “nuisance” and hunted species may be needed.

## Landbird Subcommittee Meeting

Meeting Attendance: Tom Will and Dave Ewert (co-chairs), John Castrale, Mike Roell, and Melinda Knutson

1. Use habitat categories as defined by Tom and Dave (see attachment)
  - a. ID Focal species for each habitat type
    - i. May be high priority species or else a species that might represent or encompass habitat requirements for other species associated with that habitat (umbrella species)
  - b. Develop population goals and habitat objectives for each
    - i. Categorize by response likelihood
    - ii. Issues about managing for rare species – lots of managers won’t get these rare species on their units.
    - iii. Focal species use for modeling may not be the focal species you use to monitor success or failure
2. Lists of species were derived from PIF database (these lists may change) and will be updated as PIF updates their priorities.
3. North deciduous forest:
  - a. **Wood Thrush:** Widespread, thins in the north, high detectability, sensitive to loss of shrub layer, easy to monitor, rich literature, area sensitive



- b. **Black-throated Blue Warbler:** Widespread, thins out in the west and south into MN, high detectability, sensitive to loss of shrub layer, easy to monitor, rich literature, area sensitive
  - c. **Canada Warbler:** Very specific habitat requirements that are not well-known, early succession species, need more information about it, high priority (continental concern), found throughout northern deciduous forest
- 4. South deciduous forest
  - a. **Cerulean Warbler:** Sensitive to forest fragmentation, high priority (continental concern), represents quality of large floodplain forests
  - b. **Wood Thrush:** Sensitive to forest fragmentation, represents understory conditions, high priority (continental concern)
  - c. **Kentucky warblers:** Represents understory, high priority (continental concern)
  - d. **Louisiana waterthrush:** Represents the quality of forested riparian streams (1<sup>st</sup>, 2<sup>nd</sup> order streams), regional concern
- 5. Spruce fir:
  - a. **Cape May Warbler:** Responds to spruce bud worm outbreaks – promotes management of large patches of spruce fir forests
- 6. Savanna
  - a. **Red-headed woodpecker:** poster child for savannas
- 7. Jack pine
  - a. **Kirtland's Warbler:** Endangered species
  - b. **Whip-poor-will:** regional concern, found in all 3 states, little is known about it, disappearing from apparently suitable habitat
- 8. Scrub north:
  - a. **Golden-winged Warbler:** continental concern, global responsibility, in all three states, management conflicts
  - b. **Connecticut Warbler:** continental concern, found in all 3 states, wide variety of habitats, habitat associations need clarification
- 9. Scrub south:
  - a. **Blue-winged Warbler:** continental concern, responds to forest management, late successional scrub
  - b. **Yellow-breasted Chat:** early successional scrub responds to forest management, old field succession
  - c. Woodcock: defer to Shorebird group
  - d. **Willow Flycatcher:** large proportion of global population in this area, represents wet scrub habitats

10. Bog muskeg:

- a. **Olive-sided Flycatcher:** Closely tied to habitat, declining, no one knows why, bogs and muskegs susceptible to road construction, needs research

11. Swamps – north

- a. **Veery:** found in all 3 states, closely associated with that habitat type, regional concern

12. Swamps – south

- a. **Prothonotary:** tightly tied to habitat, continental concern, all over BCR, responds to management
- b. **Cerulean:** represents large floodplain forests, continental concern

13. Wetlands

- a. No focal species – defer to Waterbird/waterfowl

14. Grasslands

- a. **Henslow's Sparrow:** continental concern, represents dense, tall grasslands
- b. **Greater Prairie Chicken:** continental concern, represents large, diverse grasslands, great umbrella species, highly area-sensitive
- c. Upland Sandpiper: picked by shorebird group, represents large, sparse grasslands
- d. **Eastern Meadowlark:** widely distributed, regional concern, represent mixed grasslands

15. Urban

- a. **Chimney Swift:** this is their major habitat, regional concern
- b. Stop-over sites: short supply in urban areas – how to manage to support migrating land birds

16. Great Lakes Shoreline

- a. Stop-over sites: high concentration of migrating birds, critical refugia

Research need:

Demography of landbird populations across the JV

Hypothesis: BCR 12 tends to be a source area for many species

Ozarks tend to be a source area also.

