



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
2002/00200

October 21, 2002

Mr. Barron Bail
District Manager
BLM - Prineville District
P.O. Box 550
3050 NE 3rd Street
Prineville, OR 97754

Re: Formal Section 7 Consultation and Essential Fish Habitat Consultation on the Effects of Livestock Grazing Allotments Administered by the Bureau of Land Management in the John Day River Basin, Oregon for 2002 and 2003.

Dear Mr. Bail:

Enclosed is a biological opinion (Opinion) prepared by the National Marine Fisheries Service (NOAA Fisheries) pursuant to Section 7 of the Endangered Species Act (ESA) on the effects of livestock grazing allotments administered by the Bureau of Land Management in the John Day River Basin, Oregon. NOAA Fisheries concludes in this Opinion that the proposed action is not likely to jeopardize the subject species. As required by section 7 of the ESA, NOAA Fisheries included reasonable and prudent measures with non-discretionary terms and conditions that NOAA Fisheries believes are reasonable and appropriate to minimize the impact of incidental take associated with this action.

This Opinion also serves as consultation on essential fish habitat pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation Management Act and implementing regulations at 50CFR Part 600.

Please direct any questions regarding this consultation to Scott Hoefler of my staff in the Oregon Habitat Branch at 503.231.6938.

Sincerely,

f.1 

D. Robert Lohn
Regional Administrator

cc: Jennifer O'Reilly, USFWS
Tim Unterwegner, ODFW
Tina Welch, Ochoco National Forest



Endangered Species Act - Section 7 Consultation
BIOLOGICAL OPINION

&

Magnuson - Stevens Act
Essential Fish Habitat Consultation

Livestock Grazing on Lands Administered by the
Bureau of Land Management
in the John Day River Basin, Oregon,
for 2002 and 2003

Agency: Bureau of Land Management, Prineville District,
Central Oregon Resource Area

Consultation
Conducted By: NOAA Fisheries
Northwest Region

Date Issued: October 21, 2002

Issued By: *f.v.* 
D. Robert Lohn
Regional Administrator

Refer to: 2002/00200

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1. ENDANGERED SPECIES ACT

1.1 Background

On March 28, 2002, the National Marine Fisheries Service (NOAA Fisheries) received a letter from the Bureau of Land Management (BLM), Prineville District, Central Oregon Resource Area (CORA) requesting formal consultation regarding the potential effects of proposed livestock grazing activities on BLM-administered allotments in the John Day River (JDR) basin on Middle Columbia River (MCR) steelhead. The letter states that the proposed action and the effects on Middle Columbia River (MCR) steelhead (*Onchorynchus mykiss*) are the same as described in the June 26, 2000 biological assessment (BA), with the exception of three allotments no longer under Federal management due to a land exchange. The June 2000 BA described 138 grazing allotments, 109 of which were “not likely to adversely affect” (NLAA), and 29 of which were “likely to adversely affect” (LAA) MCR steelhead. With the removal of the aforementioned three allotments, this biological opinion (Opinion) addresses the remaining 26 allotments which are LAA MCR steelhead. NOAA Fisheries issued an Opinion for the 2000 and 2001 CORA grazing activities on the 29 allotments on January 17, 2001. Because the grazing actions on BLM-administered grazing allotments and their effects on MCR steelhead are not expected to change between 2002 and 2003, this Opinion covers these actions through 2003.

The 2001 monitoring report accompanied the request for consultation and provides pertinent information regarding 2001 grazing. The monitoring report contained all of the information required by the 2001 Opinion, except actual management information on seven allotments, review of management and compliance successes and failures on three allotments, and information on compliance with all terms and conditions on 12 allotments. Terms and conditions 1. a., b., c., d., and e., for assessing MCR steelhead habitat use and timing, were not completed due to a lack of water in the streams in 2001. The monitoring report did not address compliance with terms and conditions 2. e., f., g., and h., but the BLM is in the process of implementing each of these terms and conditions.¹

NOAA Fisheries listed MCR steelhead as threatened under the Endangered Species Act (ESA) on March 25, 1999 (64 FR 14517). The objective of this Opinion is to determine whether the subject livestock grazing actions for 2002 and 2003 are likely to jeopardize the continued existence of MCR steelhead.

1.2 Description of the Proposed Action

The BA submitted to NOAA Fisheries describes ongoing and proposed activities on 138 livestock grazing allotments on BLM-administered lands in the JDR basin. The BLM determined in the BA, and NOAA Fisheries concurs, that activities on 109 of these range allotments are NLAA MCR steelhead (see June 28, 2000 letter to CORA for the list of allotments and rationale). As such, NOAA Fisheries concurs with the NLAA determination and

¹Telephone conversation with Brent Ralston, BLM Fishery Biologist, October 16, 2002.

therefore, these actions will not be discussed further in this Opinion. The BLM determined that twenty-six range allotments (for the 2002 grazing season) are (LAA) MCR steelhead. Those LAA actions, which are summarized in Table 1 and individually described below, are the subject of this Opinion. In the narrative allotment descriptions below, when actual use figures are not listed, BLM data indicates that use levels are at or well below authorized preferred use levels established in the Allotment Management Plans (AMPs).²

² Telephone conversation with Brent Ralston, BLM Fishery Biologist, May 14, 2002.

