## Appendix A

**Federal Agencies** 

Agencies and organizations contacted and asked to provide information for the Closed Basin subbasin summary.

**Conservation Organizations** 

#### USFWS (US Fish & Wildlife Service) CRA (Columbia River Alliance) USFWS - Camas Refuge DU (Ducks Unlimited) NOAA (National Oceanographic & Atmospheric Admin)/NWS IFA (ID Falconers Association) NOAA at the INEEL GYC (Greater Yellowstone Coalition) EPA (Environmental Protection Agency) ICL (ID Conservation League) **EPA Water Quality** IWRRI (ID Water Resources Research Institute) ACOE (Army Corp of Engineers) IWF (ID Wildlife Federation) BOR (Bureau of Reclamation) ISSU (ID Salmon & Steelhead Unlimited) USGS (US Geological Service) NAMF (N. American Moose Foundation) USGS at INEEL PF (Pheasants Forever) **USGS Water Resources Division** SCI (Safari Club International) **USGS** Regional TU (Trout Unlimited) USFS (US Forest Service) IRU (ID Rivers United) Lost River Ranger District RMEF (Rocky Mtn Elk Foundation) Region 4 ERBM (Eagle Rock Bass Masters) Targhee RD - R4 TTSS (The Trumpeter Swan Society) Palisades RD - R4 **Land Trusts** Challis-Salmon Targhee-Caribou (incl Medicine Lodge & Birch Creek) TNC (The Nature Conservancy) NRCS (National Resources Conservation TRLT (Teton Regional Land Trust) Service) BLM (Bureau of Land Management) JHLT (Jackson Hole Land Trust) Challis Salmon Agriculture & Industry Idaho Falls FPI (Food Producers of Idaho) IWA (ID Woolgrowers Association) DOE (Dept of Energy) ICA (ID Cattle Association) BIA (Bureau of Indian Affairs) NPS (National Park Service) IACI (ID Association of Commerce & Industry) **Grand Teton** IWUA (ID Water Users Association) YNP IWPG (ID Water Policy Group) NWSWRCC (National Weather Svc Western Region Climate Ctr) Hydro/Power Amy Hydro (incl Black Creek & Deep Creek **Tribes** In Little Lost) Shoshone Bannock Tribes Birch Creek Hydro Columbia River InterTribal Fish Commission Dry Creek Hydro (Little Lost) **ID Power Company State Agencies** IF Power Company IDF&G (ID Fish & Game) Lost River Elec. (Big Lost) ID DEQ (ID Dept of Environmental Quality) **Utah Power Company** Bell Mountain Hydro (Little Lost) GOSC (Governor's Office of Species

## Appendix A

#### **Federal Agencies**

Conservation)

ID DOL (ID Dept of Lands)

IDWR (ID Dept of Water Resources)
IACD (ID Assn Conservation Districts)
ISCC (ID Soil Conservation Comm.)

ISCC State

ID DOT (ID Dept of Transportation)

IDOA (ID Dept of Agriculture)

IDPR (ID Dept of Parks & Recreation)
IFPL (ID Foundation Parks & Land)

ID Geological Services/Uofl

WDGF (WY Dept of Game & Fish)

#### **Irrigation Districts**

Committee of 9

**ID Water Resource Board** 

Upper Snake River	01
Mud Lake and Tributaries	31
Medicine Lodge Creek	32-C
Birch Creek	32-D
Little Lost River	33
Big Lost River	34

#### **Counties / Commissioners**

Jefferson Clark Butte Custer Lemhi

Fremont Madison

ID County Commission
ID Association of Counties

#### Cities

Mackay Arco Howe

Mud Lake/Terreton

Dubois

#### **Conservation Organizations**

Nicholson Hydro (Little Lost)

Other

Idaho Round Table

National Learning Site in Holistic Mgt

#### **Educational/Universities**

Utah State University, Department of Forest Resources

Utah State University, Department of Biology Utah State University, Ecology Center

Utah State University, Department of Fisheries

&Wildlife/Watershed Science

Utah State University, Department of Rangeland

Resources

University of Idaho, ID Water Resources

Research

University of Idaho, ID Dept of Plant, Soil &

**Entomological Science** 

University of Idaho, ID Dept of Fish & Wildlife

Resources

University of Idaho, ID Dept of Forest Resources

University of Idaho, ID Dept Rangelands,

**Ecology & Management** 

University of Idaho, ID Dept Biological Sciences Idaho State University Dept Biological Sciences Idaho State University Dept Geological Sciences Montana State University, Dept Earth Sciences Montana State University, Dept of Ecology University of Montana, Division of Biological Sciences

University of Montana, Dept of Environmental

Studies

University of Montana, Dept of Forestry Boise State University, Dept of Biology Boise State University, Dept of Geosciences

University of Wyoming, Botany Dept

University of Wyoming, Zoology & Physiology University of Wyoming, Natural Science

Program

#### **WAGs & BAGs**

South Fork WAG Willow Creek WAG Willow Creek WAG

Continental Divide WAG (Beaver-Camas Creek,

Medicine Lodge, Birch Creek s/b's)

Upper Snake BAG

Bonneville County Waterways Committee

# Appendix B

#### **USGS Stream Flow Stations in the Closed Basin**

### **Station Description**

STATION.-- 13120500 BIG LOST RIVER AT HOWELL RANCH, NEAR CHILLY, ID

LOCATION.--Lat 43° 59'54", long 114° 01'12", in NE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.30, T.8 N., R.21 E., Custer County, Hydrologic Unit 17040218, on left bank at Howell Ranch, 2.1 mi downstream from Burnt Creek, 7.7 mi downstream from East Fork, 9 mi southwest of Chilly, and 21 mi northwest of Mackay.

DRAINAGE AREA.--450 mi<sup>2</sup>. Mean elevation, 8,590 ft.

PERIOD OF RECORD.--April 1904 to November 1914, May 1920 to current year (no winter records 1904, 1906-14, 1920-48).

REVISED RECORDS.--WSP 1287: Drainage area. WSP 1317: 1905.

GAGE.--Water-stage recorder. Datum of gage is 6,621.95 ft above sea level. See WSP 1737 for history of changes prior to June 11, 1920.

REMARKS.--Records good except for estimated daily discharges, which are poor. Station equipment includes satellite telemetry. No regulation. Diversions above station for irrigation of about 3,000 acres (1966 determination).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,420 ft<sup>3</sup> /s May 25, 1967,

gage height, 6.02 ft; minimum observed, 19 ft<sup>3</sup> /s Dec. 12, 1939, from discharge measurement.

Peak discharges greater than base discharge of 900 ft<sup>3</sup>/s are available.

#### **Station Description**

STATION.-- 13127000 BIG LOST RIVER BELOW MACKAY RESERVOIR, NEAR MACKAY, ID

LOCATION.--Lat 43° 56'20", long 113° 38'50", in SW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.18, T.7 N., R.24 E.,

Custer County, Hydrologic Unit 17040218, on left bank 1.4 mi downstream from head of Sharp ditch, 1.6 mi downstream from Mackay Reservoir, and 2.5 mi northwest of Mackay

DRAINAGE AREA.--813 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1903 to August 1906, and May 1912 to March 1915 (published as "near Mackay"), January 1919 to current year.

REVISED RECORDS.--WSP 1347: 1904-6.

- GAGE.--Water-stage recorder. Datum of gage is 5,946.39 ft above sea level. Nonrecording gage prior to May 12, 1912, and June 5, 1912 to Apr. 28, 1913, at sites within 1 mi upstream at different datums; May 12 to June 4, 1912, at site 1.5 mi upstream (above Sharp ditch) at different datum; Apr. 29, 1913 to Mar. 15, 1915, at site 1 mi downstream (below Streeter ditch) at different datum.
- REMARKS.--No estimated daily discharges. Records good. Station equipment includes satellite telemetry. Flow completely regulated by Mackay Reservoir. Sharp ditch is only diversion between station and reservoir; about 12,700 acres of land are irrigated by diversions from river and tributaries above reservoir by surface diversions, and 10,200 acres irrigated by subirrigation.
- EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,990 ft<sup>3</sup> /s June 10, 1921,

June 6, 1986; maximum gage height, 6.08 ft, June 6, 1986; minimum, 16 ft<sup>3</sup> /s Oct. 27, 1967, gage height, 1.11 ft.

#### **Station Description**

STATION.-- 13132500 BIG LOST RIVER NEAR ARCO, ID

LOCATION.--Lat 43° 35'00", long 113° 16'10", in SW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.17, T.3 N., R.27 E.,

Arco South quad., Butte County, Hydrologic Unit 17040218, on right bank 0.4 mi downstream from slough entering from left bank, and 4 mi southeast of Arco.

DRAINAGE AREA.--1,410 mi<sup>2</sup>, approximately.

- PERIOD OF RECORD.--August 1946 to September 1961, May 1966 to September 1980, March to September 1981, May 1982 to current year.
- GAGE.--Water-stage recorder. Elevation of gage is 5,240 ft above sea level, by barometer. Prior to Oct. 14, 1952, at site 800 ft upstream at datum 3.08 ft higher.
- REMARKS.--Records good except for estimated daily discharges, which are fair. Station equipment includes satellite telemetry. Flow regulated by Mackay

- Reservoir. Station is below all large diversions for irrigation in Big Lost River Valley. About 57,500 acres of land irrigated by diversions from river and tributaries and by ground-water withdrawals above station. About 10,200 acres irrigated by subirrigation above Mackay Reservoir.
- EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,890 ft<sup>3</sup> /s July 5, 1967, gage height, 7.68 ft; no flow for long periods many years.
- EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 29, 1965, reached a stage of 8.03 ft, from floodmarks, discharge, 2,500 ft<sup>3</sup>/s.

#### **Station Description**

- STATION.-- 13132513 INEEL DIVERSION AT HEAD NEAR ARCO, ID
- LOCATION.--Lat 43° 30'50", long 113° 05'00" in NE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.11, T.2 N., R.28 E.,
  - Butte County, Hydrologic Unit 17040218, on left bank, 0.05 mi south of head of INEEL diversion, 0.4 mi north of intersection of gravel road from Highway 20-26 with road on top of dike, and 13.2 mi southeast of Arco.
- PERIOD OF RECORD.--1965-68 (discharge measurements only); July 1984 to current year.
- GAGE.--Water-stage recorder and concrete control. Datum of gage is 5,000.00 ft above sea level (levels by USGS).
- REMARKS.--Records good. Station equipment includes satellite telemetry. Flow is regulated by Mackay Reservoir and is diverted from the Big Lost River for purposes of flood control at the Idaho National Engineering & Environmental Laboratory facilities.
- EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,290 ft<sup>3</sup> /s June 9, 1986; no flow on many days.

#### **Station Description**

- STATION.-- 13132515 INEEL DIVERSION AT OUTLET OF SPREADING AREA A NEAR ARCO, ID
- LOCATION.--Lat 43° 29'45", long 113° 04'19", in NE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.13, T.2 N., R.28 E.,
  - Butte County, Hydrologic Unit 17040218, on left bank, 1.4 mi south of head of INEEL diversion, 0.05 mi south of outlet of spreading area A, and 14.5 mi southeast of Arco.

- PERIOD OF RECORD.--1965-68 (discharge measurements only); June 1984 to current year.
- GAGE.--Water-stage recorder. Datum of gage is 5,000.00 ft above sea level (levels by USGS).
- REMARKS.--No estimated daily discharges. Records good. Station equipment includes satellite telemetry. Flow is regulated by Mackay Reservoir and is diverted from the Big Lost River at the Idaho National Engineering & Environmental Laboratory Diversion at Head (sta 13132513) for purposes of flood control at the INEEL site.
- EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 989 ft<sup>3</sup> /s June 9, 1986; no flow on many days.

## **Station Description**

- STATION.-- 13132520 BIG LOST RIVER BELOW INEEL DIVERSION NEAR ARCO, ID
- LOCATION.--Lat 43° 30'57", long 113° 04'52", in SE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.11, T.2 N., R.28 E.,
  - Butte County, Hydrologic Unit 17040218, on right bank, 0.2 mi north of the head of the INEEL diversion, 4.5 mi south of State Highway 20-26 bridge over the Big Lost River, and 13.2 mi southeast of Arco.
- PERIOD OF RECORD.--1965-68 (discharge measurements only); June 1984 to current year.
- GAGE.--Water-stage recorder and concrete control. Datum of gage is 5,000.00 ft above sea level (levels by U.S. Geological Survey).
- REMARKS.--Records fair. Station equipment includes satellite telemetry. Flow regulated by Mackay Reservoir and INEEL diversion (sta 13132513). Station is below all diversions for irrigation in the Big Lost River Valley and is below the Idaho National Engineering & Environmental Laboratory diversion for flood control.
- EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 468 ft<sup>3</sup> /s June 13, 1997; no flow on many days.
- STATION.-- 13132535 BIG LOST RIVER AT LINCOLN BOULEVARD BRIDGE NEAR ATOMIC CITY, ID
- LOCATION.--Lat 43° 34'26", long 112° 56'33", in SE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.24, T.3 N., R.29 E.,
  - Butte County, Hydrologic Unit 17040218, on left bank, 2.6 mi north of Lincoln Boulevard-Portland Avenue intersection, and 18.5 mi southeast of Arco.

- PERIOD OF RECORD.--1951-53, 1957, 1965-68 (discharge measurements only); July 1984 to current year.
- GAGE.--Water-stage recorder. Datum of gage is 4,900.00 ft above sea level (levels by USGS).
- REMARKS.--Records fair except for estimated daily discharges, which are poor. Station equipment includes satellite telemetry. Flow regulated by Mackay Reservoir and INEEL diversion (sta 13132513). Station is below all diversions for irrigation in the Big Lost River Valley and is below the Idaho National Engineering & Environmental Laboratory diversion for flood control. In 1992, the bridge below the gage was replaced by three (3) culverts, significantly changing the control for the gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 434 ft<sup>3</sup> /s June 17, 1997; no flow on many days.

# Appendix C

Census 2000 demographic information for the counties represented in the Closed Basin. (Source: http://quickfacts.census.gov/qfd/states/16/16023.html)

# **Butte County**

	People QuickFacts	Butte County	Idaho
2	Population, 2000	2,899	1,293,953
2	Population, percent change, 1990 to 2000	-0.7%	28.5%
?	Persons under 5 years old, percent, 2000	6.6%	7.5%
2	Persons under 18 years old, percent, 2000	29.0%	28.5%
?	Persons 65 years old and over, percent, 2000	14.9%	11.3%
?	White persons, percent, 2000 (a)	94.7%	91.0%
?	Black or African American persons, percent, 2000 (a)	0.3%	0.4%
?	American Indian and Alaska Native persons, percent, 2000 (a)	0.7%	1.4%
2	Asian persons, percent, 2000 (a)	0.2%	0.9%
2	Native Hawaiian and Other Pacific Islander, percent, 2000 (a)	0.0%	0.1%
?	Persons reporting some other race, percent, 2000 (a)	2.4%	4.2%
?	Persons reporting two or more races, percent, 2000	1.8%	2.0%
2	Female population, percent, 2000	49.7%	49.9%
?	Persons of Hispanic or Latino origin, percent, 2000 (b)	4.1%	7.9%
2	White persons, not of Hispanic/Latino origin, percent, 2000	93.3%	88.0%
?	High school graduates, persons 25 years and over, 1990	1,407	479,505
?	College graduates, persons 25 years and over, 1990	237	106,135
?	Housing units, 2000	1,290	527,824
?	Homeownership rate, 2000	77.0%	72.4%
?	Households, 2000	1,089	469,645
?	Persons per household, 2000	2.64	2.69
?	Households with persons under 18 years, percent, 2000	34.7%	38.7%
?	Median household money income, 1997 model-based estimate	\$31,780	\$33,612
2	Persons below poverty, percent, 1997 model-based estimate	15.4%	13.0%
?	Children below poverty, percent, 1997 model-based estimate	19.0%	17.3%
	Business QuickFacts	Butte County	Idaho
?	Private nonfarm establishments with paid employees, 1998	63	35,961
?	Private nonfarm employment, 1998	336	423,615
2	Private nonfarm employment, percent change 1990-1998	76.8%	41.1%
2	Nonemployer establishments, 1997	163	79,240
2	Manufacturers shipments, 1997 (\$1000)	NA	16,952,872
2	Retail sales, 1997 (\$1000)	10,597	11,649,609
2	Retail sales per capita, 1997	\$3,425	\$9,623

2	Minority-owned firms, 1992	NA	2,747
2	Women-owned firms, 1992	NA	29,946
3	Housing units authorized by building permits, 1999	3	12,181
3	Federal funds and grants, 1999 (\$1000)	26,144	6,164,663
2	Local government employment - full-time equivalent, 1997	242	46,035
	1	: -	,
	Geography QuickFacts	Butte County	Idaho
?		Butte	
?	Geography QuickFacts	Butte County	Idaho

- (a) Includes persons reporting only one race.(b) Hispanics may be of any race, so also are included in applicable race categories.
- FN: Footnote on this item for this area in place of data
- NA: Not available
- D: Suppressed to avoid disclosure of confidential information
- X: Not applicable
- S: Suppressed; does not meet publication standards
- Z: Value greater than zero but less than half unit of measure shown

# Clark County

	People QuickFacts	Clark County	Idaho
?	Population, 2000	1,022	1,293,953
?	Population, percent change, 1990 to 2000	34.1%	28.5%
2	Persons under 5 years old, percent, 2000	8.9%	7.5%
?	Persons under 18 years old, percent, 2000	35.2%	28.5%
?	Persons 65 years old and over, percent, 2000	9.2%	11.3%
?	White persons, percent, 2000 (a)	74.2%	91.0%
?	Black or African American persons, percent, 2000 (a)	0.1%	0.4%
?	American Indian and Alaska Native persons, percent, 2000 (a)	1.0%	1.4%
?	Asian persons, percent, 2000 (a)	0.2%	0.9%
2	Native Hawaiian and Other Pacific Islander, percent, 2000 (a)	0.1%	0.1%
?	Persons reporting some other race, percent, 2000 (a)	23.5%	4.2%
?	Persons reporting two or more races, percent, 2000	1.0%	2.0%
?	Female population, percent, 2000	47.5%	49.9%
?	Persons of Hispanic or Latino origin, percent, 2000 (b)	34.2%	7.9%
?	White persons, not of Hispanic/Latino origin, percent, 2000	63.9%	88.0%
?	High school graduates, persons 25 years and over, 1990	355	479,505
?	College graduates, persons 25 years and over, 1990	67	106,135
?	Housing units, 2000	521	527,824
?	Homeownership rate, 2000	67.9%	72.4%
?	Households, 2000	340	469,645
?	Persons per household, 2000	3.01	2.69
?	Households with persons under 18 years, percent, 2000	47.4%	38.7%
?	Median household money income, 1997 model-based estimate	\$30,827	\$33,612
2	Persons below poverty, percent, 1997 model-based estimate	12.4%	13.0%
2	Children below poverty, percent, 1997 model-based estimate	18.1%	17.3%

	Business QuickFacts	Clark County	Idaho
2	Private nonfarm establishments with paid employees, 1998	16	35,961
?	Private nonfarm employment, 1998	99	423,615
?	Private nonfarm employment, percent change 1990-1998	200.0%	41.1%
2	Nonemployer establishments, 1997	42	79,240
?	Manufacturers shipments, 1997 (\$1000)	NA	16,952,872
?	Retail sales, 1997 (\$1000)	4,504	11,649,609
2	Retail sales per capita, 1997	\$5,368	\$9,623
?	Minority-owned firms, 1992	NA	2,747
2	Women-owned firms, 1992	NA	29,946
?	Housing units authorized by building permits, 1999	5	12,181
?	Federal funds and grants, 1999 (\$1000)	13,834	6,164,663
?	Local government employment - full-time equivalent, 1997	67	46,035
	Geography QuickFacts	Clark County	Idaho
3	Land area, 2000 (square miles)	1,765	82,747
?	Persons per square mile, 2000	0.6	15.6
?	Metropolitan Area	None	