Habitat management needs to be focused on areas where habitat improvement will create/maintain source habitat

Priority: model high quality habitats, identify source vs. sink areas

Model high quality stop-over sites

Look at individual species:

Distribution

Density

Demography

Stop-over sites

Over-wintering sites

Focus on parts of the JV that we think is most critical for restoration

Breeding birds

Stop-over – Great Lakes, Highlands, Urban, north-south flowing rivers

Assumption: breeding requirements cover needs of wintering birds – need to test that assumption

Cardulines???

Long-eared Owls, Short-eared Owls, American Tree Sparrow, Cone-dependent birds

Pine Grosbeak, White-winged Crossbill

Murray Lauban – may be compiling lit review of area-sensitivity, demography, micro-habitat requirements

Upland sandpiper, woodcock = picked by Shorebird group

## **Shorebird Subcommittee Meeting**

Meeting Attendance: Bob Gates (Chair), Diane Granfors, Brad Potter, and Mark Shieldcastle. Subcommittee members Bob Russell and Dave Ewert were unable to attend the meeting (Dave Ewert participated in the landbird subcommittee meeting).

What we did not do—species of concern and priority rankings—have committee review and approve or suggest modifications.

### 1. Potential Focal Species

#### A. Breeding

Piping plover

Killdeer

Spotted sandpiper

Upland sandpiper  
Wilson's snipe  
American woodcock  
Solitary sandpiper  
Marbled godwit  
Wilson's phalarope

Potential (historic breeders)  
Avocets  
Willetts

Habitat guilds (focal species selected)  
Beach-nesting (**piping plover**) add Great Plains population with Great Lakes)  
Overlap with Common tern and least tern  
Sedge meadow (**upland sandpiper**) overlap with Yellow rail??  
Shrub-scrub (**Am. woodcock**)

Criteria for selecting breeding focal species:  
Population status (declining)  
Distribution (continental importance)  
Understanding of principle limiting factor  
Potential to monitor

## B. Migrating

(Considerations)  
Area sensitivity  
Migration chronology/pattern/distance  
Habitat guild  
Season (fall vs. spring limiting??)

Criteria for selecting migrating focal species:  
Distribution (regional importance)  
Identify and manage for a habitat-limiting factor  
Potential to monitor  
Migration chronology

Habitat guilds (focal species selected)  
Beach (**ruddy turnstone**, OR **sanderling**)  
Dry mudflat (**Am. golden plover**) – black-bellied plover  
Wet mudflat (**pectoral sandpiper**-early **semipalm sandpiper**-mid-season, **dunlin**-late)  
Shallow water (**dowitcher** (short and long), **yellowlegs** (lesser and greater)\*\*

Deepwater (**Wilson's phalarope, marbled godwit**)\*\*  
Shrub-scrub (**Am. woodcock**)

\*\* shallow and deepwater guilds—(nearly complete overlap with waterfowl)

## 2. Population Goals-stepdown

Breeding population-focal species

Piping plover-Great Lakes Piping plover recover plan

Upland sandpiper-BBS (Diane)

Am woodcock (woodcock plan in progress, singing ground, harvest survey)

Migrating populations

Check with Bob Russell @ source of IL and WI population estimates (how done)

Not possible to estimate populations, develop explicit population goals for migrant shorebirds at this time

Information need-systematic monitoring program

John Bart (PRISM)

Bruce Peterjohn (what if BBS is done earlier)

Need migration survey program (focus on fall)

Stratified random plot survey program

Use-days vs. population estimates are use-days better, more relevant—develop use-day objectives.

## 3. Scientific information, population, and modeling needs

Information needs

Stopover/migration patterns,

Source populations (breeding, wintering grounds)

Importance of interior stopover habitats

ISS sites-distribution

Fall migration vs. spring migration--spring for waterfowl, fall for shorebirds  
potential area of conflict/discrepancy. May differ for lake-associated species.

Population surveys

Compile surveys done across different areas

Habitat data-NWI data-inconsistent, outdated, not uniformly available

Beach loss/impact human development near coastal areas

Lake Erie other Great Lakes LAMPs,  
Lake-level fluctuations-Great lakes  
Loss rates of temp and seasonal wetlands  
Restorable wetlands layer  
Soil wetness DU project funded by JV  
Soil wetness-early successional woodland-possible addressed in woodcock plan??  
(multi-state woodcock research Kremetz and Anderson-see Dave  
Luukkonen.)  
Grass cover—juxtaposed with temp and seasonal wetlands-grass/sedge meadow  
loss rates, areas of opportunity-dovetail w/grassland restoration for land birds.

