Camas National Wildlife Refuge *NEWSLETTER!*

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Camas National Wildlife Refuge is 36 miles north of Idaho Falls on I-15. Exit at Hamer and follow signs east, north, and west over I-15 to the refuge, about 5 miles. The mailing address is 2150 E 2350 N, Hamer, Idaho 83425. Refuge Headquarters phone is 208-662-5423.

The Migratory Landbird Research project, conducted by Dr. Jay Carlisle and research team through Idaho Bird Observatory and funded by collaboration of several generous entities, came to a very successful completion for the fall 2005 migration in October. On November 30, a meeting was held at Camas NWR including many interested participants representing many agencies including USFWS, Idaho Fish and Game, Idaho Bird Observatory, and representatives of Portneuf Valley Audubon Society and other interested parties. A summary paper was presented by Dr. Carlisle. Idaho Bird Observatory also published a summary of the research findings prepared by Dr. Carlisle and associates in the *Boise Ridge Notes* Volume 7 Number 1 for Winter 2006. Space limitations prevent inclusion of the entire paper with data here, but copies of this material can be obtained from Camas National Wildlife Refuge through Manager Rob Larrañaga or from Idaho Bird Observatory. These are highlights of the history and conclusions of this valuable study from Jay Carlisle's paper:

Background for Camas NWR project: Eastern Idaho birders have utilized the wooded area at Camas NWR as a migration hotspot for decades. In particular, increased birding attention in the past decade has resulted in many findings of birds unusual or never previously documented in Idaho in addition to the many regular species occurring in impressive numbers. Also, part of the impetus for this project stems from a long-lasting drought in the region that has resulted in low stream flows along Camas Creek – the main source of water for the refuge. In the last six years, this has resulted in extensive mortality of mature trees in the refuge headquarters area. Thus, since starting his tenure at Camas NWR almost two years ago, refuge manager Rob Larrañaga has worked to increase watering of trees in an effort to maintain the habitat quality for woodland migrants at the refuge. Also, some effort towards establishing more native shrub and tree species (over 400 planted in spring of 2005), and possibly replacing exotic species, has begun. However, little is known about the extent of landbird migration passing through the refuge (or the region in general) or their energetic condition during migration. Thus, gathering baseline data on the abundance of migrants stopping over and their condition may help to guide management at the refuge in addition to contributing to a greater understanding of regional migration patterns.

During October of 2004, several biologists within Idaho were assembled to discuss options for songbird monitoring at Camas NWR. The meeting resulted in an effort, in particular by refuge manager Rob Larrañaga in cooperation with Idaho Bird Observatory, to obtain funding for an inaugural monitoring season during autumn 2005. Thanks to a Challenge Cost Share grant from USFWS and matching grants from Portneuf Valley Audubon Society and Wildlife Forever, this goal was realized and Idaho Bird Observatory began fieldwork on 20 July 2005.

We have developed cooperative relationships with many local agencies, organizations, and corporations, and wish to thank all of these cooperators for their contributions to this project, including U.S. Fish and Wildlife Service, Idaho Department of Fish and Game, U.S.G.S. Snake River Field Station, Portneuf Valley Audubon Society, and Wildlife Forever. Funding for the fall 2005 season was provided by U.S. Fish and Wildlife Service (Challenge Cost Share grant), Idaho Department of Fish and Game (in-kind contribution of a field assistant), Portneuf Valley Audubon Society, Wildlife Forever, and donations from individuals and other local groups.

<u>Songbird Mist Netting</u>

We initiated a full-time (constant effort) songbird mist-netting project at Camas NWR during 2005 to identify the species composition, abundance, and timing of songbird migration on the upper Snake River Plain during fall. We established a station consisting of ten standard 12 m x 2.5 m x 32 mm mesh songbird mist nets in deciduous wooded habitats near headquarters at Camas NWR. Nets were located opportunistically throughout the habitat in areas where bird movements were concentrated by the vegetation in order to maximize capture efficiency (Ralph et al. 1993). During 2005, mist netting at Camas began on 20 July and continued through 14 October; only one day was missed due to weather (rain and wind). Mist netting was conducted daily, except during periods of inclement weather. Nets were opened at sunrise, and netting continued for approximately 5 hours each morning.