Table 1. BLM-Administered Livestock Grazing Allotments in the John Day River Basin Addressed in this Opinion. Approximate Location by River Mile, Acres (BLM and Private), Anticipated Season of Use, Amount of Use Authorized, and Streams Providing MCR Steelhead Habitat on BLM Lands Within Each Allotment.

Allotment (Allotment Number) and Names of Pastures Where MCR Steelhead Habitat May Be Affected	Approx. River Mile of Entry to JDR, NFJDR, or SFJDR	Acres BLM/ Private	Anticipated Period of Livestock Use for 2002 and 2003¹	Authorized Number of Animal Unit Months (AUMs)	Associated Streams and Rivers (Miles of potential MCR steelhead spawning/rearing habitat on BLM)
Upper John Day River (UJDR)					
<u>Johnson Creek</u> (2662) Johnson Creek	186	7,698/ 11,140	6/1-7/15	436	Johnson Creek (1.3)
<u>Squaw Creek</u> (2558) (No Pasture Separations)	200	5,086/ 7,400	4/15-5/31	301	Squaw (1.0), Buckhorn (1.1) Franks (100 yards)
<u>Fopiano</u> (2559) Willow Fopiano	204	280/ 43,720	4/15-5/31	28	Willow (0.4), Fopiano (0.1)
<u>Clark</u> (2645) Lower Birch Rattlesnake	204	1,550/ 2,417	1.5 months between 6/1 and 9/1 4/15-5/31	152	E.Fk. Birch (0.2), W.Fk. Birch (1.8 mile in 3 segments) Rock Creek (0.4)
<u>Creek</u> (4163) Breakneck	207	706/ 400	4/15-5/15 or 10/15- 10/30	51	Cottonwood Creek (0.7)
<u>Cottonwood Creek</u> (4076) Cottonwood Mascall	207	3,113/ 4,698	4/1-6/15 4/1-6/15	204	Cottonwood Creek (0.8, migratory only)
<u>Pointer</u> (4056) Unnamed	250	85/ 190	5/1-6/15	12	Little Pine (0.25)
<u>Canyon Mountain</u> (4115) Unnamed	250	50/15	5/1-6/15	5	Little Pine Creek (0.4)
<u>Dixie</u> (4016) Dixie-Standard Bear	262	2,548/ 13,150	6/1-7/15 7/16-10/15	319	Dixie (2.4), Standard (1.1), W.Fk. Standard (0.9)

Allotment (Allotment Number) and Names of Pastures Where MCR Steelhead Habitat May Be Affected	Approx. River Mile of Entry to JDR, NFJDR, or SFJDR	Acres BLM/Private	Anticipated Period of Livestock Use for 2002 and 2003¹	Authorized Number of Animal Unit Months (AUMs)	Associated Streams and Rivers (Miles of potential MCR steelhead spawning/rearing habitat on BLM)
North Fork John Day River (NFJDR)					
<u>Little Wall Creek</u> (4108) Unnamed	23	320/ 1,000	4/1-5/31	53	Little Wall Creek (0.4), Bacon Creek (0.3)
<u>Johnny Cake Mountain</u> (4042) Cabin Creek	28	280/ 1,000	4/1-5/31	30	NFJDR**, Cabin Creek (0.6)
<u>North Fork</u> (4029) Unnamed	39	1,894/ 5,505	4/1-5/31	316	NFJDR**, Potamus (0.2) and Mallory Creeks (0.4)
<u>Kinzua</u> (4151) Squaw Creek (3 pastures) Gilmore Creek Rudio Creek	5	9,493/ 33,018	1.5 months sometime between 6/1 and 9/1	Total average of 712 since 1989	Squaw (1.7 in 3 segments), Rudio (0.4), and Gilmore Creeks (0.6)
South Fork John Day River (SFJDR)					
<u>Murderers Creek</u> (4020) Manjar River Cougar Gulch	16	16,004/ 18,239	May 1-May 20 May 1-May 20 May 1-May 20	Total of 860 among 9 pastures (6 upland)	SFJDR (2.6 in three segments)
<u>Rockpile</u> (4103) Flats North Corridor Dog House River Davis Creek Frazier	20	4,918/ 4,899	4/8-9/15 (rotated among 9 pastures)	Total average of 320 since 1990	SFJDR (10.8 total among 5 pastures) Frazier Creek (0.2)
<u>Big Baldy</u> (4052) North (below Izee Falls) South (above Izee Falls)	28	12,726/ 3,346	4/15-5/31	600	SFJDR (2.4), Deer Creek (2.0)
Lower John Day River (LJDR)					

Allotment (Allotment Number) and Names of Pastures Where MCR Steelhead Habitat May Be Affected	Approx. River Mile of Entry to JDR, NFJDR, or SFJDR	Acres BLM/Private	Anticipated Period of Livestock Use for 2002 and 2003¹	Authorized Number of Animal Unit Months (AUMs)	Associated Streams and Rivers (Miles of potential MCR steelhead spawning/rearing habitat on BLM)
<u>Sixmile</u> (2547) Hay Creek Sixmile Creek	30	2,397/ 2,722	Rotate pasture use; spring use (2/16-5/1) one year and winter (12/1-2/15) the next	245	Hay Creek (2.0), Sixmile Creek (1.0) (Both intermittent on BLM land)
<u>Sixmile</u> (2547) Hay Creek Sixmile Creek	30	1,518/ 2,111	11/15-4/1 11/15-4/1	37	John Day River* (0.75) Hay Creek (0.25)
<u>Pryor Farms</u> (2607) North Pasture	30	800/ 4,480	 June-August	50	 Hay Creek (0.50)
<u>Belshe</u> (2509) Little Ferry	55	1,840/ 1,100	3/1-5/1	62	JDR* (1.5), Little Ferry Canyon (1.2, intermittent)
<u>Eakin</u> (2541) Jackknife	61	1,760/ 0	4/1-6/30	12	Jackknife Canyon (2.0 intermittent)
<u>Elsie Martin</u> (2581) Unnamed	61	920/ 0	6/4-9/14	22	Jackknife Canyon (2.0 intermittent)
<u>Pine Creek</u> (2518) Big Gulch Zigzag Bath Canyon Cramer Canyon	85	5,418/ 10,240	3/1-5/1 Spring (dates and use vary depending on pasture rotation)	346	JDR* (2.00) Pine Hollow (0.5) Long Hollow (1.0) Pine Hollow (0.5)
<u>C.H. Hill</u> (2552) Bologna Creek	182	1,835/ 1,040	4/1-5/31	86	JDR* (0.5), Bologna Creek (0.25)
<u>West Bologna</u> (4093) Bologna Creek	182	80/ 5,000	5/1-6/30	12	West Bologna Creek (0.20)

1. Harassment of spawning adult MCR steelhead and trampling of MCR steelhead redds in streams where spawning habitat is available and which are accessible to livestock on these allotments may occur any time between March 15 and July 15.

**NFJDR and MFJDR serve as winter rearing and migratory habitat in these reaches.

*Mainstem John Day River serves only as migratory habitat in these reaches.

1.2.1 Allotment Descriptions

1.2.1.1 Upper John Day River Subbasin

1.2.1.1.1 Johnson Creek Allotment

The Johnson Creek Allotment (2662) is located in the Upper John Day River (UJDR) subbasin and contains 7,698 acres of BLM land and 11,140 acres of private land. There are a total of 2.0 miles of perennial stream (Johnson Creek) and 11.5 miles of intermittent streams on or adjacent to BLM land in this allotment. Johnson Creek provides a total of 1.3 miles of MCR steelhead spawning and rearing habitat in a deep, densely forested canyon. Most of the creek is inaccessible to cattle. Johnson Creek enters the JDR near RM 186. Cattle grazing is authorized from April 1 to November 15, for a preferred total of 436 Animal Unit Months (AUMs), but occurs from April 15 to May 31 on the LJD River and China Hat Creek, and from June 1 to July 15 on Johnson Creek and Hide-and-Seek Creek. There are no pasture unit separations in this allotment. According to the BA, actual use on this allotment has consistently exceeded permitted use. Between 1987 and 1997, actual use has ranged between 303 AUMs and 1,040 AUMs, with an average of 674 AUMs, which considerably exceeds the authorized total. There is one vegetative trend study plot and vegetative utilization study sites on this allotment, however, the most recent survey to evaluate riparian conditions and instream habitat was performed in 1980.

1.2.1.1.2 Squaw Creek Allotment

The Squaw Creek Allotment (2558) is located in the UJDR subbasin and contains 5,086 acres of BLM land and 7,400 acres of private land. There are a total of 2.5 miles of perennial streams (Squaw, Buckhorn, and Frank Creeks) and 6.4 miles of intermittent streams on or adjacent to BLM lands in this allotment. Squaw Creek enters the JDR near river mile (RM) 200, and Buckhorn and Frank Creeks are tributaries to Squaw Creek. Squaw and Buckhorn Creeks provide spawning and rearing habitat for MCR steelhead, while Frank Creek provides about 100 yards of rearing habitat. Squaw Creek runs through a narrow canyon and is fully shaded by alders. Grazing on BLM land in this allotment is authorized during early spring (April 15-May 31) for a preferred total of 301 AUMs. There are no pasture unit separations on this allotment. According to the BA, actual use on this allotment between 1990 and 1996 ranged from 243 to 527 AUMs and averaged 327 AUMs. According to the BA, there are two vegetative trend study plots, several photopoints, and vegetative utilization study sites on this allotment. In 2001, grazing occurred between April 1 and October 30, and at the end of the season, grazing stubble height was 2.5 inches. This allotment is being rested in 2002, and will be grazed in 2003.

1.2.1.1.3 Fopiano Allotment

The Fopiano Allotment (2559) is located in the UJDR subbasin and contains 280 acres of BLM land and 43,720 acres of private land. There are a total of 0.5 miles of perennial streams (Willow and Fopiano Creeks), and 0.1 mile of intermittent streams on or adjacent to BLM land

in this allotment. Willow and Fopiano Creeks provide potential spawning and rearing habitat for MCR steelhead. Willow Creek is a tributary to Mountain Creek, which is tributary to Rock Creek, which enters the JDR near RM 204. Grazing on BLM land in this allotment is authorized during early spring (April 15-May 31) for a preferred total of 28 AUMs. There are no pasture unit separations on this allotment. According to definitions provided in Appendix E of the *2000 Grazing Implementation Monitoring Module*, BLM parcels of land on this allotment are considered as Group 4 “scattered tracts”. The most recent stream survey data on this allotment was collected in 1980.

1.2.1.1.4 Clark Allotment

The Clark Allotment (2645) is located in the UJDR subbasin and contains 1,550 acres of BLM land and 2,417 acres of private land. There are a total of 3.1 miles of perennial streams (Rock Creek and East and West Forks of Birch Creek), and 5.6 miles of intermittent streams on or adjacent to BLM land in this allotment. The East and West Forks of Birch Creek provide marginal spawning and rearing habitat for MCR steelhead, while Rock Creek provides only migratory habitat. Birch Creek is a tributary to Rock Creek. Rock Creek enters the JDR near RM 204. Cattle grazing is authorized from April 15 to May 31 in the Rattlesnake Pasture, and for a 1.5 month period between June 1 and September 1 in the Lower Birch Pasture for a preferred total of 152 AUMs. There are seven pasture units in this allotment; Lower Birch and Rattlesnake pastures provide MCR steelhead spawning and rearing habitat in the East and West Forks of Birch Creek and Rock Creek. According to the BA, actual use on this allotment ranged from 184 AUMs to 371 AUMs between 1988 and 1996 and averaged 268 AUMs which considerably exceeds the preferred level. There are two vegetative trend study plots, several photopoints, and vegetative utilization study sites on this allotment.

1.2.1.1.5 Creek Allotment

The Creek Allotment (4163) is located in the UJDR subbasin and contains 706 acres of BLM land 400 acres of private land. There is 0.70 mile of perennial (Cottonwood Creek) and 3.0 miles of intermittent streams on or adjacent to BLM land in this allotment. Cottonwood Creek enters the JDR near RM 207. Cottonwood Creek provides MCR steelhead spawning and rearing habitat. Cattle grazing is authorized between April 15 and May 31 or October 15-30 for a preferred total of 51 AUMs. According to the BA, actual use on this allotment has ranged between 33 and 56 AUMs from 1984 to 1996, with an average use of 41 AUMs. There are no pasture unit separations on this allotment. There is one vegetative trend study plot on this allotment.

1.2.1.1.6 Cottonwood Creek Allotment

The Cottonwood Creek Allotment (4076) is located in the UJDR subbasin and contains 3,113 acres of BLM land and 4,698 acres of private land. There are a total of 1.5 miles of perennial (Cottonwood Creek) and 8.0 miles of intermittent streams on or adjacent to BLM land in this allotment. Cottonwood Creek enters the JDR near RM 207. Cottonwood Creek provides 0.80

miles of marginal steelhead spawning and rearing habitat on BLM land. Authorized season-of-use was changed in 1990 to between April 1 and June 15 for a preferred total of 204 AUMs; however, the permittee has not complied with the new use dates and enforcement is difficult because most of riparian area along perennial streams is on private land. Actual use on BLM-administered lands in this allotment has been well above the use authorized by the grazing permit (204 AUMs) in each of the seven years it has been measured; ranging from 272 AUMs in 1988 to a high of 569 AUMs in 1992 and back down to 274 AUMs in 1997. There are four pasture units on this allotment; Cottonwood and Mascall pastures provide migratory habitat for MCR steelhead in Cottonwood Creek. There are two vegetative trend study plots and three riparian photopoints on this allotment. A stream channel cross section study site was established on Cottonwood Creek in 1995. In 2002 and 2003 in order to reduce impacts, fences will be maintained, numbers of livestock reduced to 204 AUMs, and riding and salt placement will be used to reduce livestock use of the creek. In addition, CORA is sending a letter to the permittee stating that if trespass occurs in 2003, their cows will be impounded.

1.2.1.1.7 Pointer Allotment

The Pointer Allotment (4056) is located in the UJDR subbasin and contains 85 acres of BLM land and 190 acres of private land. Little Pine Creek (a perennial stream) provides 0.60 mile of MCR steelhead spawning and rearing habitat on BLM land. Little Pine Creek enters the JDR near RM 250. There are no intermittent streams on BLM land in this allotment. Cattle grazing is authorized from May 1 to June 15 for a preferred total of 12 AUMs. There are no pasture unit separations on this allotment. Other than a field assessment showing general riparian condition, no monitoring data is available on this allotment. Riparian condition is good with a dense shrub understory (alder) and a moderately dense overstory of mature pine and fir trees. No use occurred on this allotment in 2001 and 2002, but use is scheduled for 2003.

1.2.1.1.8 Canyon Mountain Allotment

The Canyon Mountain Allotment (4115) is located in the UJDR subbasin and contains 50 acres of BLM land 15 acres of private land. There are 0.40 mile of perennial (Little Pine Creek) and 0.20 mile of intermittent streams on or adjacent to BLM land in this allotment. Little Pine Creek enters the JDR near RM 250. Little Pine Creek provides a total of 0.40 mile of MCR steelhead spawning and rearing habitat. Cattle grazing is authorized between May 1 and June 15 for a preferred total of 5 AUMs. There are no pasture unit separations on this allotment. No monitoring data is available on this allotment. No use occurred on this allotment in 2001 and 2002, but use is scheduled for 2003.

1.2.1.1.9 Dixie Allotment

The Dixie Allotment (4016) is located in the UJDR subbasin and contains 2,548 acres of BLM land and 13,150 acres of private land. There are a total of 5.7 miles of perennial and 2.7 miles of intermittent streams on or adjacent to BLM land in this allotment. Dixie, Standard, West Fork Standard, and Comer Creeks provide a total of 4.6 miles of MCR steelhead spawning and rearing

habitat. The streams are well shaded by abundant alder and some cottonwood. Dixie Creek enters the JDR near RM 262, the other streams are tributaries to Dixie Creek. The two pastures on the allotment are grazed between June 1 and July 15, and between July 16 and October 15, with the order of grazing reversed each year. A preferred total of 319 AUMs are authorized. According to the BA, actual use on this allotment has ranged between 130 and 220 AUMs. Approximately 360 acres of BLM land on this allotment was transferred to private ownership as part of the Northeast Oregon Assembled Land Exchange (NOALE), under separate section 7 consultation. There are two vegetative trend study plots as well as riparian photopoints, utilization study sites, and two water temperature recorders on this allotment. The Standard Creek Pasture was grazed between June 1 and July 15, 2002. A 3.5- by 4-inch greenline stubble height was measured at the end of season.

1.2.1.2 North Fork John Day River Subbasin

1.2.1.2.1 Little Wall Creek Allotment

The Little Wall Creek Allotment (4108) is located in the NFJDR subbasin and contains 320 acres of BLM land and 1,000 acres of private land. There are a total of 0.7 mile of perennial (Little Wall, Bacon, and Three Trough Creeks) and 0.3 mile of intermittent streams on or adjacent to BLM land in this allotment. Wall Creek enters the NFJD near RM 23. The perennial streams all provide spawning and rearing habitat for MCR steelhead. Cattle grazing is authorized from April 1 to May 31 for a preferred total of 53 AUMs. There are two pasture units in this allotment; the northern pasture contains MCR steelhead habitat. No monitoring data is available on this allotment.

1.2.1.2.2 Johnny Cake Mountain Allotment

The Johnny Cake Mountain Allotment (4042) is located in the NFJDR subbasin and contains 280 acres of BLM land and 1,000 acres of private land. There are a total of 1.2 miles of perennial (NFJD River and Cabin Creek) and 0.6 mile of intermittent streams on or adjacent to BLM land in this allotment. Cabin Creek enters the NFJD near RM 28. The NFJD River provides winter rearing and migratory habitat, and Cabin Creek provides spawning and rearing habitat for MCR steelhead. Cattle grazing is authorized from April 1 to May 31 for a preferred total of 30 AUMs. There are two pasture units in this allotment, the Cabin Creek pasture provides MCR steelhead spawning and rearing habitat. Several riparian photopoints have been established on this allotment since 1996. No use occurred on this allotment in 2001, but use is scheduled for 2002 and 2003.

1.2.1.2.3 North Fork Allotment

The North Fork Allotment (4029) is located in the NFJDR subbasin and contains 1,894 acres of BLM land and 5,505 acres of private land. There are a total of 5.75 miles of perennial (NFJD River, Potamus, and Mallory Creeks) and 1.6 miles of intermittent streams on or adjacent to BLM land in this allotment. The NFJD enters the JDR at RM 185. Potamus Creek enters the

NFJD near RM 39. The NFJD River provides migratory and winter rearing habitat, and Potamus and Mallory Creeks provide spawning and rearing habitat for MCR steelhead. Cattle grazing is authorized from April 1 to May 31, for a preferred total of 316 AUMs. Actual use on BLM land has varied from 44 to 196 AUMs between 1988 and 1999. There are two pasture units on this allotment, both contain MCR steelhead habitat. There are riparian photopoints along the NFJDR, Mallory, and Potamus Creeks, as well as utilization study plots, and a temperature recorder in the NFJDR. No authorized use occurred on this allotment in 2001. Grazing was suspended in 2000 due to non-compliance for two years. There was incidental trespass in 2001, however the owners were notified and livestock were promptly removed. No grazing will occur on this allotment in 2002 and 2003.

1.2.1.2.4 Kinzua Allotment

The Kinzua Allotment (4151) is located in the UJD and NFJD River watersheds and contains 9,493 acres of BLM land and 33,018 acres of private land. There are 4.8 miles of perennial and 15.4 miles of intermittent streams on or adjacent to BLM land in this allotment. Rudio Creek enters the NFJD near RM 5. Squaw, Rudio, and Gilmore Creeks provide a total of 2.7 miles of MCR steelhead spawning and rearing habitat. Grazing is authorized between June 1 and September 1, for a preferred total of 1,170 AUMs on six tracts of BLM land. According to the BA, actual use in the 1990s has ranged between 438 and 1,020 AUMs, with an average use of 826 AUMs. Five pasture units on this allotment contain MCR steelhead spawning and rearing habitat (three along Squaw Creek and one each on Gilmore and Rudio Creeks). According to definitions provided in Appendix E of the *2000 Grazing Implementation Monitoring Module*, the BLM parcels on this allotment are considered Group 4 “scattered tracts”. Approximately 800 acres of BLM land on this allotment was transferred to private ownership as part of the NOALE addressed under separate section 7 consultation. There are three vegetative trend and utilization study plots on this allotment. The Squaw Creek Pasture was grazed between August 10 and August 20, 2001, the Gilmore Pasture received no use, and the Rudio Pasture was grazed between June 1 and October 30, 2001. Greenline stubble height was 7 inches in the Rudio Pasture at the end of the season.

1.2.1.3 South Fork John Day River Subbasin

1.2.1.3.1 Murderers Creek Allotment

The Murderers Creek Allotment (4020) is located in the South Fork John Day River (SFJDR) subbasin and contains 16,004 acres of BLM land and 18,239 acres of private land. There are a total of 7.6 miles of perennial (2.6 in the SFJD River, 0.5 in Murderers Creek, 0.6 in Cabin Creek, 0.6 in Flat Creek, 1.0 in Oliver Creek, 0.2 in Tunnel Creek, 0.5 in Johnson Creek, and 1.6 in Cougar Gulch) and 48 miles of intermittent streams on or adjacent to BLM land in this allotment. The SFJD River enters the JDR near RM 212 and Murderers Creek enters the SFJD near RM 16. MCR steelhead spawning and rearing habitat is available in the SFJD River and Murderers, Cabin, and Flat Creeks. Cattle grazing is authorized for three riparian pastures (Manjar, River, and Cougar Gulch) between May 1 and May 20 for two years and then rested the

third year. The six upland pastures are grazed between May 1 and June 1, or between May 20 and July 1, for a preferred total of 860 AUMs. All of Murderers Creek and most of the SFJD River on BLM and ODFW lands in this allotment are exclosed from livestock use by fencing. Pastures containing MCR steelhead habitat on BLM lands are Manjar, River, and Cougar Gulch. Monitoring on this allotment includes three riparian transects along Flat Creek and one along Bridge Creek, riparian photopoints, and water temperature in the SFJDR and Murderers Creek.

1.2.1.3.2 Rockpile Allotment

The Rockpile Allotment (4103) is located in the SFJDR subbasin and contains 4,918 acres of BLM land and 4,899 acres of private land. There are 10.8 miles of perennial and 7.5 miles of intermittent streams on or adjacent to BLM land in this allotment. The SFJD enters the JDR near RM 212. Frazier Creek is a tributary to Wind Creek which enters the SFJD near RM 20. The SFJD River and Frazier Creek provide a total of 7.6 miles of MCR steelhead spawning and rearing habitat. Cattle grazing is rotated among nine pastures between April 8 and September 15. A total of 928 AUMs are authorized for this allotment. According to the BA, actual use has ranged between 164 and 356 AUMs in the 1990's, with an average use of 286 AUMs. It was also noted in the BA that unauthorized use has been a problem on this allotment in 1993, 1997 and 1998.

Of the nine pastures units in this allotment, those that contain MCR steelhead habitat (mostly migratory with some spawning area) are Flats, North Corridor, Dog House, River, and Davis Creek along the SFJDR and the Frazier pasture on Frazier Creek. Monitoring on this allotment includes seven vegetative trend study plots, utilization studies, eight riparian photopoints, and two water temperature recorders in the SFJDR. No use occurred in the Flats or North Corridor Pastures in 2001. In 2001, grazing occurred in the Dog House Pasture from April 7 to April 12, and in the Frazier Pasture from August 17 to September 17. A 6-inch greenline stubble height was measured at the end of use in the Frazier Pasture.

1.2.1.3.3 Big Baldy Allotment

The Big Baldy Allotment (4052) is located in the SFJDR subbasin and contains 12,726 acres of BLM land and 3,346 acres of private land. There are a total of 11.8 miles of perennial (SFJD River and Deer Creek) and 19.0 miles of intermittent streams on or adjacent to BLM land in this allotment. The SFJD River enters the JDR near RM 212 and Deer Creek enters the SFJD at RM 28. The SFJD River up to Izee Falls (RM 28.7) and Deer Creek in the North Pasture provide 4.4 miles of spawning and rearing habitat for MCR steelhead. The South Pasture is located upstream from Izee Falls, a natural barrier to upstream migration of anadromous fish, on the SFJD River. Cattle grazing is authorized from April 15 to May 31 for a preferred total of 600 AUMs. There are two pastures, with the north pasture being grazed on even years (2000) and the south pasture on odd years (2001). According to the BA, actual use on this allotment has ranged from 150 to 530 AUMs between 1990 and 1999 with an average use of 375 AUMs. Monitoring on this allotment includes riparian photopoints, vegetative trend and utilization study plots, and temperature recorders in Deer and Sunflower Creeks and the SFJDR. In 2001 the

South pasture was grazed from April 12 to June 10 , and the end of season greenline stubble height was measured at 3.5 to 4 inches.

1.2.1.4 Lower John Day River Subbasin

1.2.1.4.1 Sixmile Allotment

The Sixmile Allotment (2547) is located in the Lower John Day River (LJDR) subbasin and contains 2,397 acres of BLM land and 2,722 acres of private land. There are no perennial streams and a total of 3.0 miles of intermittent streams (Hay and Sixmile Creeks) on or adjacent to BLM lands in this allotment. Hay Creek enters the JDR near RM 30. According to the BA, MCR steelhead spawning and rearing has been documented in Hay Creek and is suspected in Sixmile Creek. Grazing on BLM lands in this allotment is authorized between December 1 and May 1 for a preferred total of 245 AUMs³. There are three pasture units in this allotment, and the Hay Creek and Sixmile Creek pastures contain MCR steelhead habitat. According to definitions provided in Appendix E of the *2000 Grazing Implementation Monitoring Module*, BLM lands in the Upper Pasture are considered as Group 4⁴ “scattered tracts”. The Upper Pasture does not contain MCR steelhead habitat. According to the BA, there are two vegetative trend study areas and 11 photopoints located on this allotment. The most recent photos were taken in 1995. This allotment was visited three times during the spring of 2001 to assess steelhead spawning areas and monitor implementation of the grazing plan. No steelhead or steelhead redds were found, and use was found to be consistent with the grazing plan.

1.2.1.4.2 Hay Creek Allotment

The Hay Creek Allotment (2598) is located in the LJDR subbasin and contains 1,518 acres of BLM land and 2,111 acres of private land. There is a total of 1.0 mile of perennial stream (0.75 miles of JDR and 0.25 miles of Hay Creek) and no intermittent streams on or adjacent to BLM land in this allotment. Hay Creek enters the JDR near RM 30. Grazing on BLM land in this allotment is authorized during winter and early spring (November 15 to April 1) for a preferred total of 37 AUMs. There are six pasture units in this allotment, however only the North Pasture contains MCR steelhead spawning and rearing habitat. This allotment was visited three times during the spring of 2001 to assess steelhead spawning areas and monitor implementation of the grazing plan. No steelhead or steelhead redds were found, and use was found to be consistent with the grazing plan.

³A standardized measurement of the amount of forage necessary to sustain a cow and calf for one month.

⁴Small, isolated pasture/use areas that may affect aquatic resources addressed by PACFISH/INFISH but cannot be managed effectively due to lack of access by BLM.

1.2.1.4.3 Pryor Farms Allotment

The Pryor Farms Allotment (2607) is located in the LJDR subbasin and contains 800 acres of BLM land and an estimated 4,480 acres of private land. There is a total of 0.50 mile of perennial stream (Hay Creek) and no intermittent streams on or adjacent to BLM land in this allotment. Hay Creek provides spawning and rearing habitat for MCR steelhead. Cattle grazing is authorized from April 1 to November 4 for a preferred total of 50 AUMs, but occurs only during the summer (June through August). There are two pasture units in this allotment, and the North Pasture contains MCR steelhead spawning and rearing habitat in Hay Creek. According to definitions provided in Appendix E of the *2000 Grazing Implementation Monitoring Module*, the South Pasture is considered a Group 4 “scattered tract”. There is one vegetative trend study plot in this allotment.

1.2.1.4.4 Belshe Allotment

The Belshe Allotment (2509) is located in the LJDR subbasin and contains 1,840 acres of BLM land and 1,100 acres of private land. There are a total of 1.5 miles of perennial stream (mainstem JDR) and 1.25 miles of intermittent stream (Little Ferry Canyon) on or adjacent to BLM land in this allotment. Little Ferry Canyon enters the JDR near RM 55. The mainstem JDR serves as a migration route for MCR steelhead, while Little Ferry Canyon provides spawning and rearing habitat. Grazing on BLM land in this allotment is authorized along the streams between March 1 and May 1 for a preferred total of 62 AUMs. There are four pasture units on this allotment, however only the Little Ferry Pasture contains MCR steelhead spawning and rearing habitat. There is one photopoint and one step point transect in this allotment. This allotment was visited once during the spring of 2001 to assess steelhead spawning areas and monitor implementation of the grazing plan. No steelhead or steelhead redds were found in the stream within this allotment and cattle use was found to be consistent with the grazing plan.

1.2.1.4.5 Eakin Allotment

The Eakin Allotment (2541) is located in the LJDR subbasin and contains 1,760 acres of BLM land and no private land. There are no perennial streams and 2.0 miles of intermittent streams (Jackknife Canyon) on or adjacent to BLM land in this allotment. Jackknife Canyon enters the JDR at RM 61.4. MCR steelhead may spawn in the intermittent streams during abundant water years. Grazing on this allotment is authorized between April 1 and June 30 for a preferred total of 12 AUMs. There are three pasture units in this allotment, and the Jackknife Pasture contains some MCR steelhead habitat in intermittent streams. Because of the limited fishery potential (intermittent streams only), there is no riparian monitoring information available on this allotment.

1.2.1.4.6 Elsie Martin Allotment

The Elsie Martin Allotment (2581) is located in the LJDR subbasin and contains 920 acres of BLM land and no private land. There are 2.0 miles of intermittent streams and no perennial

streams on or adjacent to BLM land in this allotment. There is no MCR steelhead spawning habitat in this allotment, however MCR steelhead are known to spawn downstream from the allotment in Jackknife Canyon. Jackknife Canyon enters the JDR at RM 61.4. Cattle grazing is authorized from May 1 to October 15 for a preferred total of 22 AUMs, but usually occurs between June 4 and September 14. There is only one pasture on this allotment. Because of the limited fishery potential (intermittent streams only), there is no riparian monitoring information available on this allotment.

1.2.1.4.7 Pine Creek Allotment

The Pine Creek Allotment (2518) is located in the LJDR subbasin and contains 5,418 acres of BLM land and an estimated 10,240 acres of private land. There are a total of 4.5 miles of perennial streams (mainstem JDR, Pine Hollow Creek, and Long Hollow Creek) and no intermittent streams on or adjacent to BLM land in this allotment. Pine Creek enters the JDR near RM 85. The mainstem JDR serves as a migration route for MCR steelhead, while Pine Creek and Long Hollow Creek provide spawning and rearing habitat. Grazing on BLM land in this allotment is authorized during early spring (March 1 through May 1) and/or winter (November 15 through January) for a preferred total of 346 AUMs. There are 10 pasture units on this allotment. According to definitions provided in Appendix E of the *2000 Grazing Implementation Monitoring Module*, BLM lands in the Cramer Canyon Pasture and the Porter Canyon Pasture are considered as Group 4 “scattered tracts”. The mainstem JDR in the Big Gulch Pasture serves as a migration corridor for MCR steelhead. Pine Hollow provides MCR steelhead spawning and rearing habitat in the Zigzag and Cramer Canyon pastures; and Long Hollow provides steelhead habitat in the Bath Canyon pasture. According to the BA, there are six vegetative trend study plots and numerous photopoints located on this allotment. This allotment was visited three times during the spring of 2001 to assess steelhead spawning areas and monitor implementation of the grazing plan. No steelhead or steelhead redds were found, and use was found to be consistent with the grazing plan.

1.2.1.4.8 Charles H. Hill Allotment

The Charles H. Hill Allotment (2554) is located in LJDR subbasin and contains 1,835 acres of BLM land and 1,040 acres of private land. There is 0.75 miles of perennial stream (mainstem JDR and Bologna Creek) and a total of 2.6 miles of intermittent streams on or adjacