



ONTARIO PARTNERS IN FLIGHT
Landbird Conservation Planning
BCRs 8 (Boreal Softwood Shield) &
12 (Boreal Hardwood Transition)

TECHNICAL WORKSHOP SUMMARY
Canadian Ecology Centre
October 13-15, 2004

Attendees:

Name	Organization	Role
Ken Abraham	Ministry of Natural Resources (MNR)	TAC
Gregor Beck	Ontario Nature	TAC
Peter Blancher	Bird Studies Canada (BSC)	OC
Jacques Bouvier	Wildlife Habitat Canada (WHC) – Wetland Habitat Fund	TAC
Glen Brown	Tembec Inc.	TAC
Mike Cadman	Canadian Wildlife Service (CWS)	TAC
Bill Crins	MNR	TAC
Brigitte Collins	CWS	OC
Martin Damus	CWS	TAC
Peter Davis	MNR	TAC
Gilles Falardeau	CWS Quebec Region	PIF QC
Don Fillman	CWS	TAC
Lyle Friesen	CWS	OC
Audrey Heagy	BSC	OC
George Holborn	MNR	TAC
Jean Iron	Ontario Field Ornithologists (OFO)	TAC
Eva Kennedy	MNR	TAC
Dana Kinsman	MNR	TAC
Ken McIlwrick	Canadian Forest Service (CFS) /NR Can	TAC
Marg McLaren	MNR	TAC
Don McNicol	CWS	TAC
Stephen Mills	MNR	TAC
Brian Naylor	MNR	TAC
Rob Rempel	MNR	TAC
Julie Simard	MNR	OC
Don Sutherland	MNR	TAC
Lisa Venier	CFS/NR Can	TAC

Copies of the PowerPoint presentations from this workshop are posted on the PIF Ontario website, <http://www.bsc-eoc.org/PIF/PIFOntario.html>).

1. Welcome and Introduction

John Pineau and Joyce Beam from the Canadian Ecology Centre welcomed the attendees and provided some background information on the CEC.

Julie Simard welcomed the workshop participants on behalf of the Ontario Ministry of Natural Resources, Canadian Wildlife Service and Bird Studies Canada.

Julie then described the context for the workshop within current landbird conservation planning initiatives in Ontario. Key points included:

- Partners in Flight is part of an evolving “all bird” conservation effort, known as the North American Bird Conservation Initiative or NABCI.
- The ultimate goal of NABCI is to maintain the diversity and abundance of all North American birds. In Canada, this goal will be reached through integration of the conservation efforts currently underway for: Waterfowl, Landbirds, Shorebirds and Waterbirds.
- The purpose of this workshop, and other workshops for other Bird Conservation Regions (BCRs) is to bring together past efforts and existing knowledge to establish the biological foundation for the conservation of Ontario’s landbirds.
- Successful conservation of North American’s landbirds can only occur through coordinated efforts at all levels, from international to regional and local activities. Without coordinated planning efforts at the regional level, accurate evaluation and implementation cannot occur. Collaboration is key to informing this process and we are grateful for the interest and support your organizations have shown by participating in this important effort.
- The Ontario Ministry of Natural Resources is very excited about the momentum around bird conservation planning in the province. We look forward to participating in the planning as well as in the implementation of these and other bird conservation plans as they emerge.
- Both MNR and CWS are committed to building upon existing partnerships, such as the Eastern Habitat Joint Venture, as well as establishing new partnerships to help conserve important habitats upon which many of North America’s landbirds rely.
- Bird conservation planning has significant complementary goals to many of the Ministry’s programs in such things as biodiversity conservation, forest management, and species at risk protection. Incorporating this process into other Ministry activities is an opportunity that we will seize!

All workshop participants then introduced themselves.

2. Goals of the Workshop

Julie presented the following goals for this workshop:

- Develop consensus on the priority landbirds in Bird Conservation Regions (BCRs) 8 and 12.
- Review issues facing landbirds in these BCRs and adjust threat scores.
- Decide on priority habitats that will encompass the priority landbirds and the level of specificity required.
- Propose objectives for priority landbirds and their habitats.
- If time permits, identify the main conservation actions needed to achieve these objectives.