#### 4. Areas of integration

Upland Sandpiper – land birds focus on grassland restoration  
American woodcock--land bird focus on early successional habitat  
Shallow and Deepwater species integrate with waterfowl and water birds

Unique thrust and focus = temp and seasonal wetlands  
Source of info = wetland status and trends.

### **Waterfowl Subcommittee Meeting**

Meeting Attendance: John Coluccy and Greg Soulliere (Co-chairs), Mike Eichholz, Dave Luukkonen, Ron Gatti, and Greg Butcher (guest). Subcommittee member Pat Brown was unable to attend the meeting.

Before the waterfowl subcommittee meeting, co-chairs developed discussion points for each of the items identified in the first half of the species-group conservation strategy outline for the JV implementation plan. Outline section titles are listed below with these points and an overview of the discussion held during the subcommittee meeting.

#### **Background and context**

This section of the plan should provide an overview of the JV region, uniqueness, and importance to waterfowl (breeding, migration, wintering) relative to neighboring regions and North America. General landscape history and current conditions relative to waterfowl should be reviewed.

Greg offered to draft this section

#### **Population and habitat trends (breeding and migration)**

Breeding waterfowl population estimates for some species are available from aerial surveys conducted in MI, MN & WI. The MI survey began in 1992 and surveys in WI

and MN began earlier. In addition to giant Canada geese, MN, WI, and MI have mallard and blue-winged teal estimates, plus some others (wood duck and black duck for MI).

Ron has started to analyze breeding duck population trends for WI. WI and MI are completely within JV and east MN is in JV. We will need to contact state survey people for data by region of their state if we break population estimates into BCRs. In addition, we are not sure how best to determine current population sizes in states without systematic aerial surveys. Ron may be able to use data from early years in WI as a surrogate for MI pre-1992 and perhaps for BCR 23 (including areas of IL and IN).

We also examined BBS trend maps (1966 – 2003) for several duck species. Of the three major species that breed in the JV, mallard and wood duck populations have generally increased and blue-winged teal have decreased. We recognized the need to identify landscape trends most important in influencing waterfowl populations in this planning process. However, our ability to quantify habitat trends is limited for some species and inconsistent across the Joint Venture.

John and Ron will continue to work on this section. We spent very little time discussing population trends for staging and wintering waterfowl.

### **Biological foundation**

This section of the plan will include identification of ecological relationships and conservation challenges to be used to develop population and habitat goals, objectives, and conservation strategies. A key assumption made in waterfowl habitat conservation is that factors that limit waterfowl populations during specific life cycle events can be impacted through habitat programs. Traditionally, waterfowl conservation actions were largely “opportunistic,” with amount and location based on financial resources and local interest. The JV is committed to improved decision making (e.g., what, where, when, who, and how much) and habitat conservation effectiveness by using contemporary scientific and business principles and model-based planning and evaluation.

In order to develop habitat conservation objectives under this paradigm, we must first determine population goals, current population levels, and “population deficits” (population deficit = goal size – current size). Quantifying a population target and determining how best to achieve the target are essential steps in developing conservation strategies. Identification of limiting factors and appropriate treatments are the next steps in planning, followed by development of biological models to identify priority areas and habitat quantities.

### **Assumptions**

Most aspects of wildlife conservation require managers to make decisions and operate with incomplete knowledge. This requires assumptions, and in order to periodically test assumptions and manage adaptively, assumptions must be stated explicitly. There will be many assumptions associated with development of population goals and population and

habitat objectives, especially when developing biological models to help quantify habitat objectives for focal species. We will need to be explicit when explaining model parameters (and associated assumptions) used to generate habitat objectives and target areas for focal species.

The most critical life requisites or limiting factors are not always well understood. However, it is generally perceived that nutrition most influences physical fitness and fitness and predation most influence annual recruitment. Waterfowl habitat conservation calls for maintaining integrity and health of wetlands and associated uplands (protection of what's there), coupled with restoration and enhancement to augment the available habitat base. The dynamic nature of migratory waterfowl populations begs for keeping the "table set."

