

**THE 2004 ANNUAL REPORT OF THE
MONITORING AVIAN PRODUCTIVITY AND SURVIVORSHIP
(MAPS) PROGRAM
IN USDA FOREST SERVICE REGION SIX**

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INTRODUCTION

Since 1989, The Institute for Bird Populations has been coordinating the Monitoring Avian Productivity and Survivorship (MAPS) Program, a cooperative effort among public and private agencies and individual bird banders in North America, to operate a continent-wide network of over 500 constant-effort mist-netting and banding stations. MAPS was designed to provide critically needed information on the vital rates (productivity or birth rate, and survivorship or death rate) of landbirds that is crucial for efforts to identify demographic causes of the severe and sometimes accelerating population declines documented for many species of North American landbirds (Robbins et al. 1989; Terborgh 1989; Peterjohn et al. 1995; DeSante 1992; DeSante et al. 1995, 1999, 2001). Such data on vital rates are also critically needed in efforts to identify management strategies to reverse such population declines (DeSante 1995, DeSante and Rosenberg 1998).

MAPS is organized to fulfill three tiers of goals and objectives, monitoring, research, and management:

The specific **monitoring** goals of MAPS are to provide, for over 100 target species, including Neotropical-wintering migrants, temperate-wintering migrants, and permanent residents: (a) annual indices of adult population size and post-fledging productivity from data on the numbers and proportions of young and adult birds captured; and (b) annual estimates of adult population size, adult survival rates, proportions of residents, and recruitment into the adult population from modified Cormack- Jolly-Seber analyses of mark-recapture data on adult birds.

The specific **research** goals of MAPS are to identify and describe: (a) temporal and spatial patterns in these demographic indices and estimates at a variety of spatial scales ranging from the local landscape to the entire continent; and (b) relationships between these patterns and ecological characteristics of the target species, population trends of the target species, station-specific and landscape-level habitat characteristics, and spatially-explicit weather variables.

The specific **management** goals of MAPS are to use these patterns and relationships, at the appropriate spatial scales, to: (a) identify thresholds and trigger points to notify appropriate agencies and organizations of the need for further research and/or management actions; (b) determine the proximate demographic cause(s) of population change; (c) suggest management actions and conservation strategies to reverse population declines and maintain stable or increasing populations; and (d) evaluate the effectiveness of the management actions and conservation strategies actually implemented through an adaptive management framework.

All of these monitoring, research, and management goals are in agreement with the USDA Forest Service's Partners-in-Flight strategy and with the Forest Service's own avian monitoring efforts. Moreover, because birds are excellent indicators of the health of ecological systems, they can serve as a sensitive barometer of the overall effectiveness of efforts to maintain the biodiversity and ecological integrity of National Forests. Accordingly, the MAPS program was initiated in several National Forests beginning in 1992 and soon became one of the focus projects of the USDA Forest Service Partners-in-Flight program. It was expected that

information from the MAPS program would be capable of aiding research and management efforts on these National Forests to protect and enhance the forest's avifauna and ecological integrity, while allowing them to fulfill their multi-use purposes.

In USDA Region 6, six stations were established on each of six national forests (Mt. Baker/Snoqualmie, Wenatchee, Umatilla, Willamette, Siuslaw, and Fremont) in 1992. Within each forest, an effort was made to establish two or three stations in more heavily managed landscapes, two or three stations in less heavily managed landscapes of the same forest type, and perhaps one or two additional stations in other forest types of high or unique importance to landbird populations. The overall goal of the initial establishment of the MAPS program in Region 6 was to provide high quality information on the demographics of landbirds on the forests that could be used to aid research and management efforts on national forests in the Region to protect and enhance the forests' avifauna and ecological integrity. With the completion of ten years of data collection during the summer of 2001 and the submission of the ensuing report (DeSante *et al.* 2002), this initial objective was accomplished.

A second objective was to provide for a comprehensive analysis of the ten years of demographic data as a function of landscape-level habitat characteristics and spatially explicit weather data. Through funding from the DoD Legacy Resources Management Program, important analytical techniques were developed and evaluated to accomplish these latter analyses and major reports on the results of such analyses were completed using data from 78 MAPS stations operated on 13 DoD installations (or groups of nearby installations) in southeastern United States (Nott 2000, 2001, Nott et al. 2003). Some of these new analytical models were then applied to data from the 36 MAPS stations on Forest Service Region Six and resulted in major new understandings of the relationships between large-scale climate cycles, including the El Niño Southern Oscillation and the North Atlantic Oscillation, and landbird productivity in the Pacific Northwest (Nott et al. 2002). In response to these reports, funding was secured through a challenge grant from the National Fish and Wildlife Foundation (federal share supplied by the USDA Forest Service) to complete additional analyses of ten years (1992-2001) of MAPS data from 36 stations located on six national forests in Region Six (and six stations on the Flathead National Forest in region One) as a function of GIS-based, remote-sensed, landscape-scale habitat data. These analyses have recently been completed (Nott et al. 2005).

A third objective of this work was to formulate management guidelines and conservation strategies for reversing population declines and maintaining stable and increasing populations of bird species of conservation concern in the Pacific Northwest. The formulation of these guidelines and strategies was to be achieved by modeling the population and demographic parameters such as adult population size, numbers of young, productivity (young to adult ratio), as well as trends in these parameters, as a function of landscape-level habitat characteristics. Funding for this aspect of the work was also obtained through the above-mentioned challenge grant from the National Fish and Wildlife Foundation, and these management and conservation strategies have been completed (Nott et al. 2005). Management guidelines involve efforts to modify the habitat from characteristics associated with low population size, negative population trends, and or low productivity to characteristics associated with high values for these parameters. Because these guidelines and strategies are based on vital rates as well as

population size, they will avoid the potential pitfall of creating sink habitat, a common result of basing management only on population size.

The current objective of the MAPS Program on national forests such as those in Region 6 is to integrate the management guidelines and conservation strategies to reverse the population declines of landbird species of conservation concern into new or on-going forest management actions that will be implemented on the forests. In particular, we hope to be able to integrate our avian management guidelines and strategies into management actions that will be implemented during 2005 on the six national forests in Region Six on which we have MAPS stations. We will then be able to monitor the effectiveness of those avian management guidelines and strategies through (1) the establishment of a number of new MAPS stations within the various landscapes where the management is taking place; (2) the discontinuance of an equal number of existing stations; and (3) the continued operation of the remaining existing MAPS stations to serve as controls for the new stations sited and to monitor the effectiveness of the implemented management. In this way, the total number of stations operated will remain the same (e.g., six stations will be run on each of the six national forests in Region Six where stations are now being operated). We began this process in 2004 with the switching of one station in Siuslaw (see below).

A complete summary of the results of the MAPS Program in Region Six National Forests from 1992-2001 was presented by DeSante et al. (2002) and data from 2002-2003 was summarized by Desante et al. (2004). This report briefly updates those reports and documents the operation of the 36 MAPS stations on six Region Six National Forests during the 2004 breeding season.

METHODS

Thirty-six MAPS stations were operated in 2004 on Region-6 National Forests, 33 of them in the same locations where they were first established in 1992. They were operated in accordance with the highly standardized banding protocols established by The Institute for Bird Populations for use by the MAPS Program throughout North America and spelled out in detail in the MAPS Manual (DeSante et al. 2004). On each day of operation each year, one 12-m long, 30-mm mesh, 4-tier nylon mist net was erected at each of ten fixed mist-netting sites within the interior eight ha of each 20-ha station. These ten nets at each station were operated for six morning hours per day (beginning at local sunrise), and for one day in each of seven or eight consecutive 10-day periods between May 21 and August 8. The operation of stations occurred on schedule in each of the ten-day periods and was carried out by Institute for Bird Populations biologists and interns (mentioned by name in the Acknowledgments).

With few exceptions, all birds captured during the course of the study were identified to species, age, and sex and, if unbanded, were banded with USGS/BRD numbered aluminum bands. Birds were released immediately upon capture and before being banded or processed if situations arose where bird safety would be comprised. The following data were taken on all birds captured, including recaptures, according to MAPS guidelines using standardized codes and forms:

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- (1) capture code (newly banded, recaptured, band changed, unbanded);
- (2) band number;
- (3) species;
- (4) age and how aged;
- (5) sex (if possible) and how sexed (if applicable);
- (6) extent of skull pneumaticization;
- (7) breeding condition of adults (i.e., extent of cloacal protuberance or brood patch);
- (8) extent of juvenal plumage in young birds;
- (9) extent of body and flight-feather molt;
- (10) extent of primary-feather wear;
- (11) presence of molt limits and plumage characteristics;
- (12) wing chord;
- (13) fat class and body mass;
- (14) date and time of capture (net-run time);
- (15) station and net site where captured; and
- (16) any pertinent notes.

Effort data (i.e., the number and timing of net-hours on each day of operation) were also collected in a standardized manner. In order to allow constant-effort comparisons of data to be made, the times of opening and closing the array of mist nets and of beginning each net check were recorded to the nearest ten minutes. The breeding (summer residency) status (confirmed breeder, likely breeder, non-breeder) of each species seen, heard, or captured at each MAPS station on each day of operation was recorded using techniques similar to those employed for breeding bird atlas projects.

The computer entry, proofing, and verification of all banding, effort, and breeding status data were completed by IBP biologists using specially designed data entry, verification, and editing programs. The critical data for each banding record (capture code, band number, species, age, sex, date, capture time, station, and net number) were proofed by hand against the raw data and any computer-entry errors were corrected. All banding data were then run through a series of verification programs as follows:

- (1) Clean-up programs to check the validity of all codes entered and the ranges of all numerical data;
- (2) Cross-check programs to compare station, date, and net fields from the banding data with those from the effort and breeding status data;
- (3) Cross-check programs to compare species, age, and sex determinations against degree of skull pneumaticization, breeding condition (extent of cloacal protuberance and brood patch), extent of juvenal plumage, extent of body and flight-feather molt, extent of primary-feather wear, and presence of molt limits and plumage characteristics;
- (4) Screening programs which allow identification of unusual or duplicate band numbers or unusual band sizes for each species; and
- (5) Verification programs to screen banding and recapture data from all years of operation for inconsistent species, age, or sex determinations for each band number.

Any discrepancies or suspicious data identified by any of these programs were examined manually and corrected if necessary. Wing chord, weight, fat content, date and station of capture, and any pertinent notes were used as supplementary information for the correct determination of species, age, and sex in all of these verification processes. The proofed, verified, and corrected banding data from each year were then run through a series of analysis programs that calculated for each species and for all species pooled at each station and for all stations pooled on each forest:

- (1) the numbers of newly banded birds, recaptured birds, and birds released unbanded;
- (2) the numbers and capture rates (per 600 net-hours) of first captures (in each year) for individual adult and young birds; and
- (3) the reproductive index.

Following the procedures pioneered by the British Trust for Ornithology (BTO) in their CES Scheme (Peach et al. 1996), the number of adult birds captured was used as an index of adult population size. As our index of post-fledging productivity we are now using “reproductive index” (number of young divided by number of adults) as opposed to “proportion of young in the catch” previously used. Reproductive index is a more intuitive value for productivity, and which is comparable to other calculated MAPS parameters such as recruitment.

RESULTS

MOUNT BAKER/SNOQUALMIE NATIONAL FOREST, WASHINGTON

Within Mt. Baker/Snoqualmie National Forest, the six stations are located (from highest to lowest elevation) as follows: (1) The Monte Cristo Lake station at 610 m; (2) the Perry Creek station at 512 m; (3) the Bench Thin station at 354 m; (4) the Frog Lake station at 317 m; (5) the Beaver Lake station at 299 m; and (6) the Murphy Creek station at 244 m. All stations have been in operation every year since 1992 except the Bench Thin station, which was established in 1993. All stations are on the Darrington Ranger District. Table 1 details the habitats and the 2004 operation of the Mt. Baker stations.

A total of 2263.3 net-hours was accumulated at the six MAPS stations operated on Mt. Baker National Forest in 2004 (Table 1). Of these, 2010.0 net-hours could be compared with data from 2003 in a constant-effort manner.

The 2004 capture summary of the numbers of newly-banded, unbanded, and recaptured birds at Mt. Baker National Forest is presented for each species at each of the six stations individually in Table 2 and for all stations combined in Table 4. A total of 692 captures of 31 species was recorded during the summer of 2004. Newly banded birds comprised 53.2% of the total captures. The greatest number of total captures (142) was recorded at the Monte Cristo Lake station and the smallest number of total captures (76) was recorded at the Perry Creek station. The highest species richness occurred at Monte Cristo Lake (20 species) whereas the lowest species richness occurred at Frog Lake (14 species).

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The capture rates (per 600 net-hours) of individual adult and young birds and the reproductive index are presented for each species and for all species pooled at each station (Table 3) and for all stations combined (Table 4). We present capture rates (captures per 600 net-hours) of adults and young in this table so that the data can be compared among stations which, because of the vagaries of weather and accidental net damage, can differ from one another in effort expended (see Table 1). These capture indices indicate that the total adult population size in 2004 was greatest at Beaver Lake, followed in descending order by Monte Cristo Lake, Murphy Creek, Bench Thin, Frog Lake, and Perry Creek. The capture rate of young (Table 3) of all species pooled at each station in 2004 was highest at Perry Creek and lowest at Beaver Lake. The reproductive index at the stations in 2004 (Table 3), i.e., the number of young per adult, was highest at Perry Creek (0.52), followed by Monte Cristo Lake (0.20), Murphy Creek (0.15), Frog Lake and Bench Thin (0.12 each), and Beaver Lake (0.07).