3. Background Presentations

Several invited guests gave short presentations to familiarize the workshop participants with current research, planning, and management efforts relevant to landbird conservation planning in BCRs 8 and 12 (see PIF-Ontario web site for presentations). Topics covered included:

- North American Bird Conservation Initiative (NABCI) – Brigitte Collins (CWS)
- National Perspectives on Landbird Conservation – Martin Damus (CWS)
- Partners in Flight (PIF) Planning for North America – Peter Blancher (BSC)
- Forest Management Planning in Ontario – Dana Kinsman (MNR); Brian Naylor (MNR)
- Overview of BCRs 8 / 12 and Bird Survey Coverage in these BCRs – Audrey Heagy (BSC)
- Birds in wildlife assessment monitoring – Margaret McLaren (MNR)
- Forest bird habitat associations – Don Fillman (CWS)
- Impact of forest management on biodiversity – Lisa Venier (CFS)
- Forest management evaluation research – Rob Rempel (MNR)
- Western Boreal conservation initiative - Mike Norton (CWS-Edmonton) provided slides

4. Methodology for Identifying Priority Landbird Species in Ontario BCRs 8 & 12

Objective: Reach consensus on priority species for BCRs 8 & 12 in Ontario

Peter Blancher presented information on the PIF species assessment methods that were used to develop the draft priority species lists for each BCR (as distributed in the background material provided to workshop participants). The species assessment methods developed for the continental landbird plan are now being applied to objectively identify priority landbird species at the BCR level.

In addition to identifying priority species, some BCR plans have identified and set objectives for focal or indicator species (not necessarily conservation or stewardship priorities). This is an option for the Ontario plans.

Three of the seven vulnerability scores are assessed at the global level and, therefore, do not vary from one BCR to the next. These are: Population Size (PS), Breeding Distribution (BD) and Non-breeding Distribution (ND). The other four scores are assessed at the regional level (BCR or part thereof). Population Trend (PT) and Relative Density (RD) scores are based on regional trend and abundance data where available. Threats Breeding (TB) and Threats Non-breeding (TN) scores are developed at the BCR level by means of expert opinion to assess whether certain threats or conditions are currently affecting a species or are expected to impact the species over the next 30 years.

Participants at this workshop will be reviewing the current global threat scores for all landbirds in BCRs 8 and 12 and proposing modifications based on current and expected threats in Ontario portions of BCRs 8 and 12. Guidelines for determining Breeding Threat scores were circulated in the background material along the global threat scores for each BCR.

The modifications proposed at this workshop will be circulated to PIF Coordinators in other parts of these BCRs. Ideally, the regional threat scores proposed here will be incorporated in the central PIF database.

5. Preliminary List of Landbird Conservation Issues in BCRs 8 & 12

Before reviewing the threat scores, the TAC was asked to identify the main conservation issues facing landbirds in the Ontario portions of BCR's 8 and 12. The following issues were identified:

- Forest type conversion, e.g., decline in coniferous dominated forest in BCR 8
- Changes in forest age class structure
- Increase in forest cover and loss of grassland/old field habitats in southern part of BCR 12 due to succession and maturation of abandoned fields
- Conversion of some mixed and hardwood stands in BCR 12 to conifer, especially to increase pine and hemlock to reflect historical occurrence.
- Climate change an issue but likely will not significantly impact habitats in next 30 years
- Fire regime versus harvesting regime, likely more bird habitat available due to improved forestry practices (e.g. leaving snags, downed woody debris).
- Fire suppression has increased the potential for catastrophic fires.
- Expansion of commercial forestry further north (northern boreal initiative, through agreements with First Nations groups, many unknown effects)
- Increased pressure on private land base in southern part of BCR 12 (increase in cottage/recreation use, road network, fragmentation).
- Changes in agriculture in the clay belt area, expansion of agricultural lands, increase in croplands.
- Changes to the air sheds, increase in airborne pollutants, has direct effect on forest health due to leaching of base cations, increased smog, etc.
- Loss of structure in forests that will mature in next 30 years, especially in BCR 8 (due to previous harvesting practices that left few snags, downed woody debris, etc).
- Loss of mixed forest types.

