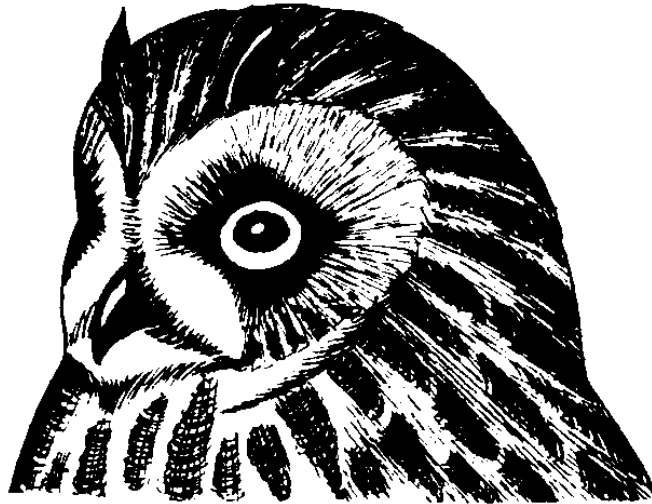


Palouse Audubon Society Conservation Plan

Adopted Spring 2003



Conservation Mission Statement

To promote the conservation, improvement, and restoration of wildlife habitat in our region through public outreach, wildlife population and habitat assessments, and promoting land and resource management practices that will sustain PAS conservation goals for the long term

**Palouse Chapter of the Audubon Society
Pullman, WA - Moscow, ID**

Introduction

The Palouse Audubon Society has been serving the Palouse region of North Central Idaho and Eastern Washington since 1973. Our chapter, headquartered in Moscow, Idaho, has a membership of nearly 400 people enjoying our national heritage of songbirds and wildlife. We share both the opportunities to observe songbirds and other wildlife as well as our concerns about their continued survival.

The Palouse Audubon Society is attempting to raise the level of public awareness for

- Wild Birds of all types
- Birds and Wildlife of special concern
- Habitat needs for wild birds and animals

Although all PAS activities have the ultimate purpose of contributing to the conservation of wildlife and the habitats upon which they depend, this document is intended to cover PAS activities more directly involved in conservation that don't otherwise come under the chapter functions of education, membership, field trips, public programs, or administration. This document will outline plans to conduct conservation activities such as direct habitat enhancement for wildlife, agreements with other parties to provide for wildlife habitat, projects to monitor wildlife population trends, comment on agency resource management plans, and public position statements on important conservation issues in our area.

Changes in Local Landscapes and Avian Communities

The Palouse Audubon's geographic area includes all of the Palouse ecoregion, and portions of three other ecoregions: the Intermountain Semidesert (extreme northwestern and western Whitman county and eastern Adams county, Washington), the Middle Rocky Mountains (the Clearwater River Basin south of the Lochsa River, the Salmon River basin below Riggins, and the Snake River Basin between the mouth of the Salmon River and Little Goose Dam), and the Northern Rocky Mountains (the Clearwater River Basin north of the Lochsa River, and southern parts of the St. Maries, and St. Joe River basins) (Baily 1995).

Major conservation themes in each ecoregion include the preservation and restoration of shrub-steppe in the PAS portion of the Intermountain Semidesert, preservation of the last remnants of Palouse Prairie, restoration of riparian areas, addressing forest health issues such as lack of landscape-scale habitat heterogeneity.

One example of a forest health - habitat issue is the demise of white bark pine. White bark pine is a major tree species at timberline in the Bitterroot Mountains. It is currently in dramatic decline from disease, including white pine blister rust, and perhaps other causes. Since the Clark's Nutcracker is largely dependent on whitebark pine for food (seed cones), the tree's demise is a concern for the maintenance of Clark's Nutcracker populations.