During 2005 Camas NWR mist-netting station was operated by at least three qualified personnel at all times. Nets were checked and cleared throughout the morning at 20–40 minute intervals. Captured songbirds were placed individually in cloth retaining bags, and taken promptly to a centralized banding station for processing. Each newly-captured bird was first identified to species and fitted with an individually-numbered standard aluminum leg band provided by the U.S.G.S. Bird Banding Lab. Subsequently, a series of morphometric measurements and categorizations were made to determine age, sex, and body condition including length of unflattened wing chord, body mass, fat score, muscle score, body molt, and flight feather molt and wear. Determinations of age and sex were based on Pyle et al. (1997). Age was determined by degree of skull ossification and plumage, and sex was determined, when possible, by plumage, wing chord, and indicators of breeding condition (i.e. old brood patch). We used an electronic balance (accurate to 0.1 grams) for mass determination. Subcutaneous fat scores were determined based on a classification by Helms and Drury (1960) with modifications by the Institute for Bird Populations-MAPS Program (DeSante and Burton 1997). Flight feather molt was determined by examining wing and tail for missing and/or growing feathers, and was classified as symmetric, adventitious, juvenile, or none. Both body molt and flight feather wear were rated on a numeric scale. For recaptured individuals, their band number, mass, and body condition (fat and muscle scores) were recorded upon recapture to estimate daily weight gain or loss, duration of stopover, and habitat utilization at Camas NWR during stopover.

Results and Discussion

Songbird Mist Netting

Autumn 2005 was our first season of migration monitoring at Camas NWR. In 2005, we mist netted for songbirds on 86 different days (20 July–14 October) for a total of 4,021.2 net hours (Table 1). A total of 4,446 songbirds of 71 different species were captured for an overall capture rate of 1.106 birds/net hour (Table 1) or 55.3 birds/50 net hours (50 net hours is the typical banding day). The only comparable operation in the state is at Lucky Peak in southwestern Idaho; 2005 was the 9th season of songbird migration monitoring at that location. The capture rate at Camas NWR is slightly lower than but quite comparable to the 2005 rate (1.30) and the nine-year average of 1.22 birds/net hour at Lucky Peak. Species richness at Camas NWR in 2005 was higher than any year experienced at Lucky Peak (high of 62 species netted in any given year).

Camas NWR has a reputation among birders for attracting rarities and this is likely a reflection of the isolated nature of the refuge, which acts as a riparian oasis (surrounded by high desert and agriculture) that concentrates migrants passing through the area. Vagrant species captured in 2005 included Connecticut Warbler (2; representing Idaho's first 2 state records), Chestnut-sided Warbler (2), Black-and-White Warbler, Tennessee Warbler, and Rose-breasted Grosbeak (2). We captured several other species that are rare and/or local to this part of the state including Least Flycatcher (2), Gray Flycatcher, Red-eyed Vireo (6), Veery (3), Gray Catbird (14), American Redstart (7), and Northern Waterthrush (20). Lastly, while not rare in the state, we did capture good numbers of some species that are not commonly encountered at Lucky Peak; these include the Northern Waterthrush mentioned above as well as Willow Flycatcher (65), Western Wood-pewee (35), and Lincoln's Sparrow (27).....25 species or subspecies were captured at Camas NWR but missed at Lucky Peak; eight of these species were represented by five or more individuals, including Lincoln's Sparrow, Northern Waterthrush, Gray Catbird, Black-billed Magpie, Downy Woodpecker, American Redstart, Red-eyed Vireo, and Eastern Kingbird (Table 1). It should be noted that several of these are species that have been captured in previous years at Lucky Peak, just not in 2005. However, the 2005 netting at Camas NWR yielded captures of 13 species that have never been captured in songbird operations at Lucky Peak: American Kestrel, Long-eared Owl, Mourning Dove, Eastern Kingbird, Loggerhead Shrike, Black-billed Magpie, Veery, Gray Catbird, Connecticut Warbler, Common Yellowthroat, Brewer's Blackbird, Red-winged Blackbird, and House Sparrow (Table 1).

Public Education and Outreach

During 2005, IBO and Camas NWR hosted several local groups or schools. Specifically, our project was visited by a Boy Scout group, the Hamer elementary school, two BYU-Idaho courses, and both the Snake River and Portneuf Valley Audubon Societies during 2005. In total, about 104 people participated in group visits to Camas during 2005. Idaho Bird Observatory and Camas NWR volunteer programs were very successful during fall 2005. Twenty-one different volunteers contributed 326 days, totaling 1793 hours of volunteer service, to assist with data entry, set-up, and songbird mist-netting. The estimated cash value of this volunteer time was $45,962 (Table 3).

Conclusions:

The inaugural fall migration monitoring season at Camas NWR was a great success. We documented an impressive abundance and diversity of autumn migrants using the refuge and we were able to share that with the general public on many occasions. Additionally, preliminary stopover ecology data provide evidence that the site is quite suitable for

autumn stopover. In our opinion, Camas NWR is in many ways an ideal place to investigate migration ecology issues. Reasons for this include: 1) a high abundance and diversity of migrants, 2) a limited breeding bird community such that most individuals and species captured can be known to be passage migrants, and 3) the limited extent and linear distribution of wooded habitats allow for nearly complete monitoring of the refuge oasis via mist-netting, point-counts, and general observations.