6. Review of Threat Scores and Breeding Status for all Landbird Species in BCRs 8 & 12

The threat scores for all species were reviewed using a series of breakout groups. The breakout groups also identified those species on the preliminary lists that do not occur, or are on the periphery of their range in the Ontario portions of BCRs 8 and/or 12. The whole group then reviewed any suggested changes.

At the first breakout session all three groups reviewed the same list of 12 species selected as representative of the expected range of threat conditions. There was generally good agreement between the groups. Differences in proposed scores related to differences in opinion about future trends, e.g. there was not strong agreement on the Red-tailed Hawk threat score in BCR 12 because of a difference of opinion as to changes in amount of open habitat in the future. Some thought habitat and population would increase over time due to increase in roads and expansion of agricultural in northeastern area; whereas, some thought habitat/population would decrease due to maturation of old fields in southern part of the BCR, and some thought habitat/population would be stable. Proposed threat scores for this species therefore ranged from 1 to 3. The final recommendation was a score of 2 because the overall population is expected to remain fairly stable.

Another area where expert opinion differed was on whether intensive forest management (IFM) activities in BCR 8, particularly use of herbicides, would shorten the time period between when a stand was harvested and when it became “free to grow”. Main difference in opinion was whether the amount of habitat being subject to IFM was significant relative to amount of natural regenerating cuts and burns. TAC as a whole felt that IFM would not have a significant impact on availability of shrub habitats over the next 30 years (the decrease in shrub habitat may already have occurred).

The proposed changes to the global threat scores, along with the rationale for these changes, are documented in the spreadsheets (*TB Scores BCR 8 Nov 11 04* and *TB Scores BCR 12 Nov 11 04*). The peripheral species proposed for deletion are also flagged in the spreadsheets. Current Breeding Bird Atlas data were consulted to confirm the breeding status of several species in these BCRs.

Recommendation: Retain Golden Eagle on the breeding species list for BCR 8 even though the current status of the one known historic breeding location is not known (record is ca. 35 years old but site has not been checked since).

7. Additional Species of Regional Management Interest

The TAC reviewed the updated list of priority species for each BCR in each of the six categories or pools of priority species: continental concern, continental stewardship, regional concern, regional stewardship, federal species at risk, and provincial species at risk.

The next step was to review any additional species that are showing strong declines across a BCR, or in the Ontario portion of the BCRs, to consider whether they should be added as species of regional management interest.

BCR 8, Boreal Softwood Shield in Ontario

Unlisted species that showed strong BBS declines were reviewed first. It was noted that BBS coverage in BCR 8 is limited to the southern portion and there are relatively few (17) BBS routes in BCR 8 in Ontario.

Species with declining BBS trends, but not identified as priorities above, included:

- American Kestrel
- Gray Jay

- Red-winged Blackbird
- Dark-eyed Junco
- Brown-headed Cowbird.

Recommendation: Do not need to add any of these species to the priority list for BCR 8.

Unlisted species for which the Breeding Bird Atlas data (2001-03) indicated a strong decline and the regional threat score was moderate (3) were also reviewed:

- Common Nighthawk
- Barn Swallow
- Bank Swallow
- Cliff Swallow

Recommendation: Include aerial foraging insectivore guild as a priority suite of regional management interest for BCR 8 but do not include the relevant species individually.

Wood Thrush was also reviewed because it is on the PIF Watch List (continental concern) but excluded as it is a peripheral species in Ontario portion of BCR 8.

BCR 12, Boreal Hardwood Transition:

Recommendations and rationale for including species as of regional management interest in BCR 12 were as follows:

- **Remove Henslow's Sparrow from BCR 12 breeding list:** peripheral, only one historic breeding record.
- **Eastern Wood-Pewee became a priority species (regional concern list):** through upgrading of threat score from 2 to 3 (because of uncertainty as to cause of declines).
- **Include Northern Goshawk as of regional management concern:** majority felt threat score should be 3 rather than 2 (special breeding habitat requirements), and Atlas data indicates severe decline in past 20 years.
- **Don't add Blue-winged Warbler to priority list:** it is expanding its range in BCR 12, possibly at expense of Golden-winged Warbler.
- **Include Prairie Warbler:** majority of Canadian population is in BCR 12, and has specialized habitat requirements.
- **Include Red Crossbill:** because of specialized habitat needs and suspected widespread declines.
- **Include Common Nighthawk:** because shows a strong decline.

The revised priority species lists for the Ontario portions of BCRs 8 and 12 are presented in the *Priority Breeding Species BCR 8 Oct 22 04* and *Priority Breeding Species BCR 12 Nov 8 04* spreadsheets (along with the updated breeding scores).

8. Important Habitats for Landbirds

The objectives of this part of the workshop were to:

- *Reach consensus on priority habitat types in BCRs 8 & 12*
- *Decide whether to identify focal species in each priority habitat*
- *Reach consensus on habitat specificity needed for plans & objectives*

Peter Blancher reviewed examples of priority habitats used for other BCR plans. Factors to consider in deciding on priority habitat types and the level of habitat specificity include: the habitat needs of priority species, the availability of habitat data across the BCR, and management needs. Rob Rempel pointed out that identifying focal species would be helpful to forest management planning.

The TAC divided into two groups to develop habitat groupings for BCR 8 and 12, respectively.

BCR 8

The BCR 8 breakout group **recommendation** was that we use the “standard forest units” as the primary basis for the habitat groupings. There are some regional differences in these standard units (northeast versus northwest). The suggested habitat groupings were:

1. Upland Conifer
2. Lowland Conifer
3. Mixed Forest
4. Deciduous Forest
5. Bogs and Fens (treed or shrub-covered)
6. Open Wetlands (includes marsh, wet meadow, beaver meadow and open riparian wetlands).
7. Upland Shrub/successional habitat (5 to 20 years following disturbance)
8. Recent Clearcut (0-5 years)
9. Recent Burn (0-5 years, unsalvaged)
10. Other (generalist species with fine filter habitat requirements)

There was some discussion as to whether to lump the recent clearcut group with the shrub/successional habitat group and whether to treat the unsalvaged recent burn category as a “fine-filter” and include it in the “Other” category. So as not to lose information, they were left as separate categories.

BCR 12

The BCR 12 group developed the following habitat groupings:

1. Shrub thicket (including old field)
2. Beaver pond
3. Riparian
4. Anthropogenic
5. Cliffs
6. Rock barrens
7. Talus
8. Graminoid wetland
9. Grassland
10. Coniferous forest
 - a. Young
 - i. Young jack pine
 - b. Not young
 - i. Lowland conifer
 - ii. Upland conifer
 1. Pine (red and white)
11. Mixed forest
 - a. Young
 - b. Not young
12. Deciduous forest
 - a. Young
 - b. Not young

It was suggested that the Talus and Rock Barrens habitats could be grouped.

A species habitat matrix was developed for each BCR (see *Priority Habitats BCR 8 Oct 22 04* and *Priority Habitats BCR 12 Nov 5 04* spreadsheets).

9. Population & Habitat Objectives

Objective: *Establish a consensus on a general approach to setting objectives*

Peter Blancher provided an overview of why we want to set objectives in the BCR plans and provided examples of the types of objectives set in other plans. He presented various options for discussion including:

- How do we establish an appropriate time frame (current or historic start point)?
- The type of objectives we could set (population size, population trend, distribution target, multi-species objectives),
- The scope of species for which we set objectives (all species, priority species, focal species, indicator species, habitat obligates), and
- The geographic scales we use (full BCR, Ontario portion of BCR, sub-regional units).

Pete's presentation was followed by a general discussion of various options.