Blue-wing teal appear to be limited by abundance and distribution of wetlands and grasslands suitable for effective reproduction. Mallards appear to be limited by wetlands, particularly brood habitat (based on DU model), and both species have better nest success in large unbroken grasslands. Targeting grassland conservation in the traditional tallgrass prairie (BCR 22) may be ecologically sound for other bird-groups, but there are low densities of ground-nesting ducks in this region. Wood ducks are common across the JV region and depend on mature forest, especially during reproduction. They may be limited by brood habitat, as the hardwood forest land base remains stable and continues to age (increased natural cavity abundance).

Considering the food sources available in fall for ducks and geese, nutrition during this season is probably not a concern. Winter and spring food requirements to optimize reproduction is not well understood for ducks, geese, or swans. We also discussed the influence of disturbance on ducks, particularly staging diving ducks. There appears to be more boating activity over time, however mortality rates for diving ducks have been fairly stable (little data for most species). Late winter and spring nutrition and survival may limit some species, but there is a paucity of information. Outside of the breeding season, spring nutrition could be the limiting factor for most divers and dabblers.

a. Key uncertainties.

- Understanding how changing hydrology (precipitation cycles) influences the capacity of the land to produce waterfowl. We lack a consistent method to inventory habitat and the quality of habitat.
- Landscape-level factors limiting waterfowl populations during specific life cycle periods, especially spring.
- Much of our waterfowl knowledge is based on puddle ducks, particularly mallards. We often assume that other upland nesting dabblers (e.g., blue-winged teal) respond similarly to environmental and ecological conditions that impact mallard vital rates.
- Knowledge of diving duck species is limited and targeted management is rare.
- With the exception of MI, MN, and WI, breeding duck population estimates are not available from systematic surveys.



- Length of stay during migration is also unknown, making use-day and migration habitat objectives challenging to develop.

b. Research needs (to help establish and refine biological foundation, test assumptions).

- Identify landscape level factors linked to vital rates that limit waterfowl populations (exists for breeding mallards in the Great Lakes).
- An understanding of migration corridors, movement chronology (may depend on habitat quality), and desirable landscape attributes for migratory waterfowl to better predict habitat needs and to target conservation areas.
- A means to critically evaluate and compare the effectiveness of waterfowl conservation projects, including a measure of overall JV effectiveness.
- An understanding of over-winter survival and fitness for JV waterfowl populations that breed or stage in the JV, but winter outside the region, to help prioritize conservation strategies within the JV.
- Determine optimum spatial arrangement of wetland types within and between waterfowl habitat including (1) inter-wetland distances, (2) juxtaposition with upland cover types such as cropland, urban areas, other human developments, and permanent grass/forest.
- Identify relationships between internal diversity (e.g., vegetation composition, basin morphology) and vegetation structure (horizontal and vertical zonation) of wetlands and use by waterfowl and other wetland bird species.
- Determine sources and effects of human disturbance on use of wetlands by staging waterfowl, including human presence/activity, water quality, pollutants, contaminants, and sedimentation.
- The importance of unmanaged wetlands and private lands to waterfowl during spring and fall migration is not well understood, and the potential role of these areas should be determined.
- Determine the effectiveness of intensively managed waterfowl areas (i.e., cost, species response, significance to population maintenance) and of various management practices to encourage an adaptive approach.
- Determine regional carrying capacity for waterfowl species of concern and compare with migration population objectives (e.g., duck-use days) to determine management priority focus.
- Migration habitat conservation targeted at waterfowl may have positive and negative influences on other species. The level of influence land managers have on “non-target” species must be determined, especially for species of concern.
- Determine potential nutritional and contaminant effects of a zebra mussel diet on diving ducks, particularly lesser scaup.

### **Population goals**

Breeding and migration population goals must be established (JV, BCR, and state level) and stated explicitly with justification for at least the focal species. We decided to use the highest average 5-year block for breeding mallards and blue-winged teal over the past 20 years as a starting point. For wood ducks, we may need to use banding data from

recent years (harvest / harvest rate) for a JV estimate. Michigan has spring estimates based on aerial surveys, but state estimates based on surveys may not be possible for other states (talk to Pam Garrettson, FWS).