- FN: Footnote on this item for this area in place of data
- NA: Not available
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- X: Not applicable
- S: Suppressed; does not meet publication standards
  Z: Value greater than zero but less than half unit of measure shown

# **Custer County**

	People QuickFacts	Custer County	Idaho
?	Population, 2000	4,342	1,293,953
2	Population, percent change, 1990 to 2000	5.1%	28.5%
?	Persons under 5 years old, percent, 2000	5.4%	7.5%
?	Persons under 18 years old, percent, 2000	25.5%	28.5%
?	Persons 65 years old and over, percent, 2000	14.5%	11.3%
?	White persons, percent, 2000 (a)	97.3%	91.0%
?	Black or African American persons, percent, 2000 (a)	0.0%	0.4%
2	American Indian and Alaska Native persons, percent, 2000 (a)	0.6%	1.4%
2	Asian persons, percent, 2000 (a)	Z	0.9%
?	Native Hawaiian and Other Pacific Islander, percent, 2000 (a)	Z	0.1%
?	Persons reporting some other race, percent, 2000 (a)	1.2%	4.2%
?	Persons reporting two or more races, percent, 2000	0.9%	2.0%
2	Female population, percent, 2000	48.9%	49.9%
?	Persons of Hispanic or Latino origin, percent, 2000 (b)	4.2%	7.9%
2	White persons, not of Hispanic/Latino origin, percent, 2000	94.4%	88.0%
2	High school graduates, persons 25 years and over, 1990	2,167	479,505
2	College graduates, persons 25 years and over, 1990	415	106,135

<sup>(</sup>a) Includes persons reporting only one race.(b) Hispanics may be of any race, so also are included in applicable race categories.

-			
2	Housing units, 2000	2,983	527,824
?	Homeownership rate, 2000	74.9%	72.4%
?	Households, 2000	1,770	469,645
?	Persons per household, 2000	2.41	2.69
2	Households with persons under 18 years, percent, 2000	31.4%	38.7%
?	Median household money income, 1997 model-based estimate	\$34,460	\$33,612
2	Persons below poverty, percent, 1997 model-based estimate	12.1%	13.0%
2	Children below poverty, percent, 1997 model-based estimate	14.9%	17.3%
	Business QuickFacts	Custer County	Idaho
?	Private nonfarm establishments with paid employees, 1998	150	35,961
2	Private nonfarm employment, 1998	950	423,615
2	Private nonfarm employment, percent change 1990-1998	27.7%	41.1%
2	Nonemployer establishments, 1997	353	79,240
2	Manufacturers shipments, 1997 (\$1000)	NA	16,952,872
2	Retail sales, 1997 (\$1000)	14,719	11,649,609
?	Retail sales per capita, 1997	\$3,467	\$9,623
?	Minority-owned firms, 1992	NA	2,747
?	Women-owned firms, 1992	145	29,946
2	Housing units authorized by building permits, 1999	9	12,181
2	Federal funds and grants, 1999 (\$1000)	20,401	6,164,663
2	Local government employment - full-time equivalent, 1997	222	46,035
	Geography QuickFacts	Custer County	Idaho
2	Land area, 2000 (square miles)	4,925	82,747
?	Persons per square mile, 2000	0.9	15.6
2	Metropolitan Area	None	

<sup>(</sup>a) Includes persons reporting only one race.

<sup>(</sup>b) Hispanics may be of any race, so also are included in applicable race categories.

FN: Footnote on this item for this area in place of data

NA: Not available

D: Suppressed to avoid disclosure of confidential information X: Not applicable

S: Suppressed; does not meet publication standards
Z: Value greater than zero but less than half unit of measure shown

# Jefferson County

	letson County	Jefferson	
	People QuickFacts	County	Idaho
?	Population, 2000	19,155	1,293,953
3	Population, percent change, 1990 to 2000	15.8%	28.5%
?	Persons under 5 years old, percent, 2000	8.9%	7.5%
?	Persons under 18 years old, percent, 2000	36.3%	28.5%
3	Persons 65 years old and over, percent, 2000	9.3%	11.3%
?	White persons, percent, 2000 (a)	90.9%	91.0%
?	Black or African American persons, percent, 2000 (a)	0.3%	0.4%
?	American Indian and Alaska Native persons, percent, 2000 (a)	0.5%	1.4%
?	Asian persons, percent, 2000 (a)	0.2%	0.9%
?	Native Hawaiian and Other Pacific Islander, percent, 2000 (a)	0.1%	0.1%
?	Persons reporting some other race, percent, 2000 (a)	6.8%	4.2%
2	Persons reporting two or more races, percent, 2000	1.3%	2.0%
?	Female population, percent, 2000	49.4%	49.9%
?	Persons of Hispanic or Latino origin, percent, 2000 (b)	10.0%	7.9%
?	White persons, not of Hispanic/Latino origin, percent, 2000	88.5%	88.0%
3	High school graduates, persons 25 years and over, 1990	6,650	479,505
?	College graduates, persons 25 years and over, 1990	1,007	106,135
?	Housing units, 2000	6,287	527,824
?	Homeownership rate, 2000	84.9%	72.4%
2	Households, 2000	5,901	469,645
?	Persons per household, 2000	3.23	2.69
?	Households with persons under 18 years, percent, 2000	49.7%	38.7%
?	Median household money income, 1997 model-based estimate	\$34,390	\$33,612
?	Persons below poverty, percent, 1997 model-based estimate	13.1%	13.0%
3	Children below poverty, percent, 1997 model-based estimate	15.8%	17.3%
	Business QuickFacts	Jefferson County	Idaho
?	Private nonfarm establishments with paid employees, 1998	334	35,961
?	Private nonfarm employment, 1998	2,685	423,615
3	Private nonfarm employment, percent change 1990-1998	26.9%	41.1%
2	Nonemployer establishments, 1997	1,146	79,240
?	Manufacturers shipments, 1997 (\$1000)	94,426	16,952,872
2	Retail sales, 1997 (\$1000)	59,861	11,649,609
2	Retail sales per capita, 1997	\$3,130	\$9,623
2	Minority-owned firms, 1992	NA	2,747
2	Women-owned firms, 1992	395	29,946
2	Housing units authorized by building permits, 1999	105	12,181
2	Federal funds and grants, 1999 (\$1000)	55,752	6,164,663
?	Local government employment - full-time equivalent, 1997	713	46,035

	Geography QuickFacts	Jefferson County	Idaho
2	Land area, 2000 (square miles)	1,095	82,747
?	Persons per square mile, 2000	17.5	15.6
3	Metropolitan Area	None	

- (a) Includes persons reporting only one race.
- (b) Hispanics may be of any race, so also are included in applicable race categories.
- FN: Footnote on this item for this area in place of data
- NA: Not available
- D: Suppressed to avoid disclosure of confidential information
- X: Not applicable
- S: Suppressed; does not meet publication standards
  Z: Value greater than zero but less than half unit of measure shown

# Lemhi County

	People QuickFacts	Lemhi County	Idaho
?	Population, 2000	7,806	1,293,953
?	Population, percent change, 1990 to 2000	13.1%	28.5%
?	Persons under 5 years old, percent, 2000	5.1%	7.5%
?	Persons under 18 years old, percent, 2000	25.5%	28.5%
?	Persons 65 years old and over, percent, 2000	16.8%	11.3%
?	White persons, percent, 2000 (a)	96.6%	91.0%
?	Black or African American persons, percent, 2000 (a)	0.1%	0.4%
?	American Indian and Alaska Native persons, percent, 2000 (a)	0.6%	1.4%
?	Asian persons, percent, 2000 (a)	0.2%	0.9%
?	Native Hawaiian and Other Pacific Islander, percent, 2000 (a)	Z	0.1%
?	Persons reporting some other race, percent, 2000 (a)	0.8%	4.2%
2	Persons reporting two or more races, percent, 2000	1.7%	2.0%
?	Female population, percent, 2000	50.2%	49.9%
?	Persons of Hispanic or Latino origin, percent, 2000 (b)	2.2%	7.9%
?	White persons, not of Hispanic/Latino origin, percent, 2000	95.5%	88.0%
?	High school graduates, persons 25 years and over, 1990	3,410	479,505
?	College graduates, persons 25 years and over, 1990	544	106,135
?	Housing units, 2000	4,154	527,824
?	Homeownership rate, 2000	76.2%	72.4%
2	Households, 2000	3,275	469,645
?	Persons per household, 2000	2.38	2.69
?	Households with persons under 18 years, percent, 2000	30.7%	38.7%
?	Median household money income, 1997 model-based estimate	\$28,159	\$33,612
?	Persons below poverty, percent, 1997 model-based estimate	15.8%	13.0%
?	Children below poverty, percent, 1997 model-based estimate	20.7%	17.3%

	Business QuickFacts	Lemhi County	Idaho
2	Private nonfarm establishments with paid employees, 1998	284	35,961
?	Private nonfarm employment, 1998	1,633	423,615
?	Private nonfarm employment, percent change 1990-1998	39.7%	41.1%
?	Nonemployer establishments, 1997	680	79,240
?	Manufacturers shipments, 1997 (\$1000)	NA	16,952,872
?	Retail sales, 1997 (\$1000)	54,450	11,649,609
?	Retail sales per capita, 1997	\$6,752	\$9,623
?	Minority-owned firms, 1992	NA	2,747
?	Women-owned firms, 1992	247	29,946
?	Housing units authorized by building permits, 1999	29	12,181
?	Federal funds and grants, 1999 (\$1000)	45,502	6,164,663
?	Local government employment - full-time equivalent, 1997	277	46,035
	Geography QuickFacts	Lemhi County	Idaho
?	Land area, 2000 (square miles)	4,564	82,747
?	Persons per square mile, 2000	1.7	15.6
?	Metropolitan Area	None	

<sup>(</sup>a) Includes persons reporting only one race.(b) Hispanics may be of any race, so also are included in applicable race categories.

FN: Footnote on this item for this area in place of data NA: Not available

D: Suppressed to avoid disclosure of confidential information X: Not applicable

S: Suppressed; does not meet publication standards
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# SOUTHERN IDAHO GAMEBIRD RESEARCH GROUP

# A TEN YEAR SUMMARY

1991-2000



J. W. Connelly Compiler

Idaho Department of Fish and Game 1345 Barton Road Pocatello, ID 83204



"Science contributes moral as well as material blessings to the world. Its great moral contribution is objectivity, or the scientific point of view. This means doubting everything except facts; it means hewing to the facts, let the chips fall where they may."

Aldo Leopold A Sand County Almanac



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Introduction

Following the reorganization of the Idaho Department of Fish and Game in the early 1980's, permanent wildlife research biologists were assigned to work on various wildlife issues throughout the state. Principal Wildlife Research Biologists were stationed in Lewiston, Boise and Pocatello, in part to facilitate interaction with the state's major universities. In 1986, University of Idaho, Bureau of Land Management and Department personnel began intensive studies of gamebird ecology in southeastern Idaho. From the mid 1980's to the early 1990's most of the upland gamebird research effort occurred in southeastern Idaho and largely focused on sage grouse.

By the early 1990's research biologists were assigned to big game, nongame and gamebird sections within the Bureau of Wildlife. This assignment, as well as increasing workloads and concern over declining mule deer, sage grouse, and pheasant populations eventually led to Principal Wildlife Research Biologists and the biologists they supervised specializing in various wildlife species.

For the last 15 years, southeastern Idaho has remained a center of gamebird research in the state. During the late 1990's this research program broadened with additional research projects in south central and southwestern Idaho and the addition of two research biologists. This program expansion was made possible in large part due to increased funding provided to the Department by the Bureau of Land Management.

The purpose of this report is to summarize the gamebird research efforts and major findings in southern Idaho over the last 10 years. The report also helps demonstrate the amount of work that can be accomplished by the combined efforts of state and federal agencies and universities.

## **Research Philosophy**

The following guidelines were adhered to when conducting research projects:

- o The research had strong management implications.
- o The research could be replicated.
- o The research could be effectively conducted, given the available resources.
- o The research was approached in a totally objective fashion.

Graduate students are involved in most of the research projects and usually are selected through collaborative efforts of university faculty and Department personnel. Each student is required to prepare a detailed study plan prior to initiating fieldwork. In most cases, a Department research biologist serves on the graduate student's committee.

A strong emphasis is placed on transferring information to field biologists and other interested individuals. Thus, graduate students are required to give presentations at technical meetings and publish the results of their work in peer reviewed journals and occasionally popular magazines.

Teamwork is also an important part of the research program. Whenever possible, Department biologists and biologists from other agencies are asked to participate in project design, fieldwork and the publication process. The importance placed on information transfer and teamwork provides the basis for this report.

# **Project Personnel**

- Michelle Commons-Research Biologist, Idaho Department of Fish and Game, 868 East Main Street, P.O. Box 428, Jerome, ID 83338
- John W. Connelly-Principal Wildlife Research Biologist, Idaho Department of Fish and Game, 1345 Barton Road, Pocatello, ID 83204
- Thomas P. Hemker-Program Coordinator, Small Game and Habitat, Idaho Department of Fish and Game, 600 South Walnut, P.O. Box 25, Boise, Idaho



- David D. Musil-Senior Research Biologist, Idaho Department of Fish and Game, 868 East Main Street, P.O. Box 428, Jerome, ID 83338
- Brad Lowe-Wildlife Research Technician, Idaho Department of Fish and Game, Dubois, ID
- Thomas Parker-Wildlife Manager, Small Game and Habitat, Idaho Department of Fish and Game, 600 South Walnut, P.O. Box 25, Boise, Idaho
- Kerry P. Reese-Professor of Wildlife Resources, Department of Fisheries and Wildlife Resources University of Idaho, Moscow, ID 83843

#### Acknowledgements

We appreciate the efforts of the many volunteers, wildlife technicians and bio-aides that helped in various aspects of these projects over the last 10 years. We are especially grateful to the Idaho Department of Fish and Game Conservation Officers of the Upper Snake Region for their constant willingness to endure long cold nights of sage grouse trapping and the occasional forays they made to rescue stranded research personnel, with scarcely a snicker. Finally, we are indebted to the following cooperators for their support of these research projects: Idaho Department of Fish and Game, University of Idaho, United States Bureau of Land Management, United States Forest Service, Fremont County Woolgrowers, U. S. Air Force, U.S. Army Corps of Engineers, Colorado Division of Wildlife, Idaho Power Company, Washington Department of Fish and Wildlife, U.S. Geological Survey, Grouse Inc.

# **Major Findings and Accomplishments**

# **Sage Grouse**

- o Developed methods for transplanting sage grouse
- o Re-established sage grouse in the Sawtooth Valley
- o Documented the response of sage grouse populations to fire
- o Characterized recovery of sage grouse habitat following fire
- Documented permanent loss of sage grouse winter range on the Upper Snake River Plain
- Described major migration routes for sage grouse in southern Idaho
- Discovered sage grouse have the lowest reproductive rate of any gamebird in Idaho
- Provided evidence suggesting that hunting may be additive to over-winter mortality
- o Provided evidence indicating predators have little effect on the adult and juvenile (>10 weeks of age) segments of the population
- o Developed improved trapping techniques for sage grouse
- o Developed method for attaching micro-transmitters to day-old sage grouse chicks
- o In cooperation with biologists from other agencies, wrote guidelines for population and habitat management
- o Developed a GIS based habitat model for sage grouse

# **Columbian Sharp-tailed Grouse**

- o Developed a habitat suitability index procedure
- o Described seasonal habitat selection in southern Idaho
- o Described similarities and differences in habitat use by sharp-tailed grouse and sage grouse
- o Documented reproductive rates
- o Published habitat management guidelines
- o Published Birds of North America species account of sharp-tailed grouse
- o Documented the use of chokecherry seeds as grit during winter
- o Found that CRP fields provided better quality foods during winter than adjacent shrub uplands
- Developed information suggesting females reduce nest predation by nesting relatively far from leks

# **Ring-necked Pheasants**

- Developed improved trapping techniques
- o Documented extremely high losses of game farm birds released to the wild

#### Waterfowl

- o Developed a device for accurately recording predation events
- o Determined that Russian olive invasion was related to low duck nesting success
- o Documented the lowest reported duck nesting success in N.A. at Sterling WMA
- o Provided evidence indicating that mammalian nest predation increased following reduction of magpie habitat



# **Publications**

Over the last 10 years, 34 papers have been published in various outlets and one other was submitted for publication Of the 34 papers, 25 (73%) were published in peer-reviewed journals or bulletins, 7 (21%) in state reports or proceedings of scientific meetings, and 2 (6%) in popular literature. Peer-reviewed manuscripts were published in 11 different scientific outlets.

Of the 34 manuscripts (Table 1), most dealt with grouse habitat (35%) and grouse population or general ecology (24%). However, 2 of these addressed guidelines for managing sage and Columbian sharp-tailed grouse populations and habitats. Four papers were published in the Journal Wildlife Biology as part of the 7<sup>th</sup> and 8<sup>th</sup> International Grouse Symposiums. These Symposiums had a 50 to 70% rejection rate and relatively few North American papers were published as part of these symposiums.

				Topic					
Species	Habitat	Population	General	Management	Techniques	Pesticides	Predation	Other	Total
		ecology	ecology	_			/hunting		
Sage grouse	10	4	3	1	2	3	1		24
Sharp-tailed	2		1	1					4
grouse									
Waterfowl					1		1		2

1

Table 1. Summary of topics of papers published by gamebird research group, 1991-2000.

#### **Theses and Dissertations**

Ten M.S. theses and 2 Ph.D. dissertations were completed between 1991 and 2000. Of these, 4 were written on Columbian sharp-tailed grouse (33%), 4 on sage grouse (33%), 1 on Columbian sharp-tailed and sage grouse (8%), 1 on pheasants (8%) and 2 on waterfowl (17%). Of the 12 graduate students involved in these projects, 9 are now employed in the natural resources field, 2 have taken positions peripherally related to naturally resources, and one has not obtained full-time employment. Three of the former students are employed by state fish and wildlife departments (ID, CO, CA), five are employed by federal agencies (U.S. Fish and Wildlife Service [2], National Park Service [1], U.S. Army Corps of Engineers [1], and U.S.D.A. Wildlife Services [1]), and one is employed by Ducks Unlimited.

## **Presentations**

Since 1991, 103 oral presentations have been given at scientific meetings (n = 73, 71%), university lectures (n = 17, 16%), and conservation or civic meetings (n = 13, 13%). Thirty-nine of these presentations were given by graduate students and 64 by agency or university personnel. In most cases, papers were authored by more than one individual and many times by personnel from different agencies. Because of concerns over declining grouse and pheasant populations and the potential for listing the grouse species under the Endangered Species Act, more emphasis has been given to conservation and civic groups in recent years (Table 2). Project personnel have also given numerous programs and presentations at schools and scout meetings.

Miscellaneous

Total

12

Table 2. Summary of presentations given by southern Idaho gamebird research group, 1991-2000.