Among individual species, Swainson's Thrush was by far the most frequently captured species, followed in descending order by Rufous Hummingbird, American Robin, Song Sparrow, Winter Wren, Chestnut-backed Chickadee, "Western" Flycatcher, and Varied Thrush (Table 4). Overall, the most abundant breeding species at the six Mt. Baker MAPS stations in 2004 (according to adults captured/600 net hrs), in decreasing order, were Swainson's Thrush, American Robin, Song Sparrow, "Western" Flycatcher, Winter Wren, Varied Thrush, and Chestnut-backed Chickadee (Table 4; the number of individual adult Rufous Hummingbirds captured could not be determined since the birds were not banded). The following is a list of the common breeding species (captured at a rate of at least 6.0 adults per 600 net-hours), in decreasing order, at each station in 2004:

Monte Cristo Lake

Swainson's Thrush
American Robin
Song Sparrow
Steller's Jay
Warbling Vireo
Varied Thrush

Perry Creek

Swainson's Thrush
American Robin
Song Sparrow
Varied Thrush

Bench Thin

Swainson's Thrush
MacGillivray's Warbler
Chestnut-backed Chickadee
Winter Wren

Frog Lake

Swainson's Thrush
American Robin
Winter Wren
"Western" Flycatcher

Beaver Lake

Swainson's Thrush
American Robin
Song Sparrow
"Western" Flycatcher

Murphy Creek

Swainson's Thrush
American Robin
Varied Thrush
Song Sparrow

WENATCHEE NATIONAL FOREST, WASHINGTON

Within Wenatchee National Forest, the six stations are located (from highest to lowest elevation) as follows: (1) The Two Point station at 1512 m; (2) the Deep Creek station at 1195 m; (3) the Pleasant Valley station at 1000 m; (4) the Timothy Meadow station at 951 m; (5) the Quartz Creek 2 station at 853 m; and (6) the Rattlesnake Spring station at 817 m. The Quartz Creek 2 station was established in 1993 to replace the original Quartz Creek station which was

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discontinued after 1992 because of heavy human interference and a history of vandalism. The Quartz Creek 2 station is very close to the original Quartz Creek station but is located farther from the Quartz Creek campground. All stations are on the Naches Ranger District. See Table 5 for a summary of the habitats and 2004 operation of these stations.

A total of 2257.0 net-hours was accumulated at the six MAPS stations operated in Wenatchee National Forest in 2004 (Table 5). Of these, 2012.5 net-hours could be compared with data from 2003 in a constant-effort manner.

The 2004 capture summary of the numbers of newly-banded, unbanded, and recaptured birds at Wenatchee National Forest is presented for each species at each of the six stations individually in Table 6 and for all stations combined in Table 8. A total of 1832 captures of 59 species was recorded during the summer of 2004. Newly banded birds comprised 65.7% of the total captures. The greatest number of total captures (456) was recorded at the Deep Creek station and the smallest number of total captures (124) was recorded at the Timothy Meadow station. The highest species richness (39 species) occurred at Quartz Creek 2 and the lowest species richness (20 species) occurred at Timothy Meadow.

The capture rates (per 600 net-hours) of individual adult and young birds and the reproductive index are presented for each species and for all species pooled at each station (Table 7) and for all stations combined (Table 8). We present capture rates (captures per 600 net- hours) of adults and young in this table so that the data can be compared among stations which, because of the vagaries of weather and accidental net damage, can differ from one another in effort expended (see Table 5). These capture indices indicate that the total adult population size in 2004 was greatest at Deep Creek, followed in descending order by Quartz Creek 2, Rattlesnake Spring, Pleasant Valley, Two Point, and Timothy Meadow. The capture rate of young of all species pooled at each station in 2004 was also highest at Deep Creek and lowest at Timothy Meadow. The reproductive index at the stations in 2004, i.e., the number of young per adult, was highest at Two Point (1.12), followed by Deep Creek (0.68), Pleasant Valley (0.50), Rattlesnake Springs (0.40), Timothy Meadow (0.76), and Quartz Creek 2 (0.30).

Among individual species, Dark-eyed Junco was the most frequently captured species, followed by MacGillivray's Warbler, Pine Siskin, Rufous Hummingbird, Evening Grosbeak, Townsend's Warbler, Lincoln's Sparrow, and Song Sparrow (Table 8). Overall, the most abundant breeding species at the six Wenatchee MAPS stations in 2004 (according to adults captured/600 net hrs), in decreasing order, were Evening Grosbeak, Dark-eyed Junco, Pine Siskin, MacGillivray's Warbler, Townsend's Warbler, Yellow-rumped Warbler, American Robin, Lincoln's Sparrow, and Warbling Vireo (Table 8; numbers of adult Rufous Hummingbirds captured could not be determined since these birds were not banded). The following is a list of the common breeding species (at least 6.0 adults per 600 net-hours), in decreasing order, at each station in 2004:

Two Point

MacGillivray's Warbler
Dark-eyed Junco
Warbling Vireo

Deep Creek

Evening Grosbeak
Dark-eyed Junco
Townsend's Warbler

Timothy Meadow

Lincoln's Sparrow
Dark-eyed Junco
Townsend's Warbler

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Chipping Sparrow	Pine Siskin	Pine Siskin
American Robin	Lincoln's Sparrow	Hammond's Flycatcher
Hermit Thrush	Chestnut-backed Chickadee	Yellow-rumped Warbler
Lincoln's Sparrow	Swainson's Thrush	Song Sparrow
	Olive-sided Flycatcher	
<u>Quartz Creek 2</u>	Western Wood-Pewee	<u>Rattlesnake Springs</u>
Pine Siskin	Hermit Thrush	MacGillivray's Warbler
MacGillivray's Warbler		Dark-eyed Junco
American Robin	<u>Pleasant Valley</u>	Pine Siskin
Yellow Warbler	Yellow-rumped Warbler	Western Tanager
Dark-eyed Junco	American Robin	Townsend's Warbler
Western Wood-Pewee	Chipping Sparrow	Warbling Vireo
Cassin's Finch	Pine Siskin	Black-headed Grosbeak
Warbling Vireo	Dark-eyed Junco	Hammond's Flycatcher
Song Sparrow	Hammond's Flycatcher	Dusky Flycatcher
Yellow-rumped Warbler	Townsend's Warbler	Yellow-rumped Warbler
Dusky Flycatcher	Lincoln's Sparrow	Chipping Sparrow
Black-headed Grosbeak	Warbling Vireo	Western Wood-Pewee
Hammond's Flycatcher	Western Tanager	Mountain Chickadee
Swainson's Thrush	Evening Grosbeak	
	MacGillivray's Warbler	

UMATILLA NATIONAL FOREST, OREGON

Within Umatilla National Forest, the six stations are located (from highest to lowest elevation) as follows: (1) The Buzzard Creek station at 1524 m; (2) the Buck Mountain Meadow station at 1378 m; (3) the Coyote Ridge station at 1341 m; (4) the Fry Meadow station at 1280 m; (5) the Brock Meadow station at 1244 m; and (6) the Phillips Creek station at 975 m. All stations were established in 1992 and are located on the Walla Ranger District. See Table 9 for a summary of the habitats and 2004 operation of these stations.

A total of 2311.0 net-hours was accumulated at the six MAPS stations operated in Umatilla National Forest in 2004 (Table 9). Of these, 2015.3 net-hours could be compared with data from 2003 in a constant-effort manner.

The 2004 capture summary of the numbers of newly-banded, unbanded, and recaptured birds at Umatilla National Forest is presented for each species at each of the six stations individually in Table 10 and for all stations combined in Table 12. A total of 922 captures of 42 species was recorded during the summer of 2004. Newly banded birds comprised 65.4% of the total captures. The greatest number of captures (229) was recorded at Buck Mountain Meadow and the smallest number of captures (98) was recorded at Phillips Creek. Species richness was greatest at Buzzard Creek and Buck Mountain Meadow (25 species each) and lowest at Fry Meadow (19 species).

The capture rates (per 600 net-hours) of individual adult and young birds and the reproductive index are presented for each species and for all species pooled at each station (Table 11) and for

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all stations combined (Table 12). We present capture rates (captures per 600 net-hours) in this table so that the data can be compared among stations which, because of the vagaries of weather and accidental net damage, can differ from one another in effort expended (see Table 9). These indices indicate that the adult population size in 2004 was greatest at Buck Mountain Meadow, followed in descending order by Brock Meadow, Buzzard Creek, Fry Meadow, Coyote Ridge, and Phillips Creek. The capture rate of young of all species pooled was highest at Buck Mountain Meadow and lowest at Fry Meadow. Productivity, i.e., the number of young per adult, was highest at Buzzard Creek (0.66), followed by Buck Mountain Meadow (0.52), Coyote Ridge (0.24), Phillips Creek (0.19), Brock Meadow (0.17), and Fry Meadow (0.09).

Among individual species, MacGillivray's Warbler was the most frequently captured, followed by Townsend's Warbler, Swainson's Thrush, Dark-eyed Junco, Golden-crowned Kinglet, Lincoln's Sparrow, Wilson's Warbler, and Ruby-crowned Kinglet (Table 12). Overall, the most abundant breeding species at the six Umatilla MAPS stations in 2004 (according to adults captured/600 net hrs), in decreasing order, were MacGillivray's Warbler, Townsend's Warbler, Swainson's Thrush, Dark-eyed Junco, Ruby-crowned Kinglet, Wilson's Warbler, Lincoln's Sparrow, Yellow-rumped Warbler, Western Tanager, and Golden-crowned Kinglet (Table 12). The following is a list of the common breeding species (captured at a rate of at least 6.0 adults per 600 net-hours), in decreasing order, at each station in 2004:

<u>Buzzard Creek</u>	<u>Buck Mountain Meadow</u>	<u>Coyote Ridge</u>
Townsend's Warbler	Townsend's Warbler	MacGillivray's Warbler
Wilson's Warbler	Dark-eyed Junco	Hermit Thrush
Dark-eyed Junco	Swainson's Thrush	Swainson's Thrush
Hermit Thrush	Wilson's Warbler	Orange-crowned Warbler
Swainson's Thrush	Ruby-crowned Kinglet	Townsend's Warbler
Warbling Vireo	Western Tanager	Dark-eyed Junco
Western Tanager	Chipping Sparrow	Dusky Flycatcher
Chipping Sparrow	Golden-crowned Kinglet	Warbling Vireo
Ruby-crowned Kinglet	Winter Wren	
Orange-crowned Warbler	Red-breasted Nuthatch	<u>Brock Meadow</u>
	Yellow-rumped Warbler	MacGillivray's Warbler
	MacGillivray's Warbler	Lincoln's Sparrow
<u>Fry Meadow</u>		Wilson's Warbler
Lincoln's Sparrow	<u>Phillips Creek</u>	Townsend's Warbler
Yellow-rumped Warbler	MacGillivray's Warbler	Yellow-rumped Warbler
Ruby-crowned Kinglet	Swainson's Thrush	Swainson's Thrush
Swainson's Thrush	American Robin	Red-naped Sapsucker
Dark-eyed Junco	Red-breasted Nuthatch	"Traill's" Flycatcher
Golden-crowned Kinglet	Townsend's Warbler	Ruby-crowned Kinglet
Townsend's Warbler	Swainson's Thrush	Dark-eyed Junco
MacGillivray's Warbler	Black-headed Grosbeak	Warbling Vireo
Chipping Sparrow		

WILLAMETTE NATIONAL FOREST, OREGON

Within Willamette National Forest, the six stations are located (from highest to lowest elevation)

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as follows: (1) the Clearcut station at 1292 m; (2) the Fingerboard Prairie station at 1195 m; (3) the Ikenick station at 1006 m; (4) the Brock Creek station at 792 m; (5) the Major Prairie station at 701 m; and (6) the Strube Flat station at 488 m. The Clearcut, Brock Creek, and Major Prairie stations are on the Oakridge Ranger District; Fingerboard Prairie and Ikenick are on the McKenzie Ranger District; and Strube Flat is on the Blue River Ranger District. See Table 13 for details of the habitats and 2004 operation of these stations.

A total of 2641.2 net-hours was accumulated at the six MAPS stations operated in Willamette National Forest in 2004 (Table 13). Of these, 2448.0 net-hours could be compared with data from 2003 in a constant-effort manner.

The 2004 capture summary of the numbers of newly-banded, unbanded, and recaptured birds at Willamette National Forest is presented for each species at each of the six stations individually in Table 14 and for all stations combined in Table 16. A total of 1150 captures of 49 species was recorded during the summer of 2004. Newly banded birds comprised 54.6% of the total captures. The greatest number of total captures (311) was recorded at the Ickenick station and the smallest number of total captures (76) was recorded at the Strube Flat station. The greatest species richness occurred at Fingerboard Prairie and Major Prairie (29 species each) and the lowest species richness occurred at Strube Flat (18 species).

The capture rates (per 600 net-hours) of individual adult and young birds and the reproductive index are presented for each species and for all species pooled at each station (Table 15) and for all stations combined (Table 16). We present capture rates (captures per 600 net-hours) of adults and young in this table so that the data can be compared among stations, which can differ from one another in effort expended (see Table 13). These capture indices indicate that the total adult population size in 2004 was greatest at Ickenick, followed in decreasing order by Fingerboard Prairie, Brock Creek, Clearcut, Major Prairie, and Strube Flat. The capture rate of young of all species pooled at each station in 2004 was highest at Ikenick and lowest at Strube Flat. The reproductive index observed at the Willamette stations in 2004, i.e., the number of young per adult, was highest at Ikenick and Major Prairie (0.39 each), followed by Fingerboard Prairie (0.37), Clearcut and Brock Creek (0.32 each), and Strube Flat (0.23).

Among individual species, Swainson's Thrush was the most frequently captured, followed by MacGillivray's Warbler, Rufous Hummingbird, Dark-eyed Junco, Song Sparrow, Common Yellowthroat, Orange-crowned Warbler, and Wilson's Warbler (Table 16). Overall, the most abundant breeding species at the six Willamette MAPS stations in 2004 (according to adults captured/600 net hrs), in decreasing order, were Swainson's Thrush, Dark-eyed Junco, MacGillivray's Warbler, Wilson's Warbler, Song Sparrow, Hermit Warbler, Common Yellowthroat, "Traill's" Flycatcher, and Hammond's Flycatcher (Table 16; the number of individual adult Rufous Hummingbirds captured could not be determined since the birds were not banded). The following is a list of the common breeding species (captured at a rate of at least 6.0 adults per 600 net-hours), in decreasing order, at each station in 2004:

Clearcut

Dark-eyed Junco

Fingerboard Prairie

Swainson's Thrush

Ickenick

Common Yellowthroat

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MacGillivray's Warbler	Dark-eyed Junco	"Traill's" Flycatcher
Swainson's Thrush	MacGillivray's Warbler	Swainson's Thrush
Wilson's Warbler	Hermit Warbler	Yellow-rumped Warbler
Dusky Flycatcher	Wilson's Warbler	Pine Siskin
	Pine Siskin	Wilson's Warbler
<u>Brock Creek</u>	Nashville Warbler	Song Sparrow
Swainson's Thrush	Yellow-rumped Warbler	Dark-eyed Junco
MacGillivray's Warbler		Hammond's Flycatcher
American Robin	<u>Major Prairie</u>	Warbling Vireo
Wilson's Warbler	Swainson's Thrush	Yellow Warbler
Dark-eyed Junco	Song Sparrow	Lincoln's Sparrow
Hutton's Vireo	MacGillivray's Warbler	
	Hammond's Flycatcher	<u>Strube Flat</u>
	Dark-eyed Junco	Swainson's Thrush
		Dark-eyed Junco

SIUSLAW NATIONAL FOREST, OREGON

Within Siuslaw National Forest, the six stations are located (from highest to lowest elevation) as follows: (1) the Cougar Creek station at 259 m; (2) the Crab Creek station at 219 m; (3) the Homestead station at 207 m; (4) the Beaver Ridge station at 158 m; (5) the Cape Creek station at 122 m; and (6) the Salvation Meadow station at 122 m. Salvation Meadow was established in 1993 to replace the 1992 Nettle Creek station which, because of its extremely rugged terrain, was too difficult to operate. This year the Cape Creek station replaces the Mary's Peak station because the latter was not in a productive area and we wanted to assess landbird dynamics in a successional habitat to more fully understand the effects of forest thinning. The new Cape Creek station is located in similar geographic terrain to Mary's Peak but was thinned in 2001. In addition, the Crab Creek station had been thinned since the 2003 season but we left the station in place to monitor the effects of this thinning. All stations are on the Alsea Ranger District. See Table 17 for details on the habitats and 2004 operation of these stations.