The Palouse prairie is considered one of the most endangered ecosystems in the United States (Black et al. 2000). It is estimated that less than 1% of the original Palouse

grasslands remain (Black et al. 2000). Of the forests existing on the Palouse in 1900, 21% have been converted to agricultural or urban uses (Black et al. 2000). The demise of the prairie happened soon after Euro-American settlement in the 1860s, with most of the native prairie gone by 1900 (Black et al. 2000). Changes in agricultural technology accelerated the demise of the remaining prairie after 1900, and especially after 1930 when horses and mules were replaced with tractors.

The change from native bunch grass to cultivated wheat and barley sealed the fate of Sharp-tail Grouse and white-tail jack rabbit which are rarely ever found on the Palouse today, as well as the Ferruginous Hawk which has declined dramatically in abundance (Black et al. 2000). At the same time, exotic gallinaceous birds introduced to provide game for hunters have increased in abundance (Grey Partridge, Chukar Partridge, and Ring-neck Pheasant).

Given the homogenous habitat structure of much of the Palouse wheat country, some suburban home site development in this biome may actually increase wildlife diversity. For example, a study done on a 6ha yard of a homeowner on the Palouse who converted land from wheat fields to wildlife habitat recorded an increase from 18 to 86 bird species over a 10-year period (Ratti and Scott 1991). Therefore, unlike many areas in the west experiencing loss of wildlife and wildlife habitat due to rapid suburbanization, suburbanization may actually benefit wildlife on the Palouse (Ratti and Scott 1991). However, these habitat changes will not necessarily favor species native to the original bunch grass communities, one example being the construction of ponds by many homeowners and the consequent increase in the exotic who prey on indigenous amphibians such as the rare spotted frog (Monello and Wright 1997 in Black et al. 2000). Also, increased human population and affluence will increase pressure on water and nearby public lands.

Past and Ongoing Efforts at Non-Game Conservation in the Area

Palouse Audubon sponsors an annual nest box building program in cooperation with the Moscow Parks and Recreation Department. Members also monitor bluebird nest boxes for clutch success and usage during the nesting season. Both Western and Mountain Bluebirds reproduce in the region. One of the goals is to keep track of the activity at each nest box.

Monitoring Avian Population and Survivorship (MAPS) is another ongoing project. This project is being conducted cooperatively with the Idaho Department of Fish and Game and Potlatch Corporation. PAS is also assisting monitoring of shorebirds at Mann Lake near Lewiston. In addition, members regularly participate in the North American Breeding Bird Survey each year.

Current Conservation Needs, Opportunities, and Priorities

Private Lands and Wildlife Conservation

Roughly 70% of the nation's land area is privately owned (30% in Idaho and approximately 60% of the PAS region). Most of the nation's biodiversity and half the nation's endangered species depend on private land for at least 80% of their habitat (Smith 2001; Schaffer et al. 2002; Knight 1999). These private lands are currently under

rapid development, especially in the mountain West (Jensen 2001; Deseret News 2001), which had the highest growth rate in the US during the 1990s at 25.4% (Hansen et al. 2002). Suburban sprawl is recognized as the most serious threat to wildlife conservation in the United States (Main et al. 1999; EPA 2001).

Just as Americans “mined” the Old West through logging, livestock grazing, and mining ..., they might be mining the New West through rural sprawl and extravagant recreational activity (Hansen et al. 2002, 160).

... sprawling subdivisions and ranchettes are replacing natural habitats and agricultural lands. At the same time, rates of recreational activity along rivers, in forests, and on backcountry trails are soaring (Laitos and Carr 1999), with native wildlife being displaced as a result (Miller et al. 1998) (in Hansen et al. 2002, 152).

A study of the ecological impacts of residential development in the Greater Yellowstone Ecosystem (GYE) found that the proportion of land occupied by urban areas increased by 348%, and rural residential development (RRD) increased by more than 400% since the mid 1970s; that 67% of bird “hotspots” were within 6km of private land while only 6.5% were in nature reserves, with home densities within 2km of bird hotspots being 67% higher than they were on random locations on private lands; densities of avian nest predators were positively correlated with home density leading to the conclusion that these areas were population sinks for yellow warblers; and that overall human-induced mortality rates on grizzlies has grown dramatically to record levels in the last few years (Hansen et al. 2002).

Although the "hyper-growth" occurring in much of the west has not yet happened in the Palouse-Clearwater region, it is likely. Farming, ranching, and timbering are becoming less and less economically viable, and highways 95 and 195 are being improved to provide easy access to the Spokane – Coeur d’Alene metropolitan area and I-90. As mentioned, this may not have a detrimental affect to much of the Palouse (as far as wildlife habitat is concerned), it does have significant consequences for the Snake, Salmon, and Clearwater River break-lands (already under increasing development), and in private timber-lands bordering the National Forests. Potlatch Corporation in Idaho and Plum Creek in Montana are already selling off their forest lands to housing development. These timber lands, and others like them, provide millions of acres of wildlife habitat in the Northwest and absorb a great deal of outdoor recreation demand that would otherwise accrue to public lands – particularly hunting pressure and motorized recreation. Similarly, small non-industrial private land owners, when faced with greatly appreciating real estate values combined with low prices for timber, cattle, and agricultural crops combined with increasing environmental restrictions, are under increasing pressure to subdivide (Wear and Greis 2001).

The American Farmland Trust estimates that over 5 million acres of ranchlands are in eminent threat of residential development in Idaho, and another 5 million acres in Montana. Idaho County is ranked in the top 25 most threatened counties in the west from residential development. The signs of this are already evident in the subdivisions going in along the Salmon River and Middle Fork Clearwater Rivers. These lower elevation

lands along major water courses are rich in biodiversity, provide important wintering habitat for wildlife, and pose the potential for significant impacts on water quality.

The rapid development of private lands is largely overlooked by most of the environmental community, which continues to focus almost exclusively on public land issues. This is one area where perhaps PAS can take a leadership role in drawing attention to this increasingly serious threat to wildlife conservation. Although traditional land use practices have been detrimental to some species of fish and wildlife, subdivisions, malls, and the large amounts of pavement and permanent habitat destruction that go with them, would be much worse.

Conservation of important habitat areas on private lands can be achieved through various mechanisms, such as: education and outreach to land owners, supporting development of more profitable and ecologically sensitive means of resource extraction, land trusts and conservation easement acquisition, and supporting property tax appraisals that take into account current land use as well as the public benefits provided by the provision of open-space and wildlife habitat.

Threatened Habitat Types

Andelman and Stock (1994a, 1994b) in Saab and Rich (1997) outline three major criteria to evaluate habitat conservation priorities for terrestrial bird species:

- 1) habitats which support the highest percentage of declining species
- 2) habitats with species sensitive to management (disturbance) activities
- 3) habitats vulnerable to loss, degradation or conversion

Habitats in the Interior Columbia Basin with the greatest percentage of declining species: grassland, shrub-steppe, juniper, alpine, marshes and ponds, and meadows (Saab and Rich 1997). Wildlife species sensitive to management in our area include Harlequin Duck, Goshawk, Mountain Quail, and White-headed Woodpeckers. And habitats vulnerable to loss, degradation or conversion in our area would include remaining shrub-steppe and Palouse Prairie, open ponderosa pine stands with old growth characteristics, uneven age forest structure at both the stand and landscape scale, break-land and forest habitats vulnerable to development.

The most threatened avian habitats in the Columbia basin are shrub-step/grassland, riparian, and open, old growth, ponderosa pine forests (Saab and Rich 1997). Overall, species that nest in the shrub layer show a decreasing trend, while canopy nesters are on the increase. It is possible that fire suppression and the resulting development of closed canopy stands are a major cause of this trend.