Though effort has been increasing in recent years, there is still relatively little known about migration patterns in the Intermountain West. Because migratory birds require suitable habitat throughout their life cycle and migration may be the most limiting time of year (Sillett and Holmes 2002), learning more about which habitats are important for migrants is critical to effective management and conservation. Thus, we hope to be able to continue migration studies at Camas NWR, both during spring and fall migration, into the future. At a minimum, gathering 2-3 years of data from each season would provide baseline data on abundance, richness, stopover ecology, and migration timing. These data may also be used to assess to relative suitability of Camas NWR for migrants – especially in comparison to ongoing studies in southwestern Idaho but also to studies in western riparian habitats. Lastly, we would aim to publish findings in (a) peer-reviewed journal(s) to contribute to a better understanding of migration ecology in the western United States. Additionally, it might be advantageous to add Camas NWR to a small but growing list of long-term (> 10 years of effort) migration monitoring stations in the West that are working towards pooling data for answering larger-scale questions about population trends of migratory birds, identification of critical stopover habitats, and more. Not only would extending this study deliver valuable ecological data, it would also continue to provide opportunities for public outreach/environmental education, volunteer participation, and involvement of graduate and undergraduate students in the research and monitoring.

In order to continue this research in 2006, we estimate needing approximately $12,720 to fund spring migration work, $17,660 for fall migration, or $30,380 to fund both spring and fall migration (see Appendix C).

Winter on the Refuge. Since late November, when the temperature on the refuge reached minus 26 degrees, the wetland has been frozen over with no open water for late migrants. . Staff noted a group of 15-20 Trumpeter swans in Mid November before the open water was completely frozen. Ducks, geese and swans arriving after the hard freeze went on to American Falls Reservoir. John Dollar recalls that one herd of 60 elk was observed just south of Headquarters and smaller groups of 10-20 have been observed every two r three days on the refuge as they move toward the southeast to agricultural lands. A group of 15 whitetail deer were noted on January 4, and one bull moose without antlers has been seen recently. Coyotes are common and "checking on everything. " Refuge personnel are doing a 'Thursday American Bald Eagle Count", and have been noting 10-15, with a ratio of 2-1 adults to immatures. John has also had good opportunities to observe a golden eagle, which seems to be a frequent visitor as well. Short Eared and Great Horned Owls are commonly observed. John states he hasn't become accustomed to "flocks of porcupines" in the trees and is startled by their numbers. Winter on the refuge, according to John, is as beautiful and fascinating as any other season, but he confesses he's also looking forward to spring.

Spring and Summer Projects are on the drawing boards through contributions from Snake River Audubon Society, Portneuf Valley Audubon Society and other entities to continue the installation of weed barrier fabric for the birding trails, improvements in handicap access trails, nurture of the hundreds of native trees planted to replace dying cottonwoods, and the possible funding of Spring Migratory Bird Research as well as the fall research to continue Dr. Carlisle's accumulation of baseline data for the refuge. Support from Wildlife Forever, Ducks Unlimited, and additional organizations is anticipated for these and other "Bird Projects" at Camas. Perhaps the most amazing achievement of 2005 has been the developing partnerships and coalitions of organizations and individuals who are willing to support the refuge with their expertise, labor, and money for the realization of many exciting goals. Dr. Carlisle noted above that the value of volunteer effort for the Fall Research project alone was estimated at almost $46,000. Refuge Manager Rob Larrañaga, or Resident volunteeers John and Sharon Dollar are always happy to answer questions anyone may have about needs for volunteer services and contributions, and can always advise of interesting events in progress or visitors to the refuge.

Spring Migrations Fast Approaching! The magic of calling ribbons of sand hill cranes silhouetted against a spring moon is not far removed from the cold and snow of February. Clouds of homeward bound waterfowl headed north to their breeding grounds will signal the change of seasons, followed by thousands of migrants in or approaching breeding plumage to soon utilize the safety and food sources of Camas NWR. If you can plan a visit to Camas, call the refuge office for information about what species are arriving and the best times and places to observe the magnificent arrivals. Your questions and visits are always welcome! The Spring Camas Newsletter will offer a more detailed view of anticipated spring activity!

Your comments and questions about the content of the *Newsletter* are always welcome. Please contact Nancy Maxwell at 208-232-2784, or P. O. Box 4787, Pocatello, Idaho 83205, or e-mail to Outlier@peoplepc.com