Breeding waterfowl habitat is less dynamic in the Great Lakes region than the mid-continent prairie and the likelihood of significantly changing landscape cover type trends from recent years is unlikely. Moreover, the subcommittee believed that waterfowl population goals should also reflect socio-economic values, thus State DNR waterfowl experts should help refine population goals for their states. Finally, population-related goals might also include biological measurements, such as recruitment rate. This parameter is critical to population maintenance, it may be measurable through monitoring, and it is essential for population modeling.

Rather than a number of birds, migration population objectives may need to be expressed as “use days” in order to translate into habitat objectives. Migration goals (fall and spring staging) may be generated using a model similar to the 1998 JV plan for ducks and geese (TME approach developed by Mark Petrie). Wintering population goals may be established using mid-winter survey (top 5-year block) data and other state sources (Koneff’s analysis may be applicable). Koneff (FWS) generated winter distribution maps. Using that data and banding data, plus assumptions on length of stay we can generate migration use goals.

Ron, Greg, and Dave will work on this portion of the strategy.

### **Habitat goals / Focal Species**

Several species of waterfowl have been identified in the North American Waterfowl Management Plan as having “high” or “moderately high” conservation need. The species listed below require habitat conservation effort and/or improved monitoring within Waterfowl Conservation Regions (same as BCRs) that occur within the boundaries of the JV.

#### Breeding habitat need

*Mallard*

*Wood duck*

*Blue-winged teal*

*American Black Duck*

*Common Goldeneye*

*Trumpeter Swan*

*American Black Duck*

*Northern Pintail*

*Ring-necked duck*

*Wood duck*

*Lesser Scaup*

*Greater scaup*

*Canvasback*

*Bufflehead*

*Interior Canada Goose (SJB, MVP,*

*EPP, WPP)*

*Trumpeter Swan*

*Tundra Swan*

#### Non-breeding habitat need

*Mallard*

*Blue-winged teal*

*Redhead*

*Common Goldeneye*

Rather than a broad and less intensive approach on all of these species, “focal species” were identified for conservation planning. We selected species which have a high rate of occurrence and dependence on the JV region, whose habitat needs can reflect a suite of bird species, and for which life history information is relatively well understood.

Breeding: The **mallard** (generally increasing in JV) was identified as a key focal species because of the relative abundance of habitat information, including recently completed research on Great Lakes mallards. **Blue-winged teal** (generally declining in JV) and **wood ducks** (increasing) may also be useful breeding focal species. Landscape trends important to them have likely influenced some of the wading birds, landbirds, and shorebirds. Information on all three breeding species can be parameterized in a GIS format for model development.

Migration: During spring migration, **mallards** and **blue-wing teal** have very different diets, and blue-wings may have overlap with some shorebirds; both are logical migrant focal species. Diving duck species have quite different diet requirements, and nutrition during spring migration may be an important limiting factor for this group. **Canvasback** (largely herbivores) and **lesser scaup** (largely carnivores) were the divers selected for migrant focal species because they represent extremes in diet preference.

Tundra swans feed differently (submerged aquatic vegetation - SAV) in the north vs. south part of JV (SAV and fields of corn stubble and winter wheat). They may be included as a focal species. They at least deserve mention, perhaps along with the coast-loving black ducks, in the focal species narrative.

John, Greg, and Dave will refine a narrative that covers rationale for selection of focal species. Justify the reason for list how list was developed and how focal species were selected.

### **Other Discussion Items**

Abundance and distribution (range, relative density)--Distribution and relative abundance may be determined using a variety of data sources: Spring waterfowl surveys, BBS, BBA, canvasback survey, mid-winter survey, leg-band recovery distribution.

Threats (primary landscape-scale concerns)--Potential landscape-scale threats such as continued urban development, fragmentation, agricultural/conservation policy, pollution/toxins, invasive species, climate change, obstacles (towers, power lines, wind turbines), etc. should be identified for focal species during the breeding and migration periods.

Limiting factors (breeding/migration habitat factors impacting one or more vital rates)--Where parameter estimates are available, population models can be applied to help identify vital rates limiting populations of focal species. Assumption is that most ducks are limited by events that occur on the breeding grounds (probably valid for mallards and

most dabblers but perhaps not for divers). Assumption that geese (and likely swans) are limited by adult survival.

Actions and treatments--Ultimately, waterfowl breeding and non-breeding habitat objectives will be linked to population objectives via models. We need to identify habitat attributes (literature and expert opinion) for each species to be used in biological model development. Attributes must be explicit and in a GIS format.