Threatened habitats in the Palouse region (Saab and Rich 1997) include:

- Shrub-Steppe
- Freshwater marshes and ponds
- Riparian areas
- Ponderosa pine forests with old growth characteristics (greatest decline of all forest habitats in interior basin) and open mature and post-fire forests (e.g. Lewis woodpecker)
- Native Palouse grasslands

Bird Species of Conservation Concern

The following is a list of neotropical migratory land birds of special conservation concern within the Palouse Audubon area (Saab and Rich 1997):

Flammulated owls
 Western screech owl
 Mountain quail
 White headed woodpecker
 Olive sided flycatcher**
 Willow flycatcher*
 Brewers sparrow**
 Calliope hummingbird
 Western meadowlark*
 Horned lark
 Lark sparrow*
 Veery
 Catbird*
 Marsh wren
 Least flycatcher
 Black-throated sparrow
 Rufous hummingbird***
 Lewis's woodpecker*
 Bobolink
 Hermit warbler
 Pine siskin*
 Brewers Blackbird*
 Loggerhead Shrike*
 Red-winged Blackbird**
 White-crowned Sparrow***
 Rock Wren***
 Western Bluebird***
 Yellow Warbler*
 Red-tailed hawk*
 House wren*
 Spotted towhee**
 Black-headed grosbeak*
 Orange-crowned warbler*
 Mountain bluebird*
 Killdeer*

* = declining in the Interior Columbia Basin

** = declining range-wide

*** = declining populations at one or more regional scales across North America.

Saab and Rich (1997) provide a list of all neotropical migratory land birds breeding in the Interior Columbia Basin grouped by habitat association in Appendix 1, beginning on page 26.

Conservation Opportunities

Currently, PAS has a relatively small active membership, with most also actively pursuing careers or with family commitments and obligations. Consequently, there are very limited resources that PAS can devote to any conservation issue, much less maintain a dominant role on all of the numerous wildlife issues affecting our area. However, it is important to attempt to take an inventory of the major conservation issues that PAS could potentially become involved with assuming sufficient resources. In this way we can measure our progress, assign priorities, and gauge how far we need to go to engage more active membership. The following represents a tentative list of potential activities, assuredly incomplete, that we could consider and add to in order to strategize the activities and priorities of our conservation program. Those activities followed by an asterisk are ones that the Conservation Committee suggests for implementation at the present time, or in the immediate future.

- Long-term monitoring of bird species/abundance and habitat changes on selected habitat sites
- Locate and nominate worthy sites for the Idaho Important Bird Area list
- Develop an inventory of areas that are locally important for avian conservation, whether or not they qualify as official IBA sites*
- Work with private land owners to provide non-game habitat such as forest management practices that will restore native ponderosa pine forest and species such as Mountain Quail and the White-headed Woodpecker.
- Apply for conservation project grants to conduct studies and non-game education and public involvement programs
- Participate in Cornell lab cooperative studies
- Maintain a regular “Conservation News” segment to the PAS web page*
- Review and make comments to land management agencies on important conservation issues affecting the area*
- Continue development of the PAS Conservation Strategic Plan*
- Publish articles and commentary on local conservation issues in the PAS newsletter and the local press*
- Provide an award of recognition for local land owners who do an outstanding job of maintaining wildlife habitat on their land

Long-Term Avian Monitoring

Long-term avian population trend monitoring is important for detecting species population declines, range changes, and effects of landscape-level habitat alterations. This effort is taking on greater importance today as climate change models forecast significant warming in the next 50 – 100 years, with potentially dramatic effects on the ranges of many wildlife species, including birds (USGS 2001). Local habitat monitoring would supplement the Breeding Bird Survey by providing fine scale information on habitat use, phenology of habitat preferences, and migration timing and extent not only in local areas but at regional and national scales if local monitoring is adopted elsewhere as

envisioned by the West-wide All-bird Monitoring and Assessment Program (WAMP) (Bart et al. 2001).

PAS can contribute to this effort by accumulating long-term avian occurrence and abundance data at important bird habitat areas in our region. It is hoped that enough PAS volunteers will come forward to adopt monitoring sites that a good representative sample of the habitats in our region will be represented. A protocol for PAS volunteers to use on their “adopted” site is provided in Appendix 2 along with references. Areas that have been discussed as potential candidates for monitoring sites include: Kamiak Butte, Mary Minerva McCroskey Memorial State Park (Skyline Drive), Paradise Creek stream restoration sites, and Phillips Farm. Such efforts may also result in the data required to document areas for inclusion in the Important Bird Areas inventory.

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Appendices

Appendix I

Priority Bird Conservation Areas DRAFT

The following is a “list in progress” of areas that may, or are known to, provide important avian habitat on the Palouse. Complete important species information for each site is lacking as is other site specific information. It is the intention of PAS to continue to update and revise this list and provide more complete site specific information and species occurrences as they become available. By maintaining lists and numbers of species present in different habitats around the Palouse-Clearwater region, we can provide more informed input on land use changes and suggestions for nomination as IBAs.

Smoot Hill – Rose Creek, Whitman Co.

Location: [Map/GPS coordinates]

Ownership: Nature Conservancy / WSU ??

Habitat: riparian, Palouse Prairie, P.Pine

Significant bird species present:

Other species of concern present:

Approximate size:

Habitat/Conservation Issues:

Ongoing Monitoring/Projects:

Kamiak Butte, Whitman Co.

Ownership: County

Habitat: Palouse Prairie, P.Pine, and Doug Fir/Grand fir forest

Significant bird species present:

Other species of concern present:

Approximate size:

Habitat/Conservation issues:

Ongoing Monitoring/Projects:

Steptoe Butte, Whitman Co.

Ownership: County

Habitat: Palouse Prairie, P.Pine, Hawthorn

Significant bird species present:

Other species of concern present:

Approximate size:

Habitat/Conservation issues:

Ongoing Monitoring/Projects:

Texas Lake, Whitman Co.Ownership: PrivateHabitat: Scabland LakeSignificant bird species present:Other species of concern present:Approximate size:Habitat/Conservation issues:Ongoing Monitoring/Projects:**Rock Lake**, Whitman Co.Ownership: Private, stateHabitat: Scabland LakeSignificant bird species present:Other species of concern present:Approximate size:Habitat/Conservation issues:Ongoing Monitoring/Projects:**Reviere Ranch**, Whitman Co.Ownership: stateHabitat: Rock Creek, scabland, cultivated farm landSignificant bird species present:Other species of concern present:Approximate size:Habitat/Conservation issues:Ongoing Monitoring/Projects:**BLM Land Purchase**, Whitman and Adams Co.Ownership: BLMHabitat: Rock Creek, scabland, previously cultivated farm landSignificant bird species present:Other species of concern present:Approximate size:Habitat/Conservation issues:Ongoing Monitoring/Projects:**Palouse River Corridor**, Latah, Whitman, and Adams CountiesOwnership: PrivateHabitat: Riparian, wetlands, P.Pine – Doug Fir forests, basalt cliffs, Palouse Prairie, cultivated farm landSignificant bird species present:Other species of concern present:Approximate size:Habitat/Conservation issues:Ongoing Monitoring/Projects:

Silver Springs, Whitman Co.Ownership: ?Habitat: Riparian, wetlands, lake, P.Pine – Doug Fir forests,Significant bird species present:Other species of concern present:Approximate size:Habitat/Conservation issues:Ongoing Monitoring/Projects:**Silver Creek**, Whitman Co.Ownership: PrivateHabitat: Riparian, wetlands, hawthorn, P.PineSignificant bird species present:Other species of concern present:Approximate size:Habitat/Conservation issues:Ongoing Monitoring/Projects:**Steptoe Canyon**, Whitman Co.Ownership: PrivateHabitat: Riparian, hawthorn, basalt canyonSignificant bird species present:Other species of concern present:Approximate size:Habitat/Conservation issues:Ongoing Monitoring/Projects:**Paradise Ridge**, Latah Co.Ownership: PrivateHabitat: P.Pine forest (south face) – Doug Fir/Grand fir (north face), Palouse PrairieSignificant bird species present:Other species of concern present:Approximate size:Habitat/Conservation issues:Ongoing Monitoring/Projects:**Craig Mtn.**, Nez Perce Co.Ownership: Private, state, tribalHabitat: Mixed Conifer Forests, P. Pine, Snake River breaks grassland, wetlands, meadowsSignificant bird species present:Other species of concern present:Approximate size:Habitat/Conservation issues:Ongoing Monitoring/Projects:

Mary McCrosky State Park, Latah and Benewah Co.sOwnership: Private, state, tribalHabitat: Mixed Conifer Forests, P. Pine, Snake River breaks grassland, wetlands, meadowsSignificant bird species present:Other species of concern present:Approximate size:Habitat/Conservation issues:Ongoing Monitoring/Projects:**Moscow Mtn.**, Latah Co.Ownership: Private (mixed, timber Co.) state, USFSHabitat: mixed low to mid elevation conifer forest, cedar grovesSignificant bird species present:Other species of concern present:Approximate size:Habitat/Conservation issues:Ongoing Monitoring/Projects:**Big Meadow Creek**, Latah Co.Ownership: Private (mixed, timber Co.) state, USFSHabitat: mixed low to mid elevation conifer forest, riparian, wetlands, riparian cedar grovesSignificant bird species present: willow flycatchersOther species of concern present:Approximate size:Habitat/Conservation issues:Ongoing Monitoring/Projects:**Paradise Creek**, Latah and Whitman Co.Ownership: PrivateHabitat: riparian, hawthorn, wetlands, meadowsSignificant bird species present:Other species of concern present:Approximate size:Habitat/Conservation issues:Ongoing Monitoring/Projects:**McGregor Lakes**, Whitman CountyOwnership: PrivateHabitat: riparian, hawthorn, wetlands, meadowsSignificant bird species present:Other species of concern present:Approximate size:Habitat/Conservation issues:

Appendix – II

The following protocol is adapted from *Handbook of Field Methods for Monitoring Landbirds* (Ralph et al. 1993), USDA Forest Service Technical Report PSW-GTR-144, Pacific Southwest Research Station; and *A Habitat-Based Point-Count Protocol for Terrestrial Birds, Emphasizing Washington and Oregon* (Huff et al. 2000), USDA Forest Service Technical Report PNW-GTR-501, Pacific Northwest Research Station.

At the highest scale of organization a set of sites or locations should be selected as a sample of the avian habitat associations of a particular region (e.g. the Palouse, or Palouse-Clearwater). Site or location means and area within which intensive point count protocols will be conducted (e.g. Kamiak Butte, Skyline Drive). Within each site, multiple counting stations are selected from which individual point counts are conducted (e.g. stations could be located at points every 500 meters along the Skyline Drive). PAS volunteer(s) select one site to take responsibility for monitoring year-round.* Each volunteer is responsible for setting up counting stations and entering data onto forms and electronic spreadsheets. Monitoring sites should take into account the time and predilections of the volunteer and the potential importance of the habitat and possible bird species present.

Monitoring sites should be larger than 16 hectares (39.5 acres), have a reasonable chance of being protected from development for the next 50 – 100 years, be able to support at least 5 point count stations no closer than 150 meters apart (walking routes) or 250 meters apart (driving route). Sites that could accommodate 250 meters separation for walking counts and 500 meters separation for driving counts are ideal. The site should be of a size and distance from volunteer's residence that it does not impose an inordinate time and expense burden and thus decrease the likelihood that monitoring will be conducted on a regular and long-term basis. Most importantly, volunteers must get permission from the land owner to conduct the monitoring and permanently mark counting stations.

Once a site is selected, or narrowed to a few sites under consideration, small-scale topographic maps and aerial photographs of the site can be obtained to further evaluate its suitability for monitoring and lay out counting stations. These materials are available at the Idaho Bureau of Mines office on the U of I campus and USGS map office in Spokane. Aerial photographs are available from the NRCS and USFS. With funding, it is possible that detailed GIS maps could be made for each adopted site.

Once detailed photos and maps of the site are obtained, counting stations should evenly cover the site (minimum of 5 stations separated the required distance) such as in a grid pattern, or at equal distance along a road or trail through the site. Counting stations can be selected by choosing the location of the first site near the site's access point and then laying out subsequent sites along the route at the required distances (all distances should be the same, unless there is an obstruction at the selected counting station). All count stations should be no closer than 125 meters from the edge of the site boundary (e.g. edge of Kamiak Butte forest and wheat field).

Counts at each station should be conducted on a regular schedule during the year or the season chosen for monitoring. Counting dates should be the same, or nearly the same, from year to year and should not be any closer together than 7-10 days or be made

on days of bad weather when an accurate count would be impossible. Also, once a count at a location has been started all counting stations must be counted or the trip is invalid and will have to be repeated on another day. Counts should begin at dawn chorus and go no later than 10:00 AM.

Counting locations are ground-truthed after selecting on maps and photos of the site with GPS coordinates (if available) recorded for each counting station. A piece of rebar or other permanent marker is used to mark each counting station. A detailed hand drawn map of each site or counting route showing the location of each counting station and major habitat areas is made as a permanent record. Counting stations for linear habitats such as riparian areas along Paradise Creek can be either be done by laying out 100m long transects along streams in which all birds are counted, or selecting a .8Km-long "site(s)" along the creek, each of which would have 5 counting stations 150m apart.

Counts at each station are approximately 10 minutes, with counts during the first 3 minutes noted separately (for comparison with BBS). All birds seen or heard from the counting station are recorded (optional: volunteers can mark off a 50-meter radius around the counting station and record birds separately within vs. outside the 50m circle if they choose). "Flyovers" are kept in a separate category if not associated with the count area. Birds are not to be counted twice either at the same or different stations.

All data is recorded on field data forms and entered into a standardized spreadsheet (Excel) format (or into a palm pilot in the field). This allows consistent data compilation and analysis among all sites in the PAS area. Protocols, count locations, and maps of each site become part of the Appendices to this plan. An example data form follows.

*Volunteers may choose how many months, and what season, to monitor their site during the year. Counts during the breeding season to coincide with the Breeding Bird Survey would give more detailed information on the abundance and distribution of breeders. Counts conducted at other seasons or throughout the year would provide data on latitudinal and elevational migration phenology as well as the importance of particular habitats for migrants. If detailed monitoring is eventually conducted over wide areas of the country or region, counts during the migration seasons may also provide more detailed knowledge of migration corridors of some species. Assuming long term monitoring of these sites and impending climate change (and other large scale environmental perturbations), these data would be invaluable for documenting changes in migration and range for both summer and winter residents.

Example of Point Count Data Form (adapted from Huff et al. 2000):

Point Count Data Form (VER. 4/27/00)		Page: of:
DATE		FIELD NOTES:
OBSERVER:	SITE NAME	
STATE:	VISIT NUMBER:	
PROVINCE:	WEATHER:	
AREA ID:	WIND:	

S T N #	START TIME	SPP. CODE	<i>TYPICAL DETECTION</i>				<i>FLYOVERS</i>				J U V	F L U S H	FIELD NOTES
			0 to 50m		> 50m		ASSOC.		IND.		CNT	CN T	
			0-3 MIN	3-10 MIN	0-3 MIN	3-10 MIN	0-3 MIN	3-10 MIN	0-3 MIN	3-10 MIN			