		Meeting		
Year	Technical	University	Conservation/Civic	Total
1991	8	4	0	12
1992	4	1	0	5
1993	13	2	0	15
1994	12	1	0	13
1995	6	2	0	8
1996	10	1	1	12
1997	3	0	1	4
1998	3	2	0	5
1999	6	0	5	11
2000	8	4	6	18
Total	73	17	13	103

# PUBLICATIONS AND PRESENTATIONS GAMEBIRD RESEARCH GROUP<sup>a</sup> 1991-2000

## **Publications:**

#### 1991

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- Connelly, J. W., and K. P. Reese. 1991. Sage and sharp-tailed grouse research in Idaho: present status and future direction. Presented at the annual meeting of the Northwest Section, The Wildlife Society. April 18-20. Silverdale, WA.
- Fischer, R. A., K. P. Reese, and J. W. Connelly. 1991. Preliminary findings of the effects of prescribed fire on the ecology of sage grouse in southeastern Idaho. Presented at the 17<sup>th</sup> Western States Sage and Columbian Sharp-tailed Grouse Workshop. July 24-26.Pocatello, ID.
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- Reese, K. P. 1991. Sage and sharp-tailed grouse research in Idaho. Presented at the annual Idaho Cooperative Fish and Wildlife Research Unit Cooperators Meeting. February Moscow, ID.
- Robertson, M. D., K. P. Reese, and J. W. Connelly. 1991. Habitat characteristics of sites used by wintering sage grouse. Presented at the annual meeting of the Idaho Chapter, The Wildlife Society. February 7-9. Boise, ID.

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# Appendix E

# Camas National Wildlife Refuge



Hamer, Idaho

Camas National Wildlife Refuge is located in southeast Idaho about 36 miles north of Idaho Falls near the small town of Hamer. The refuge was established in 1937 and is administered by the U.S. Fish and Wildlife Service, Department of the Interior. The refuge is a part of the National Wildlife Refuge System and is an important link in the chain of refuges along the Pacific Flyway.

The primary objectives of the refuge are to provide resting and feeding habitat for migratory birds and nesting habitat for waterfowl.

The refuge encompasses 10,578 acres, about half of which is wetlands and the remainder mostly rangelands. Camas Creek flows through the refuge and provides water for the refuge during spring. A number of deep wells have been drilled to provide water during summer and fall.

Birding is good all year but access may be limited in winter.

The refuge is readily accessible from Interstate 15. Take the Hamer exit and proceed north for three miles on the old highway then west on a paved county road to Refuge Headquarters.

The following list of 177 species is the result of observations made by refuge personnel and visiting birdwatchers. Common names used are in accordance with the "American Ornithologists' Union Check-list of North American Birds", 6th edition (1983).

#### **Seasonal Occurrence**

Spring - March through May Summer - June through August

Fall - September through November Winter - December through February

#### **Abundance**

a - abundant: a common species which is very numerous

c - common: certain to be seen in suitable habitat u - uncommon: present but not certain to be seen o - occasional: seen only a few times in a season

r - rare: seen at intervals of 2 to 5 years

\* - known to nest locally

# - endangered species

Species	Spring	Summer	Fall	Winter
LOONS				
Common Loon	u	-	r	-
GREBES	•			
Pied-billed Grebe*	u	c	c	-
Horned Grebe	0	0	О	-
Eared Grebe*	a	С	С	-
Western Grebe*	u	С	u	-
PELICANS AND CORMORANTS				
American White Pelican*	u	u	u	-
Double-crested Cormorant*	u	С	С	-
BITTERNS, HERONS AND EGRETS				
American Bittern*	u	c	u	-
Great Blue Heron*	c	a	С	r
Great Egret*	u	u	О	-
Cattle Egret*	0	u	0	-
Black-crowned Night-Heron*	u	a	С	-
IBISES				
White-faced Ibis*	u	С	С	-
WATERFOWL				
Tundra Swan	c	r	c	-
Trumpeter Swan*	u	u	u	r
Greater White-Fronted Goose	-	r	-	-
Snow Goose	0	-	0	-
Canada Goose*	c	a	a	0
Wood Duck*	r	r	r	-
Green-winged Teal*	c	С	С	r
Mallard*	a	a	a	u
Northern Pintail*	a	a	a	r
Blue-winged Teal*	c	С	0	-

Species	Spring	Summer	Fall	Winter
Cinnamon Teal*	a	a	u	-
Gadwall*	a	a	a	-
American Wigeon*	a	a	a	-
Canvasback*	c	c	u	-
Redhead*	a	a	С	-
Ring-necked Duck*	c	c	u	-
Greater Scaup	-	r	r	-
Lesser Scaup*	a	С	С	-
Common Goldeneye	c	r	С	u
Barrow's Goldeneye	r	-	r	r
Bufflehead	c	r	С	-
Hooded Merganser	r	-	r	-
Common Merganser	С	-	u	-
Red-breasted Merganser*	С	0	u	-
Ruddy Duck*	c	a	С	-
VULTURES				
Turkey Vulture	r	r	r	-
OSPREY, EAGLES AND HAWKS				
Osprey	r	_	r	-
Bald Eagle#	c	-	u	c
Northern Harrier*	c	c	c	0
Sharp-shinned Hawk	r	r	r	r
Cooper's Hawk	-	-	r	r
Northern Goshawk*	0	0	0	0
Swainson's Hawk*	c	С	С	С
Red-tailed Hawk*	c	u	u	0
Ferruginous Hawk*	u	u	u	r
Rough-legged Hawk	c	-	С	С
Golden Eagle	С	0	0	С
FALCONS				
American Kestrel*	c	c	c	0
Merlin	r	-	r	-
Peregrine Falcon#	0	u	0	0
Prairie Falcon	0	0	0	0
GALLINACEOUS BIRDS				
Gray Partridge*	u	u	u	u
Ring-necked Pheasant*	c	c	c	c
Sage Grouse*	u	u	С	r
RAILS Winginia Rail				
Virginia Rail	-	r	-	-
Sora*	0	0	0	-
American Coot*	c	a	a	r
CRANES Sandhill Crane*				
	c	С	С	
PLOVERS				

Species	Spring	Summer	Fall	Winter
Semipalmated Plover	-	u	_	-
Killdeer*	С	С	С	-
STILTS AND AVOCETS		-		
Black-necked Stilt*	u	С	u	_
American Avocet*	С	С	С	-
SHOREBIRDS		-		
Greater Yellowlegs	u	r	u	-
Lesser Yellowlegs	u	r	u	-
Solitary Sandpiper	0	0	0	_
Willet*	u	c	_	_
Spotted Sandpiper	0	0	0	_
Long-billed Curlew*	С	c	-	_
Marbled Godwit	0	-	r	_
Western Sandpiper				
Least Sandpiper	u	u	u	-
	u	u	u	_
Baird's Sandpiper	-	r	-	-
Pectoral Sandpiper	r	r	r	-
Long-billed Dowitcher	0	r	0	-
SNIPE	I	I	I	<u> </u>
Common Snipe*	u	u	u	-
PHALAROPES Wilson La Dhalaropot	1	1	1	1
Wilson's Phalarope*	u	С	u	-
Red-necked Phalarope	r	-	-	-
GULLS AND TERNS Franklin's Gull	T	T -	T	T .
Ring-billed Gull	-	С	_	-
	С	С	С	-
California Gull	С	С	С	-
Caspian Tern	-	0	-	-
Common Tern	-	u	-	-
Forster's Tern	-	0	-	-
Black Tern	-	c	-	-
DOVES	ı	ı	ı	
Rock Dove	u	u	u	-
Mourning Dove*	u	c	c	-
OWLS			T	
Western Screech-Owl	r	r	r	r
Great Horned Owl*	c	c	c	c
Burrowing Owl*	r	r	r	_
Great Gray Owl	-	-	-	r
Long-eared Owl	u	u	r	r
Short-eared Owl*	С	С	С	r
Northern Saw-whet Owl	r	-	-	r
GOATSUCKERS				
Common Nighthawk*	С	С	_	_
HUMMINGBIRDS				

Species	Spring	Summer	Fall	Winter
Calliope Hummingbird	-	u	-	
Rufous Hummingbird	-	u	-	
KINGFISHERS				
Belted Kingfisher	0	0	0	
WOODPECKERS		-		
Lewis' Woodpecker	r	-	-	-
Downy Woodpecker	0	r	0	0
Hairy Woodpecker	-	-	0	0
Northern Flicker*	С	С	С	u
FLYCATCHERS				
Western Wood-Pewee*	-	u	u	-
Willow Flycatcher	-	r	-	-
Say's Phoebe	-	u	-	-
Western Kingbird	_	c	-	-
Eastern Kingbird*	-	c	<del> </del>	_
LARKS		1 -	1	
Horned Lark*	С	С	С	С
SWALLOWS	_			-
Tree Swallow*	u	u	_	-
Violet-green Swallow*	u	u	_	_
Northern Rough-winged Swallow	r	r	_	_
Bank Swallow*	c	c	-	
Cliff Swallow*	r	u	r	_
Barn Swallow*	u	С	u	_
JAYS, MAGPIES AND CROWS	u	10	_ u	
Gray Jay	r	T -	r	r
Clark's Nutcracker	-	_	r	r
Black-billed Magpie*	a	a	a	a
American Crow*	c	С	С	
Common Raven	С	r	c	0
CHICKADEES	10	1	10	10
Black-capped Chickadee	С	r	u	r
NUTHATCHES		1	<u> </u>	1
Red-breasted Nuthatch	r	r	r	0
White-breasted Nuthatch	r	r	r	0
WRENS	1*	1	1	
House Wren*	r	r	T -	T -
Marsh Wren*	u	c	С	-
KINGLETS, BLUEBIRDS AND THRUSHES	- u			
Golden-crowned Kinglet	-	u	u	-
Ruby-crowned Kinglet	_	u	u	_
Western Bluebird	u	u	- u	_
Mountain Bluebird	_ u		<del>-</del>   -	
Veery		u		-
Swainson's Thrush	r	r	r	-
		u	u	-
Hermit Thrush	-	u	u	-

Species	Spring	Summer	Fall	Winter
American Robin*	u	С	С	0
MOCKINGBIRDS AND THRASHERS				
Gray Catbird	-	r	-	-
Sage Thrasher*	-	С	_	_
PIPITS				
American Pipit	-	-	u	u
WAXWINGS				
Bohemian Waxwing	-	r	r	-
Cedar Waxwing	0	-	0	О
SHRIKES				
Northern Shrike	-	-	-	u
Loggerhead Shrike	u	u	u	r
STARLINGS				
European Starling*	c	a	a	0
VIREOS				
Warbling Vireo	_	O		-
WARBLERS				
Yellow Warbler*	-	c	0	-
Yellow-rumped Warbler	r	r	_	_
MacGillivray's Warbler	-	r	-	-
Common Yellowthroat*	u	С	-	-
Wilson's Warbler	0	0	_	_
Yellow-breasted Chat	-	u	_	-
TANAGERS	L	L	L	
Western Tanager	u	u	_	_
GROSBEAKS AND BUNTINGS				
Black-headed Grosbeak	-	r	-	-
Lazuli Bunting	-	r	_	-
TOWHEES AND SPARROWS				
American Tree Sparrow	-	-	-	u
Chipping Sparrow	-	0	0	-
Brewer's Sparrow	-	u	_	_
Vesper Sparrow*	-	С	-	-
Lark Sparrow	_	u	_	-
Sage Sparrow	_	u	_	_
Savannah Sparrow*	_	c	_	_
Song Sparrow	_	0	0	_
Lincoln's Sparrow	_	r	-	_
White-crowned Sparrow				_
Dark-eyed Junco	0	0	0	
Lapland Longspur	С	-	u	C
	-	-	0	u
BLACKBIRDS, MEADOWLARKS AND ORIOLES Red-winged Blackbird*				.,
Western Meadowlark*	C	a	a	u
	u	С	u	-
Yellow-headed Blackbird*	u	a	u	-
Brewer's Blackbird*	u	С	u	-

Species	Spring	Summer	Fall	Winter
Brown-headed Cowbird*	-	С	-	-
Bullock's Oriole	u	r	-	-
FINCHES				
House Finch*	-	С	-	-
American Goldfinch*	-	С	О	-
Evening Grosbeak	О	-	-	r
WEAVER FINCHES				
House Sparrow*	c	c	c	u

## ACCIDENTALS - the following 39 species are accidental on the refuge and have been recorded only once or twice.

Red-necked Grebe	Olive-sided Flycatcher
Least Bittern	Steller's Jay
Green Heron	Blue Jay
Harlequin Duck	Pinyon Jay
Chukar	Brown Creeper
Sharp-tailed Grouse	Rock Wren
Northern Bobwhite	American Dipper
Common Moorhen	Solitary Vireo
Black-bellied Plover	Yellow-throated Vireo
American Golden Plover	Red-eyed Vireo
Ruddy Turnstone	Chestnut-sided Warbler
Sanderling	Townsend's Warbler
Semipalmated Sandpiper	American Redstart
Stilt Sandpiper	Scarlet Tanager
Parasitic Jaeger	Rufous-sided Towhee
Long-tailed Jaeger	Clay-colored Sparrow
Band-tailed Jaeger	Red Crossbill
Barn Owl	Common Redpoll
Red-headed Woodpecker	Pine Siskin
Yellow-bellied Sapsucker	

#### For more information, contact:

Refuge Manager

Camas National Wildlife Refuge

2150 East 2350 North Hamer, Idaho 83425 Phone: 208/662-5423

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# Fish stocking by Idaho Department of Fish and Game in Closed Basin Waters1998-2000.

DATE				
STREAM	PLANTED	SPECIES	SIZE	NUMBER PLANTED
PASS CREEK L	9/10/1999	HENRYS LAKE CUTTHROAT	$FRY^{a}$	1000
SWAUGER L (UPPER)	8/26/1999	HENRYS LAKE CUTTHROAT	FRY	3000
MILL CREEK L	8/27/1999	HENRYS LAKE CUTTHROAT	FRY	2000
BROCKIE L	8/14/1998	HENRYS LAKE CUTTHROAT	FRY	1500
IRON BOG L #01	8/20/1998	REDBAND TROUT	FRY	3500
FISH POLE L	8/20/1998	HENRYS LAKE CUTTHROAT	FRY	2500
MACKAY RES	5/12/1998	DOMESTIC KAMLOOPS	$CAT^{c}$	7590
MACKAY RES	5/21/1998	ARLEE RAINBOW	CAT	756
MACKAY RES	6/5/1998	ARLEE RAINBOW	CAT	1911
MACKAY RES	6/9/1998	ARLEE RAINBOW	CAT	1008
MACKAY RES	6/11/1998	ARLEE RAINBOW	CAT	1523
MACKAY RES	6/11/1998	ARLEE RAINBOW	CAT	1911
MACKAY RES	6/19/1998	ARLEE RAINBOW	CAT	1890
MACKAY RES	6/26/1998	ARLEE RAINBOW	CAT	1892
MACKAY RES	7/2/1998	ARLEE RAINBOW	CAT	1880
MACKAY RES	7/10/1998	ARLEE RAINBOW	CAT	1890
MACKAY RES	7/16/1998	ARLEE RAINBOW	CAT	1920
MACKAY RES	7/30/1998	ARLEE RAINBOW	CAT	1880
MACKAY RES	12/18/1998	ARLEE RAINBOW	ADULT	100
MACKAY RES	5/7/1999	ARLEE RAINBOW	CAT	1711
MACKAY RES	5/14/1999	ARLEE RAINBOW	CAT	1870
MACKAY RES	5/21/1999	ARLEE RAINBOW	CAT	1875
MACKAY RES	5/25/1999	ARLEE RAINBOW	CAT	2720
MACKAY RES	5/25/1999	ARLEE RAINBOW	$FIN^b$	41600
MACKAY RES	6/4/1999	ARLEE RAINBOW	CAT	1875
MACKAY RES	6/11/1999	ARLEE RAINBOW	CAT	1880
MACKAY RES	6/18/1999	ARLEE RAINBOW	CAT	1680
MACKAY RES	6/18/1999	ARLEE RAINBOW	CAT	1785
MACKAY RES	6/25/1999	ARLEE RAINBOW	CAT	1875
MACKAY RES	6/25/1999	ARLEE RAINBOW	CAT	1575
MACKAY RES	5/1/2000	ARLEE RAINBOW	CAT	1800
MACKAY RES	5/12/2000	ARLEE RAINBOW	CAT	1763
MACKAY RES	5/19/2000	ARLEE RAINBOW	CAT	1750
MACKAY RES	5/24/2000	ARLEE RAINBOW	CAT	2500
MACKAY RES	6/2/2000	ARLEE RAINBOW	CAT	1750
MACKAY RES	6/10/2000	ARLEE RAINBOW	CAT	1750
MACKAY RES	6/16/2000	ARLEE RAINBOW	CAT	1750
MACKAY RES	6/23/2000	ARLEE RAINBOW	CAT	1750
MACKAY RES	7/7/2000	ARLEE RAINBOW	CAT	1750
MACKAY RES	7/14/2000	ARLEE RAINBOW	CAT	1260
MACKAY RES	7/20/2000	ARLEE RAINBOW	FIN	18525

	DATE			NUMBER
STREAM	PLANTED	SPECIES	SIZE	PLANTED
MACKAY RES	7/21/2000	ARLEE RAINBOW	CAT	1510
MACKAY RES	7/28/2000	ARLEE RAINBOW	CAT	1750
MACKAY RES	10/25/2000	DOMESTIC KAMLOOPS	FRY	10217
MACKAY RES	10/25/2000	HENRYS LAKE CUTTHROAT	FRY	1250
GRANT CREEK L	9/13/1999	HENRYS LAKE CUTTHROAT	FRY	1000
BOULDER L	8/19/2000	HENRYS LAKE CUTTHROAT	FRY	1500
BOULDER L #01	8/19/2000	HENRYS LAKE CUTTHROAT	FRY	500
WASHINGTON L	8/19/2000	UNSPECIFIED RAINBOW	FRY	500
ARROWHEAD L	8/25/2000	HENRYS LAKE CUTTHROAT	FRY	2000
AIRPLANE L	8/22/1998	REDBAND TROUT	FRY	500
AIRPLANE L	8/31/2000	GOLDEN TROUT	FRY	1233
ANGEL L	8/7/1998	REDBAND TROUT	FRY	500
ANGEL L	8/31/2000	GOLDEN TROUT	FRY	1233
FALL CREEK L #01	8/31/2000	GOLDEN TROUT	FRY	462
BELLAS CANYON L #01	8/26/2000	HENRYS LAKE CUTTHROAT	FRY	1500
CORRAL L	9/4/1999	HENRYS LAKE CUTTHROAT	FRY	1000
BIG L	8/22/1998	HENRYS LAKE CUTTHROAT	FRY	3500
ROUGH L	9/11/1998	HENRYS LAKE CUTTHROAT	FRY	2650
LONG L	9/5/1998	REDBAND TROUT	FRY	3000
LAKE CREEK L #11	9/18/1998	REDBAND TROUT	FRY	500
ROUND L	8/29/1998	GRAYLING	FRY	1500
CLEAR L	8/28/2000	HENRYS LAKE CUTTHROAT	FRY	500
BENCH L	8/28/2000	UNSPECIFIED RAINBOW	FRY	500
BETTY L	8/28/2000	HENRYS LAKE CUTTHROAT	FRY	2500
GOAT L	8/28/2000	HENRYS LAKE CUTTHROAT	FRY	2000
GREEN L	8/11/1998	GRAYLING	FRY	1000
GREEN L	8/11/1998	HENRYS LAKE CUTTHROAT	FRY	1000
KANE CANYON L	10/6/2000	HENRYS LAKE CUTTHROAT	FRY	1500
BIG FALL CREEK L	8/19/2000	HENRYS LAKE CUTTHROAT	FRY	1500
RAMEY L	10/19/2000	HENRYS LAKE CUTTHROAT	FRY	500
BIRCH CR	5/22/1998	MT LASSEN RAINBOW	CAT	200
BIRCH CR	5/22/1998	ARLEE RAINBOW	CAT	3600
BIRCH CR	5/22/1998	MT LASSEN RAINBOW	CAT	200
BIRCH CR	5/22/1998	MT LASSEN RAINBOW	CAT	200
BIRCH CR	6/5/1998	ARLEE RAINBOW	CAT	1001
BIRCH CR	6/19/1998	ARLEE RAINBOW	CAT	1026
BIRCH CR	7/2/1998	ARLEE RAINBOW ARLEE RAINBOW	CAT	1034
BIRCH CR BIRCH CR	7/17/1998 8/14/1998	ARLEE RAINBOW ARLEE RAINBOW	CAT	1100 540
BIRCH CR	5/26/1999	ARLEE RAINBOW  ARLEE RAINBOW	CAT	1105
BIRCH CR	5/28/1999	ARLEE RAINBOW	CAT CAT	5100
BIRCH CR	6/11/1999	ARLEE RAINBOW  ARLEE RAINBOW	CAT	1875
BIRCH CR	6/25/1999	ARLEE RAINBOW	CAT	1950
BIRCH CR	7/9/1999	ARLEE RAINBOW	CAT	1487
BIRCH CR	7/23/1999	ARLEE RAINBOW  ARLEE RAINBOW	CAT	1507
BIRCH CR	8/20/1999	ARLEE RAINBOW ARLEE RAINBOW	CAT	756
BIRCH CR	8/27/1999	ARLEE RAINBOW ARLEE RAINBOW	CAT	400
BIRCH CR	5/26/2000	ARLEE RAINBOW	CAT	622
BIRCH CR	5/26/2000	ARLEE RAINBOW  ARLEE RAINBOW	CAT	2654
DIKCII CK	212012000		C/11	2037

	DATE			NUMBER
STREAM	PLANTED	SPECIES	SIZE	PLANTED
BIRCH CR	5/26/2000	ARLEE RAINBOW	CAT	1632
BIRCH CR	6/16/2000	ARLEE RAINBOW	CAT	1700
BIRCH CR	6/30/2000	ARLEE RAINBOW	CAT	1728
BIRCH CR	7/14/2000	ARLEE RAINBOW	CAT	1365
BIRCH CR	7/27/2000	ARLEE RAINBOW	CAT	1350
BIRCH CR	8/11/2000	ARLEE RAINBOW	CAT	675
BIRCH CR	8/25/2000	ARLEE RAINBOW	CAT	675
<b>BIG SPRINGS CR</b>	5/13/1998	ARLEE RAINBOW	CAT	1139
<b>BIG SPRINGS CR</b>	5/25/2000	ARLEE RAINBOW	CAT	994
BIG LOST R	6/9/1998	ARLEE RAINBOW	CAT	578
BIG LOST R	6/22/1998	ARLEE RAINBOW	CAT	1050
BIG LOST R	7/7/1998	ARLEE RAINBOW	CAT	585
BIG LOST R	7/21/1998	ARLEE RAINBOW	CAT	1013
BIG LOST R	7/13/1999	ARLEE RAINBOW	CAT	340
BIG LOST R	7/20/1999	ARLEE RAINBOW	CAT	612
BIG LOST R	6/13/2000	ARLEE RAINBOW	CAT	500
BIG LOST R	6/26/2000	ARLEE RAINBOW	CAT	500
BIG LOST R	7/10/2000	ARLEE RAINBOW	CAT	500
BIG LOST R	7/24/2000	ARLEE RAINBOW	CAT	500
ANTELOPE CR	6/22/1998	ARLEE RAINBOW	CAT	578
ANTELOPE CR	7/7/1998	ARLEE RAINBOW	CAT	1000
ANTELOPE CR	7/21/1998	ARLEE RAINBOW	CAT	600
ANTELOPE CR	7/13/1999	ARLEE RAINBOW	CAT	1190
ANTELOPE CR	7/20/1999	ARLEE RAINBOW	CAT	956
ANTELOPE CR	6/13/2000	ARLEE RAINBOW	CAT	900
ANTELOPE CR	6/26/2000	ARLEE RAINBOW	CAT	900
ANTELOPE CR	7/10/2000	ARLEE RAINBOW	CAT	900
ANTELOPE CR	7/24/2000	ARLEE RAINBOW	CAT	900
E F BIG LOST R	6/25/1998	ARLEE RAINBOW	CAT	340
E F BIG LOST R	7/9/1998	ARLEE RAINBOW	CAT	378
E F BIG LOST R	7/23/1998	ARLEE RAINBOW	CAT	375
E F BIG LOST R	8/10/1998	ARLEE RAINBOW	CAT	375
E F BIG LOST R	8/27/1998	ARLEE RAINBOW	CAT	375
E F BIG LOST R	10/2/1998	COLORADO RIVER RAINBOW	FRY	14608
E F BIG LOST R	6/15/1999	ARLEE RAINBOW	CAT	319
E F BIG LOST R	7/2/1999	ARLEE RAINBOW	CAT	325
E F BIG LOST R	7/8/1999	ARLEE RAINBOW	CAT	340
E F BIG LOST R	7/22/1999	ARLEE RAINBOW	CAT	331
E F BIG LOST R	8/10/1999	ARLEE RAINBOW	CAT	325
E F BIG LOST R	8/24/1999	ARLEE RAINBOW	CAT	225
E F BIG LOST R	6/14/2000	ARLEE RAINBOW	CAT	350
E F BIG LOST R	6/27/2000	ARLEE RAINBOW	CAT	350
WILDHORSE CR	6/25/1998	ARLEE RAINBOW	CAT	340
WILDHORSE CR	7/9/1998	ARLEE RAINBOW	CAT	500
WILDHORSE CR	7/23/1998	ARLEE RAINBOW	CAT	520
WILDHORSE CR	8/10/1998	ARLEE RAINBOW	CAT	500
WILDHORSE CR	8/27/1998	ARLEE RAINBOW	CAT	500
WILDHORSE CR	6/15/1999	ARLEE RAINBOW	CAT	319
WILDHORSE CR	7/2/1999	ARLEE RAINBOW	CAT	325

	DATE			NUMBER
STREAM	PLANTED	SPECIES	SIZE	PLANTED
WILDHORSE CR	7/8/1999	ARLEE RAINBOW	CAT	510
WILDHORSE CR	7/22/1999	ARLEE RAINBOW	CAT	517
WILDHORSE CR	8/10/1999	ARLEE RAINBOW	CAT	487
WILDHORSE CR	8/24/1999	ARLEE RAINBOW	CAT	350
WILDHORSE CR	6/14/2000	ARLEE RAINBOW	CAT	450
WILDHORSE CR	6/27/2000	ARLEE RAINBOW	CAT	450
WILDHORSE CR	7/11/2000	ARLEE RAINBOW	CAT	450
WILDHORSE CR	7/25/2000	ARLEE RAINBOW	CAT	450
WILDHORSE CR	8/17/2000	ARLEE RAINBOW	CAT	600
WILDHORSE CR	8/31/2000	ARLEE RAINBOW	CAT	600
W F BIG LOST R	6/25/1998	ARLEE RAINBOW	CAT	630
W F BIG LOST R	7/9/1998	ARLEE RAINBOW	CAT	600
W F BIG LOST R	7/23/1998	ARLEE RAINBOW	CAT	600
W F BIG LOST R	8/10/1998	ARLEE RAINBOW	CAT	600
W F BIG LOST R	8/27/1998	ARLEE RAINBOW	CAT	600
W F BIG LOST R	6/15/1999	ARLEE RAINBOW	CAT	600
W F BIG LOST R	7/2/1999	ARLEE RAINBOW	CAT	600
W F BIG LOST R	7/8/1999	ARLEE RAINBOW	CAT	595
W F BIG LOST R	7/22/1999	ARLEE RAINBOW	CAT	588
W F BIG LOST R	8/10/1999	ARLEE RAINBOW	CAT	540
W F BIG LOST R	8/24/1999	ARLEE RAINBOW	CAT	400
W F BIG LOST R	6/14/2000	ARLEE RAINBOW	CAT	500
W F BIG LOST R	6/27/2000	ARLEE RAINBOW	CAT	500
W F BIG LOST R	7/11/2000	ARLEE RAINBOW ARLEE RAINBOW	CAT	500
W F BIG LOST R W F BIG LOST R	7/25/2000 8/17/2000	ARLEE RAINBOW ARLEE RAINBOW	CAT CAT	500 500
W F BIG LOST R	8/31/2000	ARLEE RAINBOW ARLEE RAINBOW	CAT	500
W F BIG LOST R	9/7/2000	FINE SPOTTED CUTTHROAT	CAT	1000
W F BIG LOST R	9/7/2000	FINE SPOTTED CUTTHROAT	CAT	1000
W F BIG LOST R	9/18/2000	FINE SPOTTED CUTTHROAT	CAT	1000
W F BIG LOST R	9/18/2000	FINE SPOTTED CUTTHROAT	CAT	1000
LAKE CR	9/7/2000	FINE SPOTTED CUTTHROAT	CAT	1500
LAKE CR	9/18/2000	FINE SPOTTED CUTTHROAT	CAT	1000
MULDOON CANYON	9/7/2000	FINE SPOTTED CUTTHROAT	CAT	1500
MULDOON CANYON	9/18/2000	FINE SPOTTED CUTTHROAT	CAT	1000
N F BIG LOST R	6/25/1998	ARLEE RAINBOW	CAT	340
N F BIG LOST R	7/9/1998	ARLEE RAINBOW	CAT	378
N F BIG LOST R	7/23/1998	ARLEE RAINBOW	CAT	376
N F BIG LOST R	8/10/1998	ARLEE RAINBOW	CAT	375
N F BIG LOST R	8/27/1998	ARLEE RAINBOW	CAT	375
N F BIG LOST R	6/15/1999	ARLEE RAINBOW	CAT	255
N F BIG LOST R	7/2/1999	ARLEE RAINBOW	CAT	250
N F BIG LOST R	7/8/1999	ARLEE RAINBOW	CAT	340
N F BIG LOST R	7/22/1999	ARLEE RAINBOW	CAT	331
N F BIG LOST R	8/10/1999	ARLEE RAINBOW	CAT	325
N F BIG LOST R	8/24/1999	ARLEE RAINBOW	CAT	225
N F BIG LOST R	6/14/2000	ARLEE RAINBOW	CAT	225
N F BIG LOST R	6/27/2000	ARLEE RAINBOW	CAT	225
N F BIG LOST R	7/11/2000	ARLEE RAINBOW	CAT	350