A total of 2360.7 net-hours was accumulated at the six MAPS stations operated in Siuslaw National Forest in 2004 (Table 17). Of these, 1478.3 net-hours could be compared with data from 2004 in a constant-effort manner.

The 2004 capture summary of the numbers of newly-banded, unbanded, and recaptured birds at Siuslaw National Forest is presented for each species at each of the six stations individually in Table 18 and for all stations combined in Table 20. A total of 809 captures of 29 species was recorded during the summer of 2004. Newly banded birds comprised 51.1% of the total captures. The greatest number of total captures (236) was recorded at the Cougar Creek station and the smallest number of total captures (62) was recorded at the Cape Creek station. The greatest species richness (22 species) was recorded at Cougar Creek and the lowest species richness (13 species) was recorded at Cape Creek.

The capture rates (per 600 net-hours) of individual adult and young birds and the reproductive index are presented for each species and for all species pooled at each station (Table 19) and for

all stations combined (Table 20). We present capture rates (captures per 600 net-hours) of adults and young in this table so that the data can be compared among stations which, because of the vagaries of weather and accidental net damage, can differ from one another in effort expended (see Table 17). These capture indices indicate that the total adult population size in 2004 was greatest at Cougar Creek, followed by Salvation Meadow, Beaver Ridge, Homestead, Cape Creek, and Crab Creek. The capture rate of young of all species pooled at each station in 2004 was highest at Cougar Creek and lowest at Cape Creek. The reproductive index at the Siuslaw stations in 2004, i.e., the number of young per adult, was highest at Crab Creek (0.30) followed by Cougar Creek (0.23), Homestead (0.20), Cape Creek (0.19), Salvation Meadow (0.17), and Beaver Ridge (0.11). At Crab Creek, which has been thinned in the previous year, breeding population sizes declined by 34% from values in 2003, but the capture rate of young tripled and reproductive index increased by a factor of four. This indicates that the thinning has adverse affects on breeding population but that younger birds may be attracted to thinned area following fledging.

Among individual species, Swainson's Thrush was the most frequently captured species by far, followed by Wilson's Warbler, Winter Wren, Dark-eyed Junco, "Western" Flycatcher, Chestnut-backed Chickadee, and Rufous Hummingbird (Table 20). Overall, the most abundant breeding species at the six Siuslaw MAPS stations in 2004 (according to adults captured/600 net hrs), in decreasing order, were Swainson's Thrush, Wilson's Warbler, Winter Wren, "Western" Flycatcher, Dark-eyed Junco, and Chestnut-backed Chickadee (Table 20; the number of individual adult Rufous Hummingbirds captured could not be determined since the birds were not banded). The following is a list of the common breeding species (captured at a rate of at least 6.0 adults per 600 net-hours), in decreasing order, at each station in 2004:

<u>Cougar Creek</u>	<u>Crab Creek</u>	<u>Homestead</u>
Swainson's Thrush	Swainson's Thrush	Swainson's Thrush
Wilson's Warbler	Dark-eyed Junco	Wilson's Warbler
Chestnut-backed Chickadee	Hammond's Flycatcher	Winter Wren
Winter Wren		"Western" Flycatcher
"Western" Flycatcher	<u>Salvation Meadow</u>	
	Swainson's Thrush	<u>Beaver Ridge</u>
<u>Cape Creek</u>	Wilson's Warbler	Swainson's Thrush
Dark-eyed Junco	"Western" Flycatcher	Wilson's Warbler
Swainson's Thrush	Song Sparrow	Winter Wren

FREMONT NATIONAL FOREST, OREGON

Within Fremont National Forest, the six stations are located (from highest to lowest elevation) as follows: (1) The Sycan River station at 2004 m; (2) the Deadhorse station at 1944 m; (3) the Cold Creek station at 1926 m; (4) the Augur Creek station at 1847 m; (5) the Swamp Creek station at 1658 m; and (6) the Island station at 1628 m. All stations are on the Paisley Ranger District. See Table 21 for details on the habitats and 2004 operation of these stations.

A total of 2060.2 net-hours was accumulated at the six MAPS stations operated in Fremont

National Forest in 2004 (Table 21). Of these, 1921.8 net-hours could be compared with data from 2004 in a constant-effort manner.

The 2004 capture summary of the numbers of newly-banded, unbanded, and recaptured birds at Fremont National Forest is presented for each species at each of the six stations individually in Table 22 and for all stations combined in Table 24. A total of 1164 captures of 52 species was recorded during the summer of 2004. Newly banded birds comprised 61.6% of the total captures. The greatest number of total captures (391) was recorded at the Deadhorse station and the smallest number of total captures (76) was recorded at the Cold Creek station. Species richness was highest at Deadhorse (38 species) and lowest at Island (17 species).

The capture rates (per 600 net-hours) of individual adult and young birds and the reproductive index are presented for each species and for all species pooled at each station (Table 23) and for all stations combined (Table 24). We present capture rates (captures per 600 net-hours) of adults and young in this table so that the data can be compared among stations which, because of the vagaries of weather and accidental net damage, can differ from one another in effort expended (see Table 21). These capture indices indicate that the total adult population size in 2004 was greatest at Deadhorse, followed in descending order by Sycan River, Island, Augur Creek, Swamp Creek, and Cold Creek. The capture rate of young of all species pooled at each station in 2004 was highest at Deadhorse and lowest at Swamp Creek. Reproductive index at the Fremont stations in 2004, i.e., the number of young per adult, was highest at Deadhorse (0.54), followed by Cold Creek (0.40), Augur Creek (0.30), Sycan River (0.21), Island (0.17), and Swamp Creek (0.10).

Among individual species, Dark-eyed Junco was the most frequently captured species, followed by Orange-crowned Warbler, Warbling Vireo, MacGillivray's Warbler, Mountain Chickadee, Lincoln's Sparrow, Red-breasted Sapsucker, American Robin, and White-crowned Sparrow (Table 24). Overall, the most abundant breeding species at the six Fremont MAPS stations in 2004 (according to adults captured/600 net hrs), in decreasing order, were Dark-eyed Junco, Warbling Vireo, MacGillivray's Warbler, Yellow-rumped Warbler, Mountain Chickadee, American Robin, Dusky Flycatcher, Red-breasted Sapsucker, White-crowned Sparrow, and Lincoln's Sparrow (Table 24). The following is a list of the common breeding species (captured at a rate of at least 6.0 adults per 600 net-hours), in decreasing order, at each station in 2004:

Sycan River

MacGillivray's Warbler
Dark-eyed Junco
Dusky Flycatcher
White-crowned Sparrow
Warbling Vireo
Lincoln's Sparrow
American Robin
Mountain Chickadee
"Western" Flycatcher
Wilson's Warbler

Deadhorse

Dusky Flycatcher
Warbling Vireo
MacGillivray's Warbler
Dark-eyed Junco
Western Wood-Pewee
American Robin
Yellow-rumped Warbler
Red-breasted Sapsucker
White-crowned Sparrow
Cassin's Finch

Swamp Creek

Dark-eyed Junco
American Robin
Mountain Chickadee
"Western Flycatcher
Brown Creeper
MacGillivray's Warbler

Island

Dark-eyed Junco
Yellow-rumped Warbler

<u>Augur Creek</u>	“Western” Flycatcher	Mountain Chickadee
Warbling Vireo	Lazuli Bunting	Hammond’s Flycatcher
Mountain Chickadee	Hybrid Sapsucker	Warbling Vireo
Dark-eyed Junco	<u>Cold Creek</u>	Brown Creeper
MacGillivray’s Warbler	Dark-eyed Junco	ed-breasted Sapsucker
Yellow-rumped Warbler	Lincoln’s Sparrow	American Robin

DISCUSSION

Populations of many species of landbirds on six national forests in Region 6 declined substantially and often significantly between 1992 and 2001. The decline for all species pooled over all six national forests was a substantial -1.5% per year. Declines were most pronounced on Siuslaw, Willamette, and especially, Umatilla National Forest where avian populations have declined by nearly 50% since 1992. Productivity also declined on Region 6 National Forests during this period, and productivity appears to be an important factor in driving population trends for many declining species in the Region. For many species, especially Neotropical-wintering migrants, the trend in global climate during the 1990's, as characterized by the El Niño/Southern Oscillation, appears to have contributed to the decreasing trends in productivity which, in turn, have likely contributed to the population declines. For most declining species, however, low overall productivity (regardless of the productivity trend) or low average survival rates (or both), that are unrelated to climate, appear to provide the major cause(s) of the population declines. We suspect that the ultimate environmental cause for these deficient vital rates, especially low productivity, relates to habitat loss and/or degradation.

The population declines in landbirds that we have documented on Region Six national forests, especially those that appear to be caused by low productivity on the breeding grounds, are potentially within the ability of the U.S. Forest Service to correct. As mentioned above, a major objective of the MAPS program on Region Six national forests was to provide for a comprehensive analysis of the ten years of demographic data as a function of landscape-scale habitat characteristics and spatially explicit weather data. These analyses have now been completed, and management guidelines and conservation strategies to reverse the population declines and maintain stable or increasing populations of landbird species of conservation concern have been formulated (Nott et al. 2005). These management strategies will involve efforts to modify the habitat from characteristics associated with low productivity to characteristics associated with high productivity (for species for which low productivity is driving the population decline). A similar analysis has been completed for DoD Military Installations (Nott *et al.* 2003) and active management to reverse population declines has begun on these installations. At Siuslaw, two stations have already been altered to help understand population dynamics as related to forest thinning practices.

The current objective of the MAPS Program on Region 6 National Forests is to integrate these management guidelines and conservation strategies to reverse population declines of landbird

species of conservation concern into new or on-going forest management actions. We have already begun this process at Siuslaw and hope to begin integrating these avian management guidelines and strategies on the other five Region Six National Forests in 2005. We will then be able to monitor the effectiveness of those avian management guidelines and strategies through (1) the establishment of a number of new MAPS stations within the various landscapes where the management is taking place; (2) the discontinuance of an equal number of existing stations, and (3) the continued operation of the remaining existing MAPS stations to serve as controls for the new stations sited to monitor the effectiveness of the implemented management. In this way, the total number of stations operated will remain the same (e.g., six stations will be run on each of the six national forests in Region Six where stations are now being operated).

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Table 1. Summary of the 2004 MAPS program on Mount Baker National Forest.

Station			Major Habitat Type	Latitude-longitude	Avg Elev. (m)	2004 operation		
Name	Code	No.				Total number of net-hours ¹	No. of periods	Inclusive dates
Monte Cristo Lake	MCLA	11144	Wet open meadow, riparian alder corridor, dense mixed coniferous forest	48°03'03"N,121°25'57"W	610	313.3 (234.0)	7	6/04 - 8/03
Perry Creek	PECR	11143	Dense mixed coniferous forest, riparian alder corridor	48°03'49"N,121°30'58"W	512	338.0 (273.7)	7	6/03 - 8/04
Bench Thin	BETH	11908	Thinned mixed coniferous forest, dense mixed coniferous forest	48°10'05"N,121°26'43"W	354	420.0 (378.0)	7	6/02 - 7/31
Frog Lake	FRLA	11139	Dense mixed coniferous lacustrine forest	48°12'30"N,121°34'33"W	317	400.0 (333.0)	7	6/01 - 8/02
Beaver Lake	BELA	11141	Semi-wet dense mixed coniferous forest, wet open swampland, beaver pond	48°09'47"N,121°26'50"W	299	405.3 (405.3)	7	5/31 - 8/01
Murphy Creek	MUCR	11140	Disturbed dense mixed coniferous forest, riparian alder corridor	48°11'25"N,121°31'08"W	244	386.7 (386.0)	7	5/27 - 7/30
ALL STATIONS COMBINED						2263.3(2010.0)	7	5/27 - 8/04

¹ Total net-hours in 2004. Net-hours in 2004 that could be compared in a constant-effort manner to 2003 are shown in parentheses.

Table 2. Capture summary for the six individual MAPS stations operated on Mount Baker National Forest in 2004.
 N = Newly Banded, U = Unbanded, R = Recaptures of banded birds.

Species	Monte Cristo Lake			Perry Creek			Bench Thin			Frog Lake			Beaver Lake			Murphy Creek		
	N	U	R	N	U	R	N	U	R	N	U	R	N	U	R	N	U	R
Calliope Hummingbird						1												
Rufous Hummingbird		41				13		8			13			6				10
Red-breasted Sapsucker	1		3				1			2				1		3		
Downy Woodpecker	1																	
Hairy Woodpecker	1			2					1	4		1	2			1		1
Western Wood-Pewee													1					
Hammond's Flycatcher	2			1			3		1	1		2	2			3		
"Western" Flycatcher	3			2			4			5		1	4		2	5		1
Unident. Empidonax Flycat.						1												
Warbling Vireo	1		3	2												2		
Red-eyed Vireo													2		4			
Gray Jay							1											
Steller's Jay	4		1	2						1	1		3					
Chestnut-backed Chickadee	1			8	2		6		1	3			1	1		6		1
Brown Creeper	1						2											
Winter Wren				1			7	2		9		5	5			2	1	4
American Dipper				1														
Golden-crowned Kinglet										1		2						
Swainson's Thrush	16		16	7		10	19		28	7		20	23		30	25		36
American Robin	12	1	3	6		3	4		1	7		5	15		4	8	1	
Varied Thrush	7		2	6		1	2			1						3		3
Cedar Waxwing		1											3			1		
Yellow Warbler	1																	
Black-throated Gray Warbler							1						1			2		2
MacGillivray's Warbler	1						7		2						1			

Table 2. (cont.) Capture summary for the six individual MAPS stations operated on Mount Baker National Forest in 2004.
 N = Newly Banded, U = Unbanded, R = Recaptures of banded birds.