Timeframe for objectives

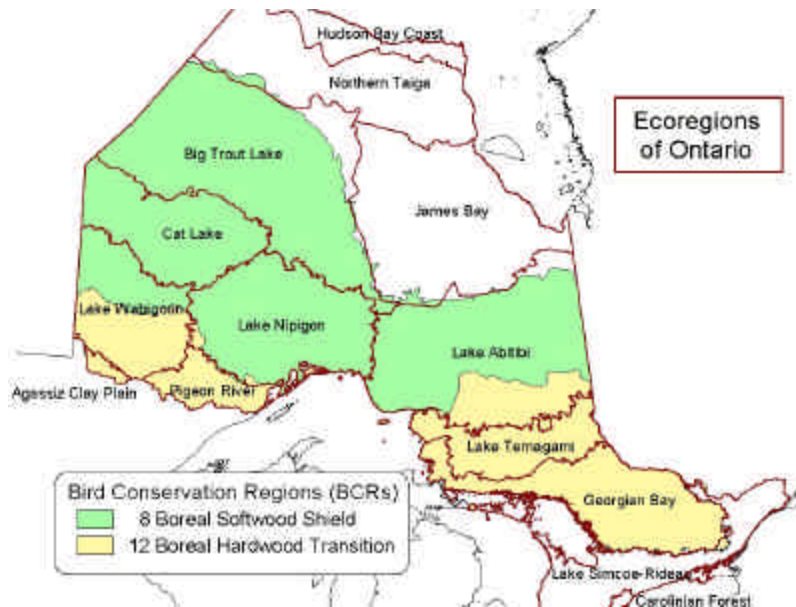
The main **recommendation** of the TAC was that rather than choosing an arbitrary point in time (such as the first Atlas period) to be the starting point, objectives should be set based on the "natural range of variability" approach. This approach fits with the current approach to setting forest management objectives that is based on emulating natural disturbance patterns. The natural variability approach is appropriate given the dynamic nature of the boreal ecosystem (high disturbance levels) and the "back to the future" approach to managing forests in BCR 12 (long-term goal is to restore historic forest types rather than maintain current state that is a result of past forestry practices rather than the natural state).

This approach will work only for those species where we can simulate historic variability. Habitat models are currently being developed by OMNR (Rempel and Naylor) for the purpose of assessing natural variability in forest habitat types over large geographic areas. It is anticipated that the information from these models could be combined with bird-habitat information to set habitat objectives for many priority species. Other approaches will be needed for some species, particularly species that are threatened by something other than forest habitat availability (e.g. grassland birds). Objectives for species at risk are set as part of the recovery strategy.

Geographic Scale

The TAC's view was that the geographic scale of the objectives should be linked to the scale of the output from the habitat models (i.e. eco-region level or larger units). Other objectives could be tied to the scale of the appropriate MNR forestry guides, especially the landscape guide.

The TAC noted that the boundary between BCRs 12 and 8 in northwestern Ontario does not match the switch between the boreal and Great Lakes forests in this area. The BCR boundary bisects the Lake Wabigoon eco-region, which is entirely boreal.



Q: What is the time frame for developing the BCRs 8 & 12 plan? A: *Within a year.*

Q: Time frame for habitat variability modeling? A: *Modelling for three regions has to be done by fall 2005.*

The timeline for completing the PIF BCR plans is shorter than the timelines for landscape guide or the natural variability models. Therefore, it may be advisable in some cases not to set a specific objective in the plan but to indicate the initial objective is to set an objective once the necessary, science-based information is available. It is important to “get it right”, rather than rush to set preliminary objectives. In absence of final results, could do most of the conceptual work and fill in the numbers when available.

The timing provides an opportunity to build the PIF priority species and objectives into the forest management guides that are being developed. These guides will be legislated.

Q: How comfortable is the TAC with setting objectives in terms of modeling range of variability?

Items raised in the ensuing discussion were:

- This is the most ecologically sound approach for species of the forested landscape.
- Good as a coarse filter; will need to set fine filter for some species, eg Red-shouldered Hawk, Cerulean Warbler.
- Good approach for stewardship species but may need different approach for species at risk, species with high threats, and species where declines are not linked to availability of breeding habitat.
- Within natural range of variability approach it may be advisable to set minimum population target in case something other than habitat is affecting population size (likely can't set population targets now, also would want to identify cause(s) of decline).
- Assumption is “build it and they will come” (as long as habitat present then birds will use it), but need to test this assumption.
- Also need to test impact of bird home range data on model outcomes.
- Even if using only habitat-based objectives we still need to monitor birds in order to evaluate outcomes of management actions.

Recommendation: Overall goal is to maintain bird populations within range of natural variability. Two-pronged approach is necessary. For most priority species, will use habitat variability models to set habitat objectives (prescriptive) but one of the ways to measure effectiveness will be bird monitoring (evaluative indicators). There is a need for an order of magnitude population estimates, but not necessarily as part of the objective.

The natural disturbance habitat model uses land cover information as a starting point and the output will also be land cover types at a broad-scale landscape level. The model will provide information on natural variability in habitat types but not in terms of bird numbers. Will need to incorporate additional data (habitat associations, breeding densities, singing males versus breeders, etc) to translate into bird populations.

10. Review of Proposed Approach to Setting Objectives

At the start of the Friday morning session we reviewed the outcomes of the Thursday afternoon discussions on setting objectives. This review confirmed that TAC felt that most priority species can be covered by a coarse-filter, landscape-level approach but that some species need fine-filter approach at various scales. Recommendation: only use fine-filter approach for those species that really require this level of detail.

Explanation of the Coarse and Fine Filter Approach: MNR has recently begun to apply the coarse and fine filter approach to biodiversity conservation in developing forest management guidelines. Coarse filter guidelines (e.g. natural disturbance pattern guide) capture the requirements of a broad array of species by maintaining a broad array of forest conditions and supporting ecosystem processes. Fine filter guidelines are needed for species with particular, specialized requirements. Both the coarse and fine filter can operate at a variety of spatial scales, including the landscape, stand and site levels. For example, coarse filter guidelines for residual trees, snags and downed woody debris (site level features) could provide for the ongoing needs of terrestrial salamanders and benefit a variety of other species. Fine filters are needed for species at risk (e.g. protecting Bald Eagle nests at specific sites, maintaining Red-shouldered Hawk habitat across the landscape) and for species with specific habitat needs, such as species formerly considered “featured species” (e.g. Pileated Woodpecker habitat supply at landscape level, Osprey nests at site level).

11. Setting Objectives for Species that Require a Fine-Filter Approach

Which species require a fine -filter approach?

Birds not covered by the coarse-filter, natural variation habitat modeling approach include:

- species at risk (SAR process will set objectives for all species at risk within 5 years, either in recovery strategy or action plan)
- grassland species (found only in agricultural areas, and in old fields in BCR 12)
- graminoid wetland species (specialized habitat type not tracked in forest habitat model)
- rock barren specialists (specialized habitat type not tracked in forest habitat model)

The priority species requiring a fine filter approach at various spatial scales are indicated in the attached Priority Habitat spreadsheet for each BCR.

How to set objectives for species not covered by general habitat variability approach?

The TAC was not particularly comfortable with relying on BBS or Atlas data to set a baseline for population or distribution objectives, especially in BCR 8. **Recommended conservation action: Need a better bird monitoring program, especially for BCR 8.**

Other points raised included:

- The appropriate timeframe will depend on the nature of the threat that affects a particular species
- It is very difficult to set habitat-based objectives for species if breeding habitat is not managed, if landscape configuration is a concern, or if habitat needs vary over time (i.e. need to know if something is happening on the wintering ground so know where to take action).

As a starting point for further discussion, the needs of the priority species in each habitat setting were considered:

- For wetland species such as Olive-sided Flycatcher the problem may be elsewhere, i.e. wintering grounds. Do we want to set objectives for things we can't control?
- For grassland birds, the general **recommendation** was that it is not necessary to set an objective in either BCR except for species at risk (because not concerned about amount of anthropogenic grassland habitats and natural grassland habitats considered fairly stable and can't measure it):
 - Bobolink is the only species that is dependent on anthropogenic grasslands.
Recommendation: no special management for Bobolink in BCR 12, let population vary with habitat availability rather than try and manipulate habitat to maintain this species at recent levels
- For the shrub/thicket guild in BCR 12 (e.g. BRTH, FISP, GWWA, etc) may not need to set objectives for all species but may want to set objectives for particular species including:
 - **Recommendation:** A substantial portion of the Golden-winged Warbler population is in Ontario portion of BCR 12; therefore, we may want to set an objective for this continental Watch List species.
 - **Recommendation:** Field Sparrow occurs in both anthropogenic old fields and in rock barren habitats. Rock barrens habitat is a natural, fire-dependent habitat type and this species could be useful as an indicator/focal species for that threatened (by fire suppression) habitat. Therefore may want to set an objective for Field Sparrow.

We then broke into two groups to discuss setting objectives for priority species in each BCR that require a fine-filter approach.

BCR 8

Research and Monitoring Need: Need to increase bird monitoring in BCR 8. Also need information on species-habitat associations.

Examples of Fine-Filter objectives for priority species

Belted Kingfisher:

- Set objective based on data from Black Duck Surveys (reports #/sq km), best available data.
- **Proposed Objective:** No fewer Belted Kingfishers reported than in 1980 (start of surveys) in each Ecoregion for which sufficient data are available.

Short-eared Owl:

- data not adequate to set specific objective
- **Proposed Objective:** Determine distribution and population trend for Short-eared Owls in BCR8

Purple Finch:

- difficult to monitor because nomadic movements, may be present but not breeding
- **Proposed Objective:** Purple Finch population indices no lower than current level as indicated by Atlas, BBS and/or Project Feederwatch data.

Bald Eagle:

- **Proposed Objective:** Bald Eagle population indices no lower than current level as measured by waterfowl surveys, hawk migration counts and Atlas (long-term objective)

Boreal Chickadee

- wintering habitat needs may be limiting factor
- **Proposed Objective:** Boreal Chickadee population index no lower than current level as measured by Forest Bird Monitoring Program surveys. Research Need: Determine why Boreal Chickadee populations have declined.

Connecticut Warbler

- Ecology in the northwestern Ontario different than in northeastern Ontario, therefore set objectives for each eco-region
- **Proposed Objective:** no decline from current levels.

Bay-breasted Warbler:

- covered by general habitat approach; don't need to set an objective

BCR 12

Available bird data:

- BBS data in BCR 12 might be ok to use for setting and measuring trend objectives for most species (sufficient number of routes are being run).
- If both BBS and Atlas show same trend then have much greater confidence in trend.
- **Research need:** How to determine natural bounds of variation by guild, e.g. aerial foragers?

Lot of discussion but no resolution on how to set objectives for grassland birds in BCR 12. **General recommendation: maintain grassland birds in rural parts of BCR 12.** Rationale is that remaining grasslands in Clay Belt areas will be there for a long time and want to maintain grassland birds where habitat is available. **Recommended conservation action: encourage Best Management Practices (BMPs) for grassland birds in agricultural areas.** However, where former grasslands are reverting to forest then want to encourage that conversion. One problem is that there is no easy way to measure grassland habitat availability. Landsat "open" category may be a suitable proxy that could be measured. Need to be able to link population trend with habitat availability.

12. Bird Monitoring Needs for Evaluating Objectives**What kinds of bird/habitat data do we need to make links between habitat modeling and birds?**

- Sufficient quality data to build models but will need additional data in future to validate the models.
- Require research to determine landscape relationships (**Research and Monitoring Need**)
- Need geo-referenced bird data points with habitat data from these points.
- Points need to be stratified to habitat types on the ground (there is a lot of stratified bird data but mostly along roadside other biases)

Recommendation: Use ecoregion as the appropriate geographic scale for looking at the range of natural variation. Within MNR, the question of how to apportion eco-regional targets to eco-district or stand/site levels is still being debated.

Recommendation: Once the results of the habitat forecasting models are available may want to change the threat scores. Threat scores based on expert opinion are a temporary solution for predictive models that we do not yet have.

13. Workshop Wrap Up

- We will get back to workshop participants in near future with summary of workshop, updated scores and updated lists of priority species. This will be followed by a comment and feedback period.
- The outcomes of this workshop, especially the updated threat scores, will be forwarded to PIF Coordinators in other parts of BCRs 8 and 12 for comment. It is hoped that the Ontario input on scores will be reflected in the continental PIF database.
- We welcome your thoughts and suggestions about the workshop and plan development process.
- Next Steps:
 - Will use the direction provided by the TAC at this workshop to update scores and priority lists and start to develop preliminary objectives. Will attempt to fill in the gaps for species not covered during the workshop (due to time constraints).
 - At this point, it is not clear whether we will need to hold a second TAC workshop for these BCRs (as was done in BCR 13).
- Thanks go to MNR and CWS for providing the breakfasts and lunches.

Recommendation: Provide the TAC with a timeline for the completion of these plans.