	DATE			NUMBER
STREAM	PLANTED	SPECIES	SIZE	PLANTED
MUD L	8/28/1998	TIGER MUSKIE	FIN	34620
MUD L	9/1/1998	LAHONTAN CUTTHROAT	FRY	15540
MUD L	9/1/1998	LAHONTAN CUTTHROAT	FIN	51150
MUD L	8/27/1999	TIGER MUSKIE	FIN	35945
MUD L	9/6/2000	LAHONTAN CUTTHROAT	FIN	50400
MICKYS L	8/21/1999	HENRYS LAKE CUTTHROAT	FRY	1500
HANCOCK L	8/21/1999	HENRYS LAKE CUTTHROAT	FRY	500
SALAMANDER L	8/21/1999	HENRYS LAKE CUTTHROAT	FRY	1000
DIVIDE CREEK L	9/3/1999	HENRYS LAKE CUTTHROAT	FIN	1039
PAUL RES	9/8/1998	HENRYS LAKE CUTTHROAT	FRY	2585
PAUL RES	9/7/1999	HENRYS LAKE CUTTHROAT	FIN	2499
PAUL RES	9/7/1999	HENRYS LAKE CUTTHROAT	CAT	1289
CAMAS CR	1/28/1999	BROWN TROUT	CAT	2430
CAMAS CR	1/29/1999	BROWN TROUT	CAT	4617
BEAVER CR	5/20/1998	HAYSPUR RAINBOW	CAT	1001
BEAVER CR	6/15/1998	HAYSPUR RAINBOW	CAT	1001
BEAVER CR	7/6/1998	HAYSPUR RAINBOW	CAT	1008
BEAVER CR	5/26/1999	HAYSPUR RAINBOW	CAT	1025
BEAVER CR	6/21/1999	HAYSPUR RAINBOW	CAT	1012
BEAVER CR	7/7/1999	HAYSPUR RAINBOW	CAT	997
BEAVER CR	5/25/2000	HAYSPUR RAINBOW	CAT	903
BEAVER CR	6/29/2000	HAYSPUR RAINBOW	CAT	904
BEAVER CR	7/19/2000	HAYSPUR RAINBOW	CAT	896

<sup>&</sup>lt;sup>a</sup> Fry (0 – 3 Inches)
<sup>b</sup> Fingerlings (3 – 6 inches)
<sup>c</sup> Catchable (> 6 inches)

#### Appendix H

**Environmental Science and Research Foundation, Inc.** 

**ESRF-038** 

# Publications of the Environmental Science and Research Foundation

D. Katie Dimick Amy Adams Luft Randall C. Morris, Ph.D. Jeanne F. Jensen Melissa R. Harwood

Environmental Science and Research Foundation, Inc.
O. Doyle Markham, Executive Director
July 2000

Environmental Science and Research Foundation, Inc. 101 S. Park Avenue, Suite 2; P.O. Box 51838 Idaho Falls, ID 83405-1838 (208) 525-7038 http://esrf.org

#### Introduction

This report lists publications resulting from research, surveillance, and education activities conducted by the Environmental Science and Research Foundation, Inc. and its university affiliates for the U.S. Department of Energy-Idaho Operations Office. Also included are publications of the Radioecology and Ecology Program which was managed by current Foundation staff and partially staffed by current Environmental Science and Research Foundation personnel from 1974 to 1993. From 1974 through May 2000, 429 publications resulted from research conducted by these programs.

# Publications of the Environmental Science and Research Foundation, Inc.

#### **Publications in Press**

- Bromenshenk, J. J., J. L. Gudatis, and R. C. Cronn. In Press. Post-closure assessments of industrial complexes with honey bees. Environmental Contamination and Toxicology.
- Burger, J., J. Sanchez, D. Roush, Jr., and M. Gochfeld. In Press. Risk concerns, land use, and the Idaho National Engineering and Environmental Laboratory: attitudes of the Shoshone-Bannock and other American Indians. Environmental Research.
- Cronn, R. C. and J. J. Bromenshenk. In Press. Radionuclide accumulation in honey bees at the Idaho National Engineering Laboratory. Journal of Environmental Quality.
- Gabler, K. I., L. T. Heady, and J. W. Laundré. In Press. Using a geographic information system analysis to predict rabbit distribution. Journal of Wildlife Management.
- Peek, J. M., K. T. Schmidt, M. J. Dorrance, and B. L. Smith. In Press. Supplemental feeding and farming of elk *in* Elk of North America: ecology and management. Wildlife Management Institute.

- Burger, J., D. E. Roush, Jr., J. Sanchez, J. Ondrof, R. Ramos, J. J. McMahon, and M. Gochfeld. 2000. Attitudes and perceptions about ecological resources, hazards, and future land use of people living near the Idaho National Engineering and Environmental Laboratory. Environmental Monitoring and Assessment 60:145-161.
- Dimick, D. K., A. A. Luft, R. C. Morris, J. F. Jensen, and M. R. Harwood, eds. 2000. Publications of the Environmental Science and Research Foundation, ESRF-038. Environmental Science and Research Foundation, Idaho Falls, Idaho.
- Evans, R. B. 2000. Idaho National Engineering and Environmental Laboratory offsite environmental surveillance program report: third quarter 1999. ESRF-035 (3QT99). Environmental Science and Research Foundation, Idaho Falls, Idaho. 21 pp.
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- Luft, A. A., R. B. Evans, T. Saffle, R. G. Mitchell, and D. B. Martin. 2000. In summary:

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- Luft, A. A. and R. W. Warren, eds. 2000. Environmental Science and Research Foundation to DOE-ID: calendar year 1999. ESRF-037. Environmental Science and Research Foundation, Idaho Falls, Idaho. 104 pp.
- Reynolds, T. D., and J. E. Anderson. 2000. Response of three evapotranspiration cap designs to the addition of copious supplemental water. Technology Information Exchange Quarterly. U.S. Department of Energy Office of Environmental Restoration 8:6.
- Saffle, T. R., R. B. Evans, R. G. Mitchell, D. B. Martin, and B. Jonker. 2000. INEEL site environmental report for calendar year 1998. ESRF-034/DOE-ID-12082 (98). Environmental Science and Research Foundation, Idaho Falls, Idaho. 186 pp.

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- Beaver, D. E. 1999. Habitat use and patch selectivity by mule deer in a sagebrush-steppe environment of southeast Idaho. M. S. Thesis. University of Idaho, Moscow. 82 pp.
- Bent, G. C., B. F. Goff, K. G. Rightmire, and R. C. Sidle. 1999. Runoff and erosion response of simulated waste burial covers in a semi-arid environment. Journal of American Water Resources Association 35:441-455.
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- Cobb, V. A. and C. R. Peterson. 1999. *Crotalus viridis lutosus*—mortality. Herpetological Review 30 (1):45-46.
- Duffin, E. 1999. Evaluating snowmelt erosion in a sagebrush steppe ecosystem. M. S. Thesis. Utah State University, Logan. 159 pp.
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- Evans, R. B. 1999. INEEL offsite environmental surveillance program report: second quarter 1999. ESRF-035 (2QT99). Environmental Science and Research Foundation, Idaho Falls, Idaho. 20 pp.
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- Luft, A. E. A. 1999. Pronghorn: one of a kind. The Retort: Newsletter of the Idaho Academy of Science. 35(4):16-17.
- Morris, R. C. and R. L. VanHorn. 1999. Screening risks to terrestrial vertebrates from radionuclide contamination in soil and water. Proceedings of Waste Management 99 Conference, Tucson, Arizona.
- Reynolds, T. D., T. D. Rich, and D. A. Stephens. 1999. Sage Thrasher (Oreoscoptes

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- Saffle, T. R. and R. B. Evans. 1999. Idaho National Engineering and Environmental Laboratory offsite environmental surveillance program report: third quarter 1998. ESRF-029 (3QT98). Environmental Science and Research Foundation, Idaho Falls, Idaho. 18 pp.
- Saffle, T. R. and Evans, R. B. 1999. Idaho National Engineering and Environmental Laboratory offsite environmental surveillance program report: fourth quarter 1998. ESRF-029 (4QT98). Environmental Science and Research Foundation, Idaho Falls, Idaho. 18 pp.
- Strohmeyer, D. C., J. M. Peek, and T. R. Bowlin. 1999. Wapiti bed sites in Idaho sagebrush steppe. Wildlife Society Bulletin 27:547-551.
- Weigmann, D. and R. D. Blew, eds. 1999. Environmental Science and Research Foundation annual technical report to DOE-ID: calendar year 1998. ESRF-033. Environmental Science and Research Foundation, Idaho Falls, Idaho. 100 pp.

- Anderson, J. E. and T. D. Reynolds. 1998. Comparative performance of four evapotranspiration caps for waste isolation. Eos, Transactions of American Geophysical Union 79 (45 Supplement):341-342
- Belthoff, J. R., L. R. Powers, and T. D. Reynolds. 1998. Breeding birds at the Idaho National Engineering and Environmental Laboratory, 1985-1991. Great Basin Naturalist 58:167-183.
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