Species	Monte Cristo Lake			Perry Creek			Bench Thin			Frog Lake			Beaver Lake			Murphy Creek		
	N	U	R	N	U	R	N	U	R	N	U	R	N	U	R	N	U	R
Common Yellowthroat	2		5							1			2					
Wilson's Warbler	2												2				3	
Western Tanager	1																	
Spotted Towhee							3											
Song Sparrow	7		2	6	1		1			2			14	1	2	4		4
Dark-eyed Junco							4	1	3									
Black-headed Grosbeak													2				1	
ALL SPECIES POOLED	64	43	35	44	18	14	65	11	37	44	14	36	82	8	44	69	12	52
Total Number of Captures		142			76			113			94			134			133	
Number of Species	18	3	8	12	5	3	15	3	7	13	2	7	16	3	7	15	3	8
Total Number of Species		20			15			17			14			19			16	

Table 3. Numbers of adult and young individual birds captured per 600 net-hours and reproductive index (young/adult) at the six individual MAPS stations operated on Mount Baker National Forest in 2004.

Species	Monte Cristo Lake			Perry Creek			Bench Thin			Frog Lake			Beaver Lake			Murphy Creek		
	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index
Red-breasted Sapsucker	5.7	0.0	0.00				1.4	0.0	0.00	3.0	0.0	0.00	1.5	0.0	0.00	1.6	3.1	2.00
Downy Woodpecker	1.9	0.0	0.00															
Hairy Woodpecker	0.0	1.9	undf. ¹	0.0	3.6	undf. ¹	1.4	0.0	0.00	3.0	3.0	1.00	0.0	3.0	undf. ¹	1.6	1.6	1.00
Western Wood-Pewee													1.5	0.0	0.00			
Hammond's Flycatcher	3.8	0.0	0.00	1.8	0.0	0.00	4.3	0.0	0.00	4.5	0.0	0.00	1.5	0.0	0.00	4.7	0.0	0.00
"Western" Flycatcher	5.7	0.0	0.00	3.6	0.0	0.00	5.7	0.0	0.00	7.5	0.0	0.00	7.4	0.0	0.00	4.7	3.1	0.67
Warbling Vireo	7.7	0.0	0.00	1.8	0.0	0.00										3.1	0.0	0.00
Red-eyed Vireo													3.0	0.0	0.00			
Gray Jay							0.0	1.4	undf. ¹									
Steller's Jay	9.6	0.0	0.00	0.0	3.6	undf.				1.5	0.0	0.00	4.4	0.0	0.00			
Chestnut-backed Chickadee	0.0	1.9	undf.	1.8	12.4	7.00	7.1	1.4	0.20	4.5	0.0	0.00	1.5	0.0	0.00	1.6	7.8	5.00
Brown Creeper	1.9	0.0	0.00				2.9	0.0	0.00									
Winter Wren				1.8	0.0	0.00	7.1	2.9	0.40	10.5	3.0	0.29	5.9	1.5	0.25	4.7	0.0	0.00
American Dipper				0.0	1.8	undf.												
Golden-crowned Kinglet										1.5	0.0	0.00						
Swainson's Thrush	38.3	0.0	0.00	17.8	1.8	0.10	38.6	1.4	0.04	19.5	0.0	0.00	45.9	0.0	0.00	54.3	0.0	0.00
American Robin	17.2	9.6	0.56	10.7	1.8	0.17	5.7	0.0	0.00	15.0	0.0	0.00	22.2	0.0	0.00	12.4	0.0	0.00
Varied Thrush	7.7	3.8	0.50	7.1	1.8	0.25	0.0	2.9	undf.	0.0	1.5	undf. ¹				6.2	1.6	0.25
Cedar Waxwing	1.9	0.0	0.00										4.4	0.0	0.00	1.6	0.0	0.00
Yellow Warbler	1.9	0.0	0.00															
Black-throated Gray Warbler							1.4	0.0	0.00				1.5	0.0	0.00	3.1	0.0	0.00

Table 3. (cont.) Numbers of adult and young individual birds captured per 600 net-hours and reproductive index (young/adult) at the six individual MAPS stations operated on Mount Baker National Forest in 2004.

Species	Monte Cristo Lake			Perry Creek			Bench Thin			Frog Lake			Beaver Lake			Murphy Creek		
	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index
MacGillivray's Warbler	0.0	1.9	undf.				11.4	0.0	0.00				1.5	0.0	0.00			
Common Yellowthroat	3.8	0.0	0.00							1.5	0.0	0.00	3.0	0.0	0.00			
Wilson's Warbler	1.9	1.9	1.00										1.5	0.0	0.00	4.7	0.0	0.00
Western Tanager	1.9	0.0	0.00															
Spotted Towhee							4.3	0.0	0.00									
Song Sparrow	11.5	3.8	0.33	8.9	1.8	0.20	0.0	1.4	undf.	1.5	1.5	1.00	17.8	4.4	0.25	6.2	0.0	0.00
Dark-eyed Junco							5.7	0.0	0.00									
Black-headed Grosbeak													3.0	0.0	0.00	1.6	0.0	0.00
ALL SPECIES POOLED	122.6	24.9	0.20	55.0	28.4	0.52	97.1	11.4	0.12	73.5	9.0	0.12	127.3	8.9	0.07	111.7	17.1	0.15
Number of Species	16	7		9	8		13	6		12	4		17	3		15	5	
Total Number of Species		19			12			16			13			18			15	

¹ Reproductive index (young/adult) is undefined because no adults of this species were captured at this station in this year.

Table 4. Summary of results for all six Mount Baker National Forest MAPS stations combined in 2004.

Species	Birds captured			Birds/600 nethours		Reprod. Index
	Newly banded	Un-banded	Recap-tured	Adults	Young	
Calliope Hummingbird		1				
Rufous Hummingbird		91				
Red-breasted Sapsucker	7		4	2.1	0.5	0.25
Downy Woodpecker	1			0.3	0.0	0.00
Hairy Woodpecker	10		3	1.1	2.1	2.00
Western Wood-Pewee	1			0.3	0.0	0.00
Hammond's Flycatcher	12		3	3.4	0.0	0.00
"Western" Flycatcher	23		4	5.8	0.5	0.09
Unident. Empidonax Flycat.		1				
Warbling Vireo	5		3	1.9	0.0	0.00
Red-eyed Vireo	2		4	0.5	0.0	0.00
Gray Jay	1			0.0	0.3	undf. ¹
Steller's Jay	10	1	1	2.4	0.5	0.22
Chestnut-backed Chickadee	25	3	2	2.9	3.7	1.27
Brown Creeper	3			0.8	0.0	0.00
Winter Wren	24	3	9	5.3	1.3	0.25
American Dipper	1			0.0	0.3	undf.
Golden-crowned Kinglet	1		2	0.3	0.0	0.00
Swainson's Thrush	97		140	35.8	0.5	0.02
American Robin	52	2	16	13.8	1.6	0.12
Varied Thrush	19		6	3.2	1.9	0.58
Cedar Waxwing	4	1		1.3	0.0	0.00
Yellow Warbler	1			0.3	0.0	0.00
Black-throated Gray Warbler	4		2	1.1	0.0	0.00
MacGillivray's Warbler	8		3	2.1	0.3	0.13
Common Yellowthroat	5		5	1.3	0.0	0.00
Wilson's Warbler	7			1.3	0.3	0.20
Western Tanager	1			0.3	0.0	0.00
Spotted Towhee	3			0.8	0.0	0.00
Song Sparrow	34	2	8	7.4	2.1	0.29
Dark-eyed Junco	4	1	3	1.1	0.0	0.00
Black-headed Grosbeak	3			0.8	0.0	0.00
ALL SPECIES POOLED	368	106	218	97.6	15.9	0.16
Total Number of Captures		692				
Number of Species	29	9	18	27	14	
Total Number of Species		31			29	

¹ Reproductive index (young/adult) is undefined because no adults of this species were captured at this location in this year.

Table 5. Summary of the 2004 MAPS program on Wenatchee National Forest.

Station			Major Habitat Type	Latitude-longitude	Avg Elev. (m)	2004 operation		
Name	Code	No.				Total number of net-hours ¹	No. of periods	Inclusive dates
Two Point	TWPO	11147	Dry grazed montane meadow, open disturbed mixed coniferous forest	46°57'42"N,120°55'30"W	1512	386.7 (380.7)	7	6/08 - 8/04
Deep Creek	DECR	11150	Undisturbed fir/spruce bog, dense mixed coniferous forest	46°46'48"N,121°20'23"W	1195	350.0 (304.5)	7	6/09 - 8/02
Pleasant Valley	PLVA	11148	Wet open meadow, riparian alder corridor, open spruce forest, dense mixed coniferous forest	46°56'55"N,121°18'25"W	1000	365.7 (288.7)	7	6/07 - 8/01
Timothy Meadow	TIME	11145	Wet alder/huckleberry marshland, open spruce woodland, mixed coniferous forest	47°04'47"N,121°15'29"W	951	357.3 (320.5)	7	6/02 - 7/30
Quartz Creek 2	QCR2	11902	Riparian alder river-bottom, open mixed coniferous forest, beaver ponds, open shrubland	47°01'19"N,121°08'15"W	853	394.0 (322.2)	7	6/03 - 7/31
Rattlesnake Springs	RASP	11149	Riparian alder/aspen grove, chaparral, mixed coniferous forest	46°48'20"N,121°03'09"W	817	403.3 (396.0)	7	6/04 - 8/03
ALL STATIONS COMBINED						2257.0(2012.5)	7	6/02 - 8/04

¹ Total net-hours in 2004. Net-hours in 2004 that could be compared in a constant-effort manner to 2003 are shown in parentheses.

Table 6. (cont.) Capture summary for the six individual MAPS stations operated on Wenatchee National Forest in 2004.
 N = Newly Banded, U = Unbanded, R = Recaptures of banded birds.

Species	Two Point			Deep Creek			Pleasant Valley			Timothy Meadow			Quartz Creek 2			Rattlesnake Springs		
	N	U	R	N	U	R	N	U	R	N	U	R	N	U	R	N	U	R
Red-breasted Nuthatch	4			10									2	2		16		
Brown Creeper				3			2		1							1		1
House Wren													3	1		6		
Winter Wren				3			1											
Golden-crowned Kinglet	20	2		10			9	1	2	8			3	1				
Ruby-crowned Kinglet	2									1								
Townsend's Solitaire																2		
Swainson's Thrush				6		5				2			4	3				
Hermit Thrush	6		2	8			1						1			2		
American Robin	6		1	2			9		4	1			10	3		2		
Varied Thrush				5									1					
Cedar Waxwing													1			3		
Orange-crowned Warbler	25		2	24		1										2	1	
Nashville Warbler	37		1	2			5						2	2		3		2
Yellow Warbler							2		1				13	9				
Yellow-rumped Warbler	3			3			21		7	4		1	5	4		8		
Townsend's Warbler	8			51	1	5	9		2	7		1	2			10		
Townsend's x Hermit Hybrid				2														
MacGillivray's Warbler	51	2	38	3			3		6	1			14	2	30	21		29
Wilson's Warbler	1												2					
Western Tanager	2			1			5			2			2			12	1	3
Spotted Towhee																2		
Chipping Sparrow	9			1			10		5	3						6	1	1
Song Sparrow	5		4	1		1	4	1	3	4	1	8	12	3	16	3		3
Lincoln's Sparrow	9	1	3	17	3	17	7	1	5	7	1	16						

Table 6. (cont.) Capture summary for the six individual MAPS stations operated on Wenatchee National Forest in 2004.
 N = Newly Banded, U = Unbanded, R = Recaptures of banded birds.

Species	Two Point			Deep Creek			Pleasant Valley			Timothy Meadow			Quartz Creek 2			Rattlesnake Springs		
	N	U	R	N	U	R	N	U	R	N	U	R	N	U	R	N	U	R
White-crowned Sparrow							1						2	1	4			
Dark-eyed Junco	38	1	11	62	7	12	22	1	8	11	2	5	13	4	7	14		7
Black-headed Grosbeak	1		1				1						5			8		2
Lazuli Bunting	3		1										1					
Red-winged Blackbird													1					
Brown-headed Cowbird													2					
Purple Finch				1													2	
Cassin's Finch	3						1		1				10		2	3		
Unident. Carpodacus Finch														1				
Pine Siskin	4			41	1		11			9		1	38		6	30		1
Evening Grosbeak				87	14	1	5			2			1					
ALL SPECIES POOLED	257	93	68	365	35	56	148	16	51	70	16	38	177	47	117	186	26	66
Total Number of Captures		418			456			215			124			341			278	
Number of Species	28	6	12	30	8	14	28	5	14	18	5	8	34	9	19	29	6	15
Total Number of Species		30			34			29			20			39			33	

Table 7. Numbers of adult and young individual birds captured per 600 net-hours and reproductive index (young/adult) at the six individual MAPS stations operated on Wenatchee National Forest in 2004.

Species	Two Point			Deep Creek			Pleasant Valley			Timothy Meadow			Quartz Creek 2			Rattlesnake Springs		
	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index
Vaux's Swift							1.6	0.0	0.00									
Williamson's Sapsucker	1.6	0.0	0.00															
Red-naped Sapsucker				1.7	0.0	0.00										3.0	0.0	0.00
Red-breasted Sapsucker				1.7	3.4	2.00												
Downy Woodpecker													3.0	0.0	0.00	1.5	0.0	0.00
Hairy Woodpecker	0.0	1.6	undf. ¹	3.4	0.0	0.00				1.7	0.0	0.00	1.5	0.0	0.00			
Northern Flicker							1.6	0.0	0.00				1.5	0.0	0.00	1.5	0.0	0.00
Olive-sided Flycatcher				6.9	0.0	0.00	1.6	0.0	0.00				1.5	0.0	0.00			
Western Wood-Pewee				6.9	0.0	0.00	1.6	0.0	0.00				15.2	3.0	0.20	7.4	0.0	0.00
Hammond's Flycatcher	3.1	3.1	1.00	3.4	0.0	0.00	9.8	4.9	0.50	8.4	0.0	0.00	6.1	1.5	0.25	8.9	0.0	0.00
Dusky Flycatcher	4.7	1.6	0.33										7.6	1.5	0.20	8.9	0.0	0.00
"Western" Flycatcher	0.0	1.6	undf.							0.0	1.7	undf. ¹						
Cassin's Vireo	1.6	0.0	0.00	0.0	3.4	undf. ¹							3.0	0.0	0.00			
Warbling Vireo	12.4	0.0	0.00				8.2	0.0	0.00	3.4	0.0	0.00	12.2	0.0	0.00	10.4	0.0	0.00
Gray Jay				1.7	0.0	0.00												
Steller's Jay																1.5	0.0	0.00
Violet-green Swallow							1.6	0.0	0.00									
N. Rough-winged Swallow													1.5	0.0	0.00			
Mountain Chickadee	0.0	1.6	undf.													6.0	7.4	1.25
Chestnut-backed Chickadee				13.7	6.9	0.50	3.3	0.0	0.00									
Red-breasted Nuthatch	0.0	6.2	undf.	1.7	15.4	9.00							4.6	0.0	0.00	3.0	20.8	7.00

Table 7. (cont.) Numbers of adult and young individual birds captured per 600 net-hours and reproductive index (young/adult) at the six individual MAPS stations operated on Wenatchee National Forest in 2004.

Species	Two Point			Deep Creek			Pleasant Valley			Timothy Meadow			Quartz Creek 2			Rattlesnake Springs		
	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index
Brown Creeper				1.7	3.4	2.00	1.6	1.6	1.00							1.5	0.0	0.00
House Wren													1.5	4.6	3.00	4.5	4.5	1.00
Winter Wren				1.7	3.4	2.00	0.0	1.6	undf. ¹									
Golden-crowned Kinglet	0.0	31.0	undf.	1.7	15.4	9.00	4.9	9.8	2.00	1.7	11.8	7.00	4.6	0.0	0.00			
Ruby-crowned Kinglet	3.1	0.0	0.00							1.7	0.0	0.00						
Townsend's Solitaire																0.0	3.0	undf. ¹
Swainson's Thrush				13.7	0.0	0.00				1.7	1.7	1.00	6.1	1.5	0.25			
Hermit Thrush	6.2	3.1	0.50	6.9	6.9	1.00	0.0	1.6	undf.				0.0	1.5	undf. ¹	0.0	3.0	undf.
American Robin	7.8	1.6	0.20	1.7	1.7	1.00	18.0	0.0	0.00	1.7	0.0	0.00	16.8	1.5	0.09	3.0	0.0	0.00
Varied Thrush				3.4	5.1	1.50							1.5	0.0	0.00			
Cedar Waxwing													1.5	0.0	0.00	4.5	0.0	0.00
Nashville Warbler							1.6	6.6	4.00				3.0	0.0	0.00	3.0	3.0	1.00
Yellow Warbler							3.3	0.0	0.00				16.8	7.6	0.46			
Yellow-rumped Warbler	3.1	1.6	0.50	5.1	0.0	0.00	23.0	16.4	0.71	8.4	0.0	0.00	9.1	1.5	0.17	8.9	3.0	0.33
Townsend's Warbler	4.7	7.8	1.67	29.1	58.3	2.00	9.8	6.6	0.67	11.8	0.0	0.00	3.0	0.0	0.00	14.9	0.0	0.00
Townsend's x Hermit Hybrid				0.0	3.4	undf.												
MacGillivray's Warbler	46.6	49.7	1.07	0.0	5.1	undf.	6.6	0.0	0.00	1.7	0.0	0.00	25.9	9.1	0.35	29.8	8.9	0.30
Wilson's Warbler	0.0	1.6	undf.										3.0	0.0	0.00			
Western Tanager	1.6	1.6	1.00	1.7	0.0	0.00	8.2	0.0	0.00	3.4	0.0	0.00	3.0	0.0	0.00	20.8	1.5	0.07
Spotted Towhee																1.5	1.5	1.00
Chipping Sparrow	12.4	1.6	0.13	1.7	0.0	0.00	16.4	0.0	0.00	5.0	0.0	0.00				8.9	0.0	0.00

Table 7. (cont.) Numbers of adult and young individual birds captured per 600 net-hours and reproductive index (young/adult) at the six individual MAPS stations operated on Wenatchee National Forest in 2004.

Species	Two Point			Deep Creek			Pleasant Valley			Timothy Meadow			Quartz Creek 2			Rattlesnake Springs		
	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index
Song Sparrow	3.1	4.7	1.50	3.4	0.0	0.00	3.3	4.9	1.50	6.7	1.7	0.25	10.7	9.1	0.86	3.0	3.0	1.00
Lincoln's Sparrow	6.2	9.3	1.50	20.6	13.7	0.67	9.8	4.9	0.50	15.1	5.0	0.33						
White-crowned Sparrow							1.6	0.0	0.00				4.6	1.5	0.33			
Dark-eyed Junco	27.9	43.4	1.56	51.4	58.3	1.13	13.1	27.9	2.13	13.4	10.1	0.75	16.8	6.1	0.36	23.8	1.5	0.06
Black-headed Grosbeak	1.6	0.0	0.00				1.6	0.0	0.00				7.6	0.0	0.00	10.4	1.5	0.14
Lazuli Bunting	4.7	0.0	0.00										1.5	0.0	0.00			
Red-winged Blackbird													1.5	0.0	0.00			
Brown-headed Cowbird													1.5	1.5	1.00			
Purple Finch				0.0	1.7	undf.										1.5	1.5	1.00
Cassin's Finch	4.7	0.0	0.00				3.3	0.0	0.00				15.2	0.0	0.00	3.0	1.5	0.50
Pine Siskin	1.6	4.7	3.00	29.1	41.1	1.41	14.8	3.3	0.22	10.1	5.0	0.50	36.5	22.8	0.63	23.8	20.8	0.88
Evening Grosbeak				150.9	0.0	0.00	8.2	0.0	0.00	3.4	0.0	0.00	1.5	0.0	0.00			
ALL SPECIES POOLED	158.3	176.9	1.12	365.1	246.9	0.68	178.9	90.2	0.50	99.1	36.9	0.37	251.3	74.6	0.30	218.7	86.3	0.40
Number of Species	20	19		25	17		26	12		17	7		34	15		27	16	
Total Number of Species		26			29			28			18			35			29	

¹ Reproductive index (young/adult) is undefined because no adults of this species were captured at this station in this year.

Table 8. Summary of results for all six Wenatchee National Forest MAPS stations combined in 2004.

Species	Birds captured			Birds/600 nethours		Reprod. Index
	Newly banded	Un-banded	Recap-tured	Adults	Young	
Sharp-shinned Hawk		1				
Spotted Sandpiper		1				
Vaux's Swift	1			0.3	0.0	0.00
Calliope Hummingbird		52				
Rufous Hummingbird		123				
Williamson's Sapsucker	1			0.3	0.0	0.00
Red-naped Sapsucker			4	0.8	0.0	0.00
Red-breasted Sapsucker	3		3	0.3	0.5	2.00
Downy Woodpecker	2		2	0.8	0.0	0.00
Hairy Woodpecker	4		1	1.1	0.3	0.25
Northern Flicker	2	1		0.8	0.0	0.00
Olive-sided Flycatcher	4		2	1.6	0.0	0.00
Western Wood-Pewee	16		10	5.3	0.5	0.10
Hammond's Flycatcher	26		16	6.6	1.6	0.24
Dusky Flycatcher	13		16	3.7	0.5	0.14
"Western" Flycatcher	2			0.0	0.5	undf. ¹
Unident. Empidonax Flycatcher		1				
Cassin's Vireo	5			0.8	0.5	0.67
Warbling Vireo	24		13	8.0	0.0	0.00
Gray Jay	1			0.3	0.0	0.00
Steller's Jay	1			0.3	0.0	0.00
Violet-green Swallow	1			0.3	0.0	0.00
N. Rough-winged Swallow	1			0.3	0.0	0.00
Mountain Chickadee	8		3	1.1	1.6	1.50
Chestnut-backed Chickadee	11		4	2.7	1.1	0.40
Red-breasted Nuthatch	32		2	1.6	7.2	4.50
Brown Creeper	6		2	0.8	0.8	1.00
House Wren	9		1	1.1	1.6	1.50
Winter Wren	4			0.3	0.8	3.00
Golden-crowned Kinglet	50	3	3	2.1	11.2	5.25
Ruby-crowned Kinglet	3			0.8	0.0	0.00
Townsend's Solitaire	2			0.0	0.5	undf.
Swainson's Thrush	12		8	3.5	0.5	0.15
Hermit Thrush	18		2	2.1	2.7	1.25

Table 8. (cont.) Summary of results for all six Wenatchee National Forest MAPS stations in 2004.

Species	Birds captured			Birds/600 nethours		Reprod. Index
	Newly banded	Un- banded	Recap- tured	Adults	Young	
	American Robin	30		8	8.2	
Varied Thrush	6			0.8	0.8	1.00
Cedar Waxwing	4			1.1	0.0	0.00
Orange-crowned Warbler	51	1	3			
Nashville Warbler	49		5	1.3	1.6	1.20
Yellow Warbler	15		10	3.5	1.3	0.39
Yellow-rumped Warbler	44		12	9.6	3.7	0.39
Townsend's Warbler	87	1	8	12.0	11.4	0.96
Townsend's x Hermit Hybrid	2			0.0	0.5	undf.
MacGillivray's Warbler	93	4	103	19.1	12.5	0.65
Wilson's Warbler	3			0.5	0.3	0.50
Western Tanager	24	1	3	6.6	0.5	0.08
Spotted Towhee	2			0.3	0.3	1.00
Chipping Sparrow	29	1	6	7.4	0.3	0.04
Song Sparrow	29	5	35	5.1	4.0	0.79
Lincoln's Sparrow	40	6	41	8.2	5.3	0.65
White-crowned Sparrow	3	1	4	1.1	0.3	0.25
Dark-eyed Junco	160	15	50	24.2	23.9	0.99
Black-headed Grosbeak	15		3	3.7	0.3	0.07
Lazuli Bunting	4		1	1.1	0.0	0.00
Red-winged Blackbird	1			0.3	0.0	0.00
Brown-headed Cowbird	2			0.3	0.3	1.00
Purple Finch	3			0.3	0.5	2.00
Cassin's Finch	17		3	4.5	0.3	0.06
Unidentified Carpodacus Finch		1				
Pine Siskin	133	1	8	19.4	16.2	0.84
Evening Grosbeak	95	14	1	25.5	0.0	0.00
ALL SPECIES POOLED	1203	233	396	211.3	117.5	0.56
Total Number of Captures		1832				
Number of Species	54	17	35	51	38	
Total Number of Species		59			54	

¹ Reproductive index (young/adult) is undefined because no adults of this species were captured at this location in this year.

Table 9. Summary of the 2004 MAPS program on Umatilla National Forest.

Station			Major Habitat Type	Latitude-longitude	Avg Elev. (m)	2004 operation		
Name	Code	No.				Total number of net-hours ¹	No. of periods	Inclusive dates
Buzzard Creek	BUCR	11151	Disturbed coniferous forest, successional alder scrub	45°50'14"N,117°56'56"W	1524	394.3 (302.0)	7	6/12 - 8/04
Buck Mountain Meadow	BMME	11155	Montane meadow, dense coniferous forest	45°40'43"N,118°06'54"W	1378	378.7 (325.8)	7	6/02 - 8/01
Coyote Ridge	CORI	11154	Successional disturbed mixed coniferous forest	45°44'48"N,118°10'16"W	1341	379.3 (342.7)	7	6/03 - 8/03
Fry Meadow	FRME	11153	Montane meadow, coniferous forest	45°47'36"N,117°50'29"W	1280	397.7 (393.7)	7	6/01 - 7/30
Brock Meadow	BRME	11152	Montane meadow, coniferous forest, riparian willows	45°49'01"N,117°51'53"W	1244	366.7 (283.5)	7	6/04 - 7/31
Phillips Creek	PHCR	11156	Riparian willow/alder, dry chaparral, open mixed conifer/oak forest	45°35'08"N,118°01'43"W	975	394.3 (367.7)	7	5/31 - 8/02
ALL STATIONS COMBINED						2311.0(2015.3)	7	5/31 - 8/04

¹ Total net-hours in 2004. Net-hours in 2004 that could be compared in a constant-effort manner to 2003 are shown in parentheses.

Table 10. (cont.) Capture summary for the six individual MAPS stations operated on Umatilla National Forest in 2004.
 N = Newly Banded, U = Unbanded, R = Recaptures of banded birds.

Species	Buzzard Creek			Buck Mountain Meadow			Coyote Ridge			Fry Meadow			Brock Meadow			Phillips Creek		
	N	U	R	N	U	R	N	U	R	N	U	R	N	U	R	N	U	R
American Robin										1			3		1	7		1
Varied Thrush				1														
Cedar Waxwing													1					
Orange-crowned Warbler	30	1		3			8						1			2		
Nashville Warbler	2						1											
Yellow-rumped Warbler	1		1	7		2	1			8	1	1	8		8	1		
Townsend's Warbler	15		4	26	2	6	4		5	4		1	11			4		1
MacGillivray's Warbler	1			7		5	19		11	5		2	16		20	12		17
Wilson's Warbler	14		3	11		6							12		7	1		
Western Tanager	6			8		3	2		1	1			1			2		
Chipping Sparrow	7		3	9		2	1			5						1		
Fox Sparrow										1		5						
Song Sparrow													2		2			
Lincoln's Sparrow				3	1					9		10	10	2	22			
Dark-eyed Junco	9	1	7	18	1	6	8	1	2	6	1	4	5		2	6		
Black-headed Grosbeak							2									4		2
Lazuli Bunting													5					
Brown-headed Cowbird							1											
Pine Siskin	1									1		1						
Unidentified Bird								1										
ALL SPECIES POOLED	127	8	40	165	13	51	73	2	40	67	3	37	110	5	83	61	3	34
Total Number of Captures		175			229			115			107			198			98	
Number of Species	19	7	11	21	8	15	19	2	9	18	3	11	22	3	12	17	3	6
Total Number of Species		25			25			21			19			23			20	

Table 11. Numbers of adult and young individual birds captured per 600 net-hours and reproductive index (young/adult) at the six individual MAPS stations operated on Umatilla National Forest in 2004.

Species	Buzzard Creek			Buck Mountain Meadow			Coyote Ridge			Fry Meadow			Brock Meadow			Phillips Creek		
	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index
Red-naped Sapsucker										1.5	0.0	0.00	9.8	1.6	0.17	1.5	0.0	0.00
Hairy Woodpecker	1.5	0.0	0.00				3.2	0.0	0.00	1.5	0.0	0.00						
"Traill's" Flycatcher													9.8	0.0	0.00			
Hammond's Flycatcher				4.8	0.0	0.00				4.5	0.0	0.00						
Gray Flycatcher													1.6	0.0	0.00			
Dusky Flycatcher	3.0	0.0	0.00				7.9	0.0	0.00							1.5	0.0	0.00
"Western" Flycatcher																3.0	0.0	0.00
Cassin's Vireo	0.0	1.5	undf. ¹	1.6	0.0	0.00	1.6	0.0	0.00							1.5	0.0	0.00
Warbling Vireo	9.1	0.0	0.00	1.6	0.0	0.00	7.9	0.0	0.00				6.5	0.0	0.00	1.5	1.5	1.00
Black-capped Chickadee													1.6	0.0	0.00			
Mountain Chickadee				1.6	0.0	0.00							1.6	0.0	0.00			
Chestnut-backed Chickadee				1.6	0.0	0.00				1.5	0.0	0.00						
Red-breasted Nuthatch				6.3	4.8	0.75	1.6	0.0	0.00				3.3	0.0	0.00	6.1	0.0	0.00
Brown Creeper				3.2	0.0	0.00	0.0	1.6	undf. ¹									
Winter Wren				7.9	0.0	0.00										4.6	0.0	0.00
Golden-crowned Kinglet	3.0	13.7	4.50	12.7	36.4	2.88	3.2	1.6	0.50	9.1	3.0	0.33	4.9	3.3	0.67			
Ruby-crowned Kinglet	6.1	6.1	1.00	15.8	6.3	0.40	1.6	0.0	0.00	10.6	1.5	0.14	9.8	4.9	0.50			
Swainson's Thrush	10.7	1.5	0.14	17.4	0.0	0.00	9.5	0.0	0.00	10.6	0.0	0.00	11.5	0.0	0.00	16.7	0.0	0.00
Hermit Thrush	12.2	0.0	0.00				12.7	0.0	0.00	4.5	0.0	0.00						
American Robin										1.5	0.0	0.00	4.9	0.0	0.00	9.1	1.5	0.17
Varied Thrush				1.6	0.0	0.00												
Cedar Waxwing													1.6	0.0	0.00			

Table 11. (cont.) Numbers of adult and young individual birds captured per 600 net-hours and reproductive index (young/adult) at the six individual MAPS stations operated on Umatilla National Forest in 2004.

Species	Buzzard Creek			Buck Mountain Meadow			Coyote Ridge			Fry Meadow			Brock Meadow			Phillips Creek		
	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index
Orange-crowned Warbler	6.1	41.1	6.75	0.0	4.8	undf. ¹	9.5	3.2	0.33				1.6	0.0	0.00	3.0	0.0	0.00
Nashville Warbler							1.6	0.0	0.00									
Yellow-rumped Warbler	3.0	0.0	0.00	6.3	6.3	1.00	1.6	0.0	0.00	12.1	0.0	0.00	13.1	4.9	0.38	1.5	0.0	0.00
Townsend's Warbler	19.8	3.0	0.15	30.1	14.3	0.47	9.5	0.0	0.00	7.5	0.0	0.00	14.7	3.3	0.22	6.1	0.0	0.00
MacGillivray's Warbler	0.0	1.5	undf.	6.3	7.9	1.25	23.7	15.8	0.67	7.5	3.0	0.40	32.7	0.0	0.00	19.8	6.1	0.31
Wilson's Warbler	18.3	4.6	0.25	17.4	3.2	0.18							19.6	1.6	0.08	1.5	0.0	0.00
Western Tanager	9.1	0.0	0.00	15.8	0.0	0.00	4.7	0.0	0.00	1.5	0.0	0.00	1.6	0.0	0.00	3.0	0.0	0.00
Chipping Sparrow	9.1	1.5	0.17	14.3	0.0	0.00	1.6	0.0	0.00	7.5	0.0	0.00				1.5	0.0	0.00
Fox Sparrow										4.5	0.0	0.00						
Song Sparrow													3.3	0.0	0.00			
Lincoln's Sparrow				1.6	3.2	2.00				15.1	3.0	0.20	24.5	3.3	0.13			
Dark-eyed Junco	13.7	6.1	0.44	20.6	11.1	0.54	9.5	3.2	0.33	10.6	0.0	0.00	8.2	0.0	0.00	1.5	7.6	5.00
Black-headed Grosbeak							1.6	1.6	1.00							6.1	0.0	0.00
Lazuli Bunting													0.0	8.2	undf. ¹			
Brown-headed Cowbird							1.6	0.0	0.00									
Pine Siskin	0.0	1.5	undf.							3.0	0.0	0.00						
ALL SPECIES POOLED	124.8	82.2	0.66	188.6	98.2	0.52	113.9	26.9	0.24	114.7	10.6	0.09	186.5	31.1	0.17	89.8	16.7	0.19
Number of Species	14	11		20	10		19	6		18	4		21	8		18	4	
Total Number of Species		17			21			20			18			22			18	

¹ Reproductive index (young/adult) is undefined because no adults of this species were captured at this station in this year.

Table 12. Summary of results for all six Umatilla National Forest MAPS stations combined in 2004.

Species	Birds captured			Birds/600 nethours		Reprod. Index
	Newly banded	Un-banded	Recap-tured	Adults	Young	
Sharp-shinned Hawk		1				
Unidentified Accipiter		1				
Calliope Hummingbird		3				
Rufous Hummingbird		6				
Unidentified Hummingbird		2				
Red-naped Sapsucker	6		8	2.1	0.3	0.13
Hairy Woodpecker	4			1.0	0.0	0.0
"Traill's" Flycatcher	3		8	1.6	0.0	0.0
Hammond's Flycatcher	5		5	1.6	0.0	0.0
Hammond's/Dusky Flycatcher		1				
Gray Flycatcher	1			0.3	0.0	0.0
Dusky Flycatcher	5		5	2.1	0.0	0.0
"Western" Flycatcher	2			0.5	0.0	0.0
Unident. Empidonax Flycatcher		4				
Cassin's Vireo	4		1	0.8	0.3	0.33
Warbling Vireo	17		8	4.4	0.3	0.06
Black-capped Chickadee	1			0.3	0.0	0.0
Mountain Chickadee	2			0.5	0.0	0.0
Chestnut-backed Chickadee	2			0.5	0.0	0.0
Red-breasted Nuthatch	13	1	2	2.9	0.8	0.27
Brown Creeper	3		2	0.5	0.3	0.50
Winter Wren	9	1	1	2.1	0.0	0.0
Golden-crowned Kinglet	57		10	5.5	9.6	1.76
Ruby-crowned Kinglet	36	1	9	7.3	3.1	0.43
Swainson's Thrush	35	1	43	12.7	0.3	0.02
Hermit Thrush	16		9	4.9	0.0	0.0
American Robin	11		2	2.6	0.3	0.10
Varied Thrush	1			0.3	0.0	0.0
Cedar Waxwing	1			0.3	0.0	0.0
Orange-crowned Warbler	44	1		3.4	8.3	2.46
Nashville Warbler	3			0.3	0.0	0.00
Yellow-rumped Warbler	26	1	12	6.2	1.8	0.29
Townsend's Warbler	64	2	17	14.5	3.4	0.23
MacGillivray's Warbler	60		55	14.8	5.7	0.39

Table 12. (cont.) Summary of results for all six Umatilla National Forest MAPS stations combined in 2004.

Species	Birds captured			Birds/600 nethours		Reprod. Index
	Newly banded	Un-banded	Recap-tured	Adults	Young	
Wilson's Warbler	38		16	9.3	1.6	0.17
Western Tanager	20		4	6.0	0.0	0.0
Chipping Sparrow	23		5	5.7	0.3	0.05
Fox Sparrow	1		5	0.8	0.0	0.0
Song Sparrow	2		2	0.5	0.0	0.0
Lincoln's Sparrow	22	3	32	6.8	1.6	0.23
Dark-eyed Junco	52	4	21	10.6	4.7	0.44
Black-headed Grosbeak	6		2	1.3	0.3	0.20
Lazuli Bunting	5			0.0	1.3	undf. ¹
Brown-headed Cowbird	1			0.3	0.0	0.0
Pine Siskin	2		1	0.5	0.3	0.50
Unidentified Bird		1				
ALL SPECIES POOLED	603	34	285	135.5	44.1	0.33
Total Number of Captures		922				
Number of Species	38	13	26	37	20	
Total Number of Species		42			38	

¹ Reproductive index (young/adult) is undefined because no adults of this species were captured at this location in this year.

Table 13. Summary of the 2004 MAPS program on Willamette National Forest.

Station			Major Habitat Type	Latitude-longitude	Avg Elev. (m)	2004 operation		
Name	Code	No.				Total number of net-hours ¹	No. of periods	Inclusive dates
Clearcut	CLCU	11160	Disturbed open mixed coniferous forest with dry mixed evergreen shrub component	43°57'29"N,122°12'46"W	1292	440.3 (414.0)	8	5/24 - 8/02
Fingerboard Prairie	FIPR	11158	Disturbed wet open meadow complex with alder/ willow thickets, fairly open mixed coniferous forest, dense deciduous/coniferous forest	44°11'57"N,121°57'22"W	1195	433.3 (422.5)	8	5/20 - 7/31
Ikenick	IKEN	11157	Very wet open meadow, mature mixed coniferous forest edge, disturbed mixed coniferous forest	44°22'15"N,122°00'59"W	1006	414.3 (378.8)	8	5/19 - 8/01
Brock Creek	BRCR	11162	Thinned mixed coniferous forest, dense mixed coniferous forest	43°52'55"N,122°12'00"W	792	424.3 (396.0)	8	5/23 - 8/04
Major Prairie	MAPR	11161	Dense buckthorn meadow, mixed coniferous forest	43°53'21"N,122°15'54"W	701	478.7 (440.5)	8	5/21 - 8/03
Strube Flat	STFL	11159	Deciduous riparian woodland, mixed coniferous forest	44°08'24"N,122°15'12"W	488	450.2 (396.2)	8	5/17 - 7/30
ALL STATIONS COMBINED						2641.2(2448.0)	8	5/17 - 8/04

¹ Total net-hours in 2004. Net-hours in 2004 that could be compared in a constant-effort manner to 2003 are shown in parentheses.

Table 14. (cont.) Capture summary for the six individual MAPS stations operated Willamette National Forest in 2004.
 N = Newly Banded, U = Unbanded, R = Recaptures of banded birds.

Species	Clearcut			Fingerboard Prairie			Ikenick			Brock Creek			Major Prairie			Strube Flat		
	N	U	R	N	U	R	N	U	R	N	U	R	N	U	R	N	U	R
Pine Siskin				6			8	1										
ALL SPECIES POOLED	92	17	58	137	43	89	166	48	97	100	24	40	88	17	58	45	6	25
Total Number of Captures		167			269			311			164			163			76	
Number of Species	17	3	9	25	10	13	25	8	11	18	9	8	27	5	9	16	5	5
Total Number of Species		20			29			26			21			29			18	

Table 15. (cont.) Numbers of adult and young individual birds captured per 600 net-hours and reproductive index (young/adult) at the six individual MAPS stations operated on Willamette National Forest in 2004.

Species	Clearcut			Fingerboard Prairie			Ikenick			Brock Creek			Major Prairie			Strube Flat		
	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index
American Robin										11.3	4.2	0.38	2.5	1.3	0.50	4.0	0.0	0.00
Varied Thrush				0.0	1.4	undf.				1.4	1.4	1.00						
Cedar Waxwing							1.4	1.4	1.00									
Nashville Warbler	2.7	0.0	0.00	6.9	1.4	0.20							1.3	0.0	0.00			
Yellow Warbler							8.7	0.0	0.00	1.4	0.0	0.00						
Yellow-rumped Warbler				6.9	0.0	0.00	14.5	2.9	0.20									
Black-throated Gray Warbler																5.3	0.0	0.00
Townsend's Warbler													1.3	0.0	0.00			
Townsend's x Hermit Hybrid	1.4	0.0	0.00															
Hermit Warbler	5.5	2.7	0.50	13.8	1.4	0.10	4.3	0.0	0.00	5.7	0.0	0.00	3.8	0.0	0.00	1.3	0.0	0.00
MacGillivray's Warbler	19.1	9.5	0.50	15.2	5.5	0.36	5.8	5.8	1.00	15.6	1.4	0.09	8.8	8.8	1.00	1.3	0.0	0.00
Common Yellowthroat							36.2	36.2	1.00									
Wilson's Warbler	10.9	6.8	0.63	9.7	1.4	0.14	10.1	0.0	0.00	9.9	0.0	0.00	1.3	0.0	0.00	1.3	0.0	0.00
Western Tanager							2.9	1.4	0.50				1.3	2.5	2.00			
Spotted Towhee													1.3	0.0	0.00			
Fox Sparrow	2.7	0.0	0.00	1.4	0.0	0.00												
Song Sparrow	1.4	0.0	0.00				10.1	7.2	0.71	5.7	7.1	1.25	12.5	11.3	0.90	5.3	4.0	0.75
Lincoln's Sparrow				2.8	1.4	0.50	7.2	2.9	0.40									
White-crowned Sparrow							1.4	0.0	0.00									
Dark-eyed Junco	20.4	9.5	0.47	16.6	4.2	0.25	10.1	1.4	0.14	9.9	7.1	0.71	7.5	1.3	0.17	6.7	0.0	0.00

Table 15. (cont.) Numbers of adult and young individual birds captured per 600 net-hours and reproductive index (young/adult) at the six individual MAPS stations operated on Willamette National Forest in 2004.

Species	Clearcut			Fingerboard Prairie			Ikenick			Brock Creek			Major Prairie			Strube Flat		
	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index
Black-headed Grosbeak				0.0	1.4	undf.							1.3	1.3	1.00	1.3	0.0	0.00
Lazuli Bunting				1.4	0.0	0.00												
Purple Finch							1.4	0.0	0.00	1.4	0.0	0.00						
Pine Siskin				8.3	0.0	0.00	11.6	0.0	0.00									
ALL SPECIES POOLED	99.5	31.3	0.32	130.2	48.5	0.37	192.6	75.3	0.39	124.4	39.6	0.32	94.0	36.4	0.39	58.6	13.3	0.23
Number of Species	16	6		22	17		22	15		18	8		26	10		15	7	
Total Number of Species		17			26			23			18			27			16	

¹ Reproductive index (young/adult) is undefined because no adults of this species were captured at this station in this year.

Table 16. Summary of results for all six Willamette National Park MAPS stations combined in 2004.

Species	Birds captured			Birds/600 nethours		Reprod. Index
	Newly banded	Un-banded	Recap-tured	Adults	Young	
Ruffed Grouse		1				
Rufous Hummingbird		96				
Red-naped Sapsucker	1			0.2	0.0	0.00
Red-breasted Sapsucker	12		3	2.3	0.7	0.30
Downy Woodpecker	1			0.2	0.0	0.00
Hairy Woodpecker	8			1.1	0.7	0.60
Northern Flicker	2			0.5	0.0	0.00
"Traill's" Flycatcher	22		12	4.5	1.1	0.25
Hammond's Flycatcher	19	3	7	4.5	0.7	0.15
Hammond's/Dusky Flycatcher	2					
Dusky Flycatcher	10		1	2.3	0.0	0.00
"Western" Flycatcher	6			0.9	0.5	0.50
Unident. Empidonax Flycatcher		2				
Cassin's Vireo	4		1	0.7	0.5	0.67
Hutton's Vireo	4	1	1	1.1	0.0	0.00
Warbling Vireo	9		2	2.3	0.2	0.10
Gray Jay	1			0.0	0.2	undf. ¹
Steller's Jay	3	1	2	1.1	0.0	0.00
Chestnut-backed Chickadee	22	1	1	2.7	2.3	0.83
Red-breasted Nuthatch	4		1	0.5	0.7	1.50
Brown Creeper	1			0.2	0.0	0.00
Winter Wren	11	1	4	1.8	0.5	0.25
Golden-crowned Kinglet	10	1		0.5	1.8	4.00
Swainson's Thrush	72	3	114	20.9	4.1	0.20
Hermit Thrush	4			0.5	0.5	1.00
American Robin	16		1	3.0	0.9	0.31
Varied Thrush	3			0.2	0.5	2.00
Cedar Waxwing	2			0.2	0.2	1.00
Orange-crowned Warbler	57	2	13			
Nashville Warbler	9		2	1.8	0.2	0.13
Yellow Warbler	6	2	9	1.6	0.0	0.00
Yellow-rumped Warbler	14		6	3.4	0.5	0.13
Black-throated Gray Warbler	4			0.9	0.0	0.00
Townsend's Warbler	1			0.2	0.0	0.00

Table 16. (cont.) Summary of results for all six Willamette National Park MAPS stations combined in 2004.

Species	Birds captured			Birds/600 nethours		Reprod. Index
	Newly banded	Un-banded	Recap-tured	Adults	Young	
Townsend's x Hermit Hybrid	1			0.2	0.0	0.00
Hermit Warbler	26	3	3	5.7	0.7	0.12
MacGillivray's Warbler	59	1	60	10.9	5.2	0.48
Common Yellowthroat	37	5	34	5.7	5.7	1.00
Wilson's Warbler	31	7	10	7.0	1.4	0.19
Unidentified Warbler		1				
Western Tanager	6			0.7	0.7	1.00
Spotted Towhee	1	2	1	0.2	0.0	0.00
Fox Sparrow	1		2	0.7	0.0	0.00
Song Sparrow	42	11	26	5.9	5.0	0.85
Lincoln's Sparrow	7	5	15	1.6	0.7	0.43
White-crowned Sparrow	1			0.2	0.0	0.00
Dark-eyed Junco	56	4	36	11.8	3.9	0.33
Black-headed Grosbeak	3	1		0.5	0.5	1.00
Lazuli Bunting	1			0.2	0.0	0.00
Purple Finch	2			0.5	0.0	0.00
Pine Siskin	14	1		3.2	0.0	0.00
ALL SPECIES POOLED	628	155	367	115.2	40.2	0.35
Total Number of Captures		1150				
Number of Species	47	21	26	44	28	
Total Number of Species		49			45	

¹ Reproductive index (young/adult) is undefined because no adults of this species were captured at this location in this year.

Table 17. Summary of the 2004 MAPS program on Siuslaw National Forest.

Station			Major Habitat Type	Latitude-longitude	Avg Elev. (m)	2004 operation		
Name	Code	No.				Total number of net-hours ¹	No. of periods	Inclusive dates
Cougar Creek	COUC	11167	Mature semi-dense Douglas fir forest, young disturbed Douglas fir forest, post- clearcut vine maple grove	44°16'20"N,123°51'46"W	259	400.8 (352.5)	8	5/18 - 7/30
Crab Creek	CRCR	11168	Young dense disturbed Douglas fir forest	44°15'11"N,123°51'39"W	219	443.0 (0) ²	8	6/01 - 8/04
Homestead	HOME	11165	Mature Douglas fir forest, mature red alder stands, grassy meadow	44°30'23"N,123°37'48"W	207	372.7 (369.0)	8	5/22 - 8/01
Beaver Ridge	BERI	11166	Young dense disturbed Douglas fir forest	44°18'45"N,123°50'19"W	158	385.5 (360.8)	8	5/21 - 7/31
Cape Creek	CCRE	11241	Thinned douglas fir stand on coastal hill	44°08'18"N,124°01'25W	122	327.3 (n/a)	8	5/29 - 8/02
Salvation Meadow	SAME	11903	Wet meadow, riparian corridor, second-growth Douglas fir-dominated mixed coniferous forest	44°15'33"N,123°44'32"W	122	431.3 (396.0)	8	5/20 - 8/03
ALL STATIONS COMBINED						2360.7(1478.3)	8	5/18 - 8/04

¹ Total net-hours in 2004. Net-hours in 2004 that could be compared in a constant-effort manner to 2003 are shown in parentheses. Cape Creek began operation in 2004 and therefore has no comparable hours to 2003.

² All nets were relocated at the Crab Creek station for the 2004 season because the station was logged and the original net locations were unusable . The new nets are included within the station boundary defined in previous years.

Table 18. (cont.) Capture summary for the six individual MAPS stations operated on Siuslaw National Forest in 2004.
 N = Newly Banded, U = Unbanded, R = Recaptures of banded birds.

Species	Cougar Creek			Crab Creek			Homestead			Beaver Ridge			Cape Creek			Salvation Meadow		
	N	U	R	N	U	R	N	U	R	N	U	R	N	U	R	N	U	R
Wilson's Warbler	29	3	20				19		14	7	1	9				16	2	13
Unidentified Warbler								2										
Western Tanager				2						1								
Spotted Towhee	1																	
Song Sparrow							3	1		1			1			6	1	5
Dark-eyed Junco				9	2	8							21	2	9			
Black-headed Grosbeak	1						3			2						4		1
Unident. Carpodacus Finch					1													
Unidentified Bird					1													
ALL SPECIES POOLED	128	10	98	41	14	31	71	9	44	51	8	53	38	13	11	84	17	88
Total Number of Captures		236			86			124			112			62			189	
Number of Species	17	6	6	9	8	4	11	7	4	16	5	6	9	5	3	13	6	7
Total Number of Species		22			14			16			19			13			17	

Table 19. Numbers of adult and young individual birds captured per 600 net-hours and reproductive index (young/adult) at the six individual MAPS stations operated on Siuslaw National Forest in 2004.

Species	Cougar Creek			Crab Creek			Homestead			Beaver Ridge			Cape Creek			Salvation Meadow		
	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index
Red-breasted Sapsucker				0.0	1.4	undf. ¹												
Hairy Woodpecker	3.0	0.0	0.00	4.1	1.4	0.33	1.6	0.0	0.00									
Hammond's Flycatcher	1.5	0.0	0.00	8.1	0.0	0.00	1.6	0.0	0.00				3.7	0.0	0.00			
"Western" Flycatcher	6.0	0.0	0.00	2.7	1.4	0.50	9.7	1.6	0.17	4.7	0.0	0.00	1.8	0.0	0.00	11.1	1.4	0.13
Hutton's Vireo	3.0	0.0	0.00							1.6	0.0	0.00				2.8	0.0	0.00
Warbling Vireo										1.6	0.0	0.00	1.8	0.0	0.00	1.4	0.0	0.00
Gray Jay	1.5	0.0	0.00	0.0	2.7	undf.												
Steller's Jay	1.5	0.0	0.00				3.2	0.0	0.00	3.1	0.0	0.00						
Chestnut-backed Chickadee	15.0	12.0	0.80				1.6	0.0	0.00	1.6	1.6	1.00	1.8	0.0	0.00	2.8	0.0	0.00
Brown Creeper	0.0	1.5	undf. ¹							3.1	0.0	0.00						
Winter Wren	13.5	16.5	1.22	4.1	5.4	1.33	16.1	4.8	0.30	6.2	6.2	1.00	5.5	0.0	0.00	5.6	4.2	0.75
Swainson's Thrush	98.8	1.5	0.02	21.7	0.0	0.00	43.5	3.2	0.07	60.7	1.6	0.03	12.8	0.0	0.00	83.5	2.8	0.03
American Robin										1.6	0.0	0.00	1.8	0.0	0.00	2.8	0.0	0.00
Varied Thrush	3.0	0.0	0.00															
Wrentit	0.0	1.5	undf.							3.1	0.0	0.00				0.0	2.8	undf. ¹
Orange-crowned Warbler	1.5	0.0	0.00															
Black-throated Gray Warbler	1.5	0.0	0.00							1.6	0.0	0.00						
Hermit Warbler	4.5	0.0	0.00				3.2	0.0	0.00	3.1	0.0	0.00				1.4	2.8	2.00
MacGillivray's Warbler	1.5	0.0	0.00													2.8	0.0	0.00
Wilson's Warbler	38.9	12.0	0.31				29.0	8.0	0.28	20.2	1.6	0.08				16.7	11.1	0.67
Western Tanager				2.7	0.0	0.00				1.6	0.0	0.00						

Table 19. (cont.) Numbers of adult and young individual birds captured per 600 net-hours and reproductive index (young/adult) at the six individual MAPS stations operated on Siuslaw National Forest in 2004.

Species	Cougar Creek			Crab Creek			Homestead			Beaver Ridge			Cape Creek			Salvation Meadow		
	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index
Spotted Towhee	1.5	0.0	0.00															
Song Sparrow							0.0	4.8	undf. ¹	0.0	1.6	undf. ¹	0.0	1.8	undf. ¹	8.3	0.0	0.00
Dark-eyed Junco				10.8	4.1	0.38							29.3	9.2	0.31			
Black-headed Grosbeak	1.5	0.0	0.00				4.8	0.0	0.00	3.1	0.0	0.00				5.6	0.0	0.00
ALL SPECIES POOLED	197.6	44.9	0.23	54.2	16.3	0.30	114.3	22.5	0.20	116.7	12.5	0.11	58.7	11.0	0.19	144.7	25.0	0.17
Number of Species	17	6		7	6		10	5		15	5		8	2		12	6	
Total Number of Species		19			9			11			16			9			13	

¹ Reproductive index (young/adult) is undefined because no adults of this species were captured at this station in this year.

Table 20. Summary of results for all six Siuslaw Forest MAPS stations combined in 2004.

Species	Birds captured			Birds/600 nethours		Reprod. Index
	Newly banded	Un-banded	Recap-tured	Adults	Young	
Western Screech-Owl		1				
Northern Pygmy-Owl		1				
Rufous Hummingbird		19				
Allen's Hummingbird		6				
U. Selasphorus Hummingbird		11				
Red-breasted Sapsucker	1			0.0	0.3	undf. ¹
Hairy Woodpecker	7			1.5	0.3	0.17
Hammond's Flycatcher	6	1	3	2.5	0.0	0.00
"Western" Flycatcher	23		6	6.1	0.8	0.13
Unident. Empidonax Flycatcher		5				
Hutton's Vireo	5			1.3	0.0	0.00
Warbling Vireo	3			0.8	0.0	0.00
Gray Jay	2		1	0.3	0.5	2.00
Steller's Jay	5			1.3	0.0	0.00
Chestnut-backed Chickadee	21		5	3.8	2.3	0.60
Brown Creeper	3		1	0.5	0.3	0.50
Winter Wren	51	3	36	8.4	6.4	0.76
Swainson's Thrush	134	6	191	54.6	1.5	0.03
American Robin	3	1	2	1.0	0.0	0.00
Varied Thrush	2			0.5	0.0	0.00
Wrentit	5	1	1	0.5	0.8	1.50
Orange-crowned Warbler	1			0.3	0.0	0.00
Black-throated Gray Warbler	2			0.5	0.0	0.00
Hermit Warbler	10			2.0	0.5	0.25
MacGillivray's Warbler	3			0.8	0.0	0.00
Wilson's Warbler	71	6	56	17.5	5.6	0.32
Unidentified Warbler		2				
Western Tanager	3			0.8	0.0	0.00
Spotted Towhee	1			0.3	0.0	0.00
Song Sparrow	11	2	5	1.5	1.3	0.83
Dark-eyed Junco	30	4	17	6.1	2.0	0.33
Black-headed Grosbeak	10		1	2.5	0.0	0.00
Unidentified Carpodacus Finch		1				
Unidentified Bird		1				

Table 20. (cont.) Summary of results for all six Siuslaw Forest MAPS stations combined in 2004.

Species	Birds captured			Birds/600 nethours		Reprod. Index
	Newly banded	Un- banded	Recap- tured	Adults	Young	
ALL SPECIES POOLED	413	71	325	115.4	22.4	0.19
Total Number of Captures		809				
Number of Species	25	12	13	24.0	13.0	
Total Number of Species		29			25.0	

Table 21. Summary of the 2004 MAPS program on Fremont National Forest.

Station			Major Habitat Type	Latitude-longitude	Avg Elev. (m)	2004 operation		
Name	Code	No.				Total number of net-hours ¹	No. of periods	Inclusive dates
Sycan River	SYRI	11169	Wet willow/bogbirch riparian meadow, mixed coniferous forest	42°40'23"N,120°48'59"W	2003	363.3 (349.3)	7	6/01 - 8/04
Deadhorse	DEAD	11170	Dense willow-dominated meadow, mixed coniferous forest	42°35'27"N,120°48'51"W	1944	353.8 (322.7)	7	5/31 - 8/03
Cold Creek	COLC	11171	Open wet meadow with willow/bogbirch/aspen groves, mixed coniferous forest	42°35'04"N,120°55'17"W	1926	323.3 (308.3)	7	5/30 - 8/02
Augur Creek	AUCR	11172	Semi-wet riparian meadow with aspen groves, sage brushland and mixed coniferous forest	42°31'12"N,120°42'38"W	1847	351.0 (345.0)	7	6/03 - 8/01
Swamp Creek	SWCR	11174	Riparian meadow, mahogany shrubland, mixed pine forest	42°25'05"N,120°34'00"W	1658	329.3 (308.8)	7	6/02 - 7/31
Island	ISLA	11173	Open riparian meadow with willow thickets, mixed coniferous forest and dry brushland	42°30'19"N,120°39'40"W	1628	339.3 (287.7)	7	5/29 -7/30
ALL STATIONS COMBINED						2060.2(1921.8)	7	5/29 - 8/04

¹ Total net-hours in 2004. Net-hours in 2004 that could be compared in a constant-effort manner to 2003 are shown in parentheses.

Table 22. Capture summary for the six individual MAPS stations operated on Fremont National Forest in 2004.
 N = Newly Banded, U = Unbanded, R = Recaptures of banded birds.

Species	Sycan River			Deadhorse			Cold Creek			Augur Creek			Swamp Creek			Island		
	N	U	R	N	U	R	N	U	R	N	U	R	N	U	R	N	U	R
Sharp-shinned Hawk								1										
Spotted Sandpiper													1	2				
Calliope Hummingbird		5			3						1							1
Rufous Hummingbird		9			8			3			4			3				3
Unidentified Hummingbird		1			1													
Belted Kingfisher		2																
Williamson's Sapsucker				1											1			
Red-naped Sapsucker	1		1	4		4	2				1						1	
R.naped X R.breasted Hybrid	3		8	5	1	14											1	
Red-breasted Sapsucker	3			6		14	1	1	3	2		2	5	1	9			1
Hairy Woodpecker				1			1			3			2					
Northern Flicker				1			1			1		1	1					
Western Wood-Pewee				9		3	1			1			1					
Hammond's Flycatcher	3		1							1			5		9			
Dusky Flycatcher	11		4	13		8	2			1			1					
"Western" Flycatcher	4			4		2				2						4		3
Unident. Empidonax Flycat.		3			4													
Unidentified Flycatcher		1																
Cassin's Vireo													1	1	1			
Warbling Vireo	8	1	9	12		8	2		7	12	1	4	7	1	4			
Gray Jay				2													3	1
Steller's Jay													1				1	
Mountain Chickadee	5			4			4			12	5	1	10				5	1
Bushtit																	3	3
Red-breasted Nuthatch				1	1		2			10	1		3					
White-breasted Nuthatch				1								1	1		1			

Table 22. (cont.) Capture summary for the six individual MAPS stations operated on Fremont National Forest in 2004.
 N = Newly Banded, U = Unbanded, R = Recaptures of banded birds.

Species	Sycan River			Deadhorse			Cold Creek			Augur Creek			Swamp Creek			Island			
	N	U	R	N	U	R	N	U	R	N	U	R	N	U	R	N	U	R	
Cassin's Finch	2	1		8	1	1				3	1								
Pine Siskin	2			1															
Evening Grosbeak							1												
Unidentified Bird								1											
ALL SPECIES POOLED	173	37	87	239	57	95	44	8	24	100	18	25	110	19	46	51	10	21	
Total Number of Captures		297			391			76			143			175				82	
Number of Species	23	14	11	33	18	14	19	6	6	23	10	10	23	11	11	14	6	7	
Total Number of Species		29			38			22			28			25				17	

Table 23. Numbers of adult and young individual birds captured per 600 net-hours and reproductive index (young/adult) at the six individual MAPS stations operated on Fremont National Forest in 2004.

Species	Sycan River			Deadhorse			Cold Creek			Augur Creek			Swamp Creek			Island		
	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index
Spotted Sandpiper																1.8	0.0	0.00
Williamson's Sapsucker				1.7	0.0	0.00										1.8	0.0	0.00
Red-naped Sapsucker	0.0	1.7	undf. ¹	3.4	5.1	1.50	0.0	3.7	undf. ¹	1.7	0.0	0.00	0.0	1.8	undf. ¹			
R.naped x R.breasted Hybrid	3.3	3.3	1.00	6.8	5.1	0.75							0.0	1.8	undf.			
Red-breasted Sapsucker	5.0	0.0	0.00	13.6	3.4	0.25	5.6	0.0	0.00	3.4	0.0	0.00	1.8	0.0	0.00	7.1	1.8	0.25
Hairy Woodpecker				1.7	0.0	0.00	0.0	0.0	0.00	5.1	0.0	0.00				3.5	0.0	0.00
Northern Flicker				0.0	1.7	undf. ¹	1.9	0.0	0.00	1.7	0.0	0.00				1.8	0.0	0.00
Western Wood-Pewee				17.0	0.0	0.00	1.9	0.0	0.00	1.7	0.0	0.00				1.8	0.0	0.00
Hammond's Flycatcher	5.0	0.0	0.00							1.7	0.0	0.00				14.1	0.0	0.00
Dusky Flycatcher	19.8	0.0	0.00	27.1	0.0	0.00	3.7	0.0	0.00	1.7	0.0	0.00				1.8	0.0	0.00
"Western" Flycatcher	6.6	0.0	0.00	8.5	0.0	0.00				3.4	0.0	0.00	9.1	0.0	0.00			
Cassin's Vireo																1.8	0.0	0.00
Warbling Vireo	14.9	0.0	0.00	25.4	0.0	0.00	5.6	0.0	0.00	22.2	0.0	0.00				12.4	0.0	0.00
Gray Jay				3.4	0.0	0.00							1.8	3.6	2.00			
Steller's Jay													1.8	0.0	0.00	1.8	0.0	0.00
Mountain Chickadee	8.3	0.0	0.00	5.1	1.7	0.33	1.9	5.6	3.00	17.1	5.1	0.30	10.9	0.0	0.00	17.7	0.0	0.00
Bushtit													1.8	0.0	0.00			
Red-breasted Nuthatch				1.7	0.0	0.00	1.9	0.0	0.00	5.1	6.8	1.33				5.3	0.0	0.00
White-breasted Nuthatch				0.0	0.0	0.00				1.7	0.0	0.00				1.8	0.0	0.00
Pygmy Nuthatch										1.7	0.0	0.00						
Brown Creeper	5.0	1.7	0.33				3.7	1.9	0.50	5.1	0.0	0.00	7.3	0.0	0.00	10.6	7.1	0.67

Table 23. (cont.) Numbers of adult and young individual birds captured per 600 net-hours and reproductive index (young/adult) at the six individual MAPS stations operated on Fremont National Forest in 2004.

Species	Sycan River			Deadhorse			Cold Creek			Augur Creek			Swamp Creek			Island		
	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index
Ruby-crowned Kinglet	5.0	1.7	0.33															
Mountain Bluebird										3.4	0.0	0.00						
Townsend's Solitaire				0.0	1.7	undf.							1.8	0.0	0.00			
American Robin	13.2	1.7	0.13	15.3	0.0	0.00	3.7	0.0	0.00	1.7	0.0	0.00	20.0	0.0	0.00	7.1	3.5	0.50
Yellow-rumped Warbler	5.0	11.6	2.33	15.3	13.6	0.89	0.0	1.9	undf.	10.3	10.3	1.00	3.6	0.0	0.00	30.1	1.8	0.06
Hermit Warbler	1.7	0.0	0.00															
MacGillivray's Warbler	29.7	0.0	0.00	18.7	1.7	0.09	1.9	0.0	0.00	12.0	1.7	0.14	7.3	0.0	0.00			
Wilson's Warbler	6.6	3.3	0.50	1.7	0.0	0.00										3.5	0.0	0.00
Western Tanager				3.4	0.0	0.00	1.9	0.0	0.00	5.1	0.0	0.00	1.8	0.0	0.00			
Green-tailed Towhee																5.3	0.0	0.00
Chipping Sparrow				0.0	1.7	undf.										3.5	0.0	0.00
Brewer's Sparrow	1.7	0.0	0.00	5.1	1.7	0.33										0.0	3.5	undf. ¹
Fox Sparrow				1.7	0.0	0.00												
Song Sparrow				1.7	1.7	1.00												
Lincoln's Sparrow	14.9	6.6	0.44	5.1	1.7	0.33	11.1	7.4	0.67									
White-crowned Sparrow	18.2	8.3	0.46	11.9	6.8	0.57	1.9	1.9	1.00	3.4	1.7	0.50						
Dark-eyed Junco	24.8	1.7	0.07	18.7	76.3	4.09	16.7	3.7	0.22	15.4	8.5	0.56	25.5	1.8	0.07	42.4	12.4	0.29
Lazuli Bunting				8.5	1.7	0.20												
Brewer's Blackbird																1.8	0.0	0.00
Brown-headed Cowbird				1.7	0.0	0.00												
Cassin's Finch	3.3	0.0	0.00	11.9	1.7	0.14				1.7	3.4	2.00						

Table 23. (cont.) Numbers of adult and young individual birds captured per 600 net-hours and reproductive index (young/adult) at the six individual MAPS stations operated on Fremont National Forest in 2004.

Species	Sycan River			Deadhorse			Cold Creek			Augur Creek			Swamp Creek			Island		
	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index	Ad.	Yg.	Repr. index
Pine Siskin	3.3	0.0	0.00	1.7	0.0	0.00												
Evening Grosbeak							1.9	0.0	0.00									
ALL SPECIES POOLED	194.9	41.3	0.21	237.4	127.2	0.54	64.9	26.0	0.40	126.5	37.6	0.30	94.7	9.1	0.10	178.6	30.1	0.17
Number of Species	20	10		27	16		15	7		22	7		13	4		22	6	
Total Number of Species		21			30			17			22			15			23	

¹ Reproductive index (young/adult) is undefined because no adults of this species were captured at this station in this year.

Table 24. Summary of results for all six Fremont National Forest MAPS stations combined in 2004.

Species	Birds captured			Birds/600 nethours		Reprod. Index
	Newly banded	Un-banded	Recap-tured	Adults	Young	
Sharp-shinned Hawk		1				
Spotted Sandpiper	1	2		0.3	0.0	0.00
Calliope Hummingbird		10				
Rufous Hummingbird		30				
Unidentified Hummingbird		2				
Belted Kingfisher		2				
Williamson's Sapsucker	1		1	0.6	0.0	0.00
Red-naped Sapsucker	8		6	0.9	2.0	2.33
R.naped x R.breasted Hybrid	9	1	22	1.7	1.7	1.00
Red-breasted Sapsucker	17	2	29	6.1	0.9	0.14
Hairy Woodpecker	7			1.7	0.0	0.00
Northern Flicker	4		1	0.9	0.3	0.33
Western Wood-Pewee	12		3	3.8	0.0	0.00
Hammond's Flycatcher	9		10	3.5	0.0	0.00
Dusky Flycatcher	28		12	9.3	0.0	0.00
"Western" Flycatcher	14		5	4.7	0.0	0.00
Unident. Empidonax Flycatcher		7				
Unidentified Flycatcher		1				
Cassin's Vireo	1	1	1	0.3	0.0	0.00
Warbling Vireo	41	3	32	13.7	0.0	0.00
Gray Jay	5	1		0.9	0.6	0.67
Steller's Jay	2			0.6	0.0	0.00
Mountain Chickadee	40	6	4	10.2	2.0	0.20
Bushtit	3	3		0.3	0.0	0.00
Red-breasted Nuthatch	16	2		2.3	1.2	0.50
White-breasted Nuthatch	2		2	0.6	0.0	0.00
Pygmy Nuthatch	1			0.3	0.0	0.00
Brown Creeper	19	2	7	5.2	1.7	0.33
House Wren	5	1				
Golden-crowned Kinglet		2				
Ruby-crowned Kinglet	4			0.9	0.3	0.33
Mountain Bluebird	2			0.6	0.0	0.00
Townsend's Solitaire	2			0.3	0.3	1.00
American Robin	35	6	5	10.2	0.9	0.09

Table 24. (cont.) Summary of results for all six Fremont National Forest MAPS stations combined in 2004.

Species	Birds captured			Birds/600 nethours		Reprod. Index
	Newly banded	Un-banded	Recap-tured	Adults	Young	
Orange-crowned Warbler	101	5	28			
Nashville Warbler	8	2	2			
Yellow-rumped Warbler	60	3	1	10.8	6.7	0.62
Hermit Warbler	1			0.3	0.0	0.00
MacGillivray's Warbler	28	1	43	11.9	0.6	0.05
Wilson's Warbler	9	1		2.0	0.6	0.29
Western Tanager	7			2.0	0.0	0.00
Green-tailed Towhee	3	1	1	0.9	0.0	0.00
Chipping Sparrow	4		1	0.6	0.3	0.50
Brewer's Sparrow	9	2		1.2	0.9	0.75
Fox Sparrow	1			0.3	0.0	0.00
Song Sparrow	2			0.3	0.3	1.00
Lincoln's Sparrow	23	8	19	5.2	2.6	0.50
White-crowned Sparrow	26	6	11	6.1	3.2	0.52
Dark-eyed Junco	123	29	50	23.9	17.8	0.74
Lazuli Bunting	6	1		1.5	0.3	0.20
Brewer's Blackbird	1			0.3	0.0	0.00
Brown-headed Cowbird		1	1	0.3	0.0	0.00
Cassin's Finch	13	3	1	2.9	0.9	0.30
Pine Siskin	3			0.9	0.0	0.00
Evening Grosbeak	1			0.3	0.0	0.00
Unidentified Bird		1				
ALL SPECIES POOLED	717	149	298	151.4	46.0	0.30
Total Number of Captures		1164				
Number of Species	46	30	26	44	22	
Total Number of Species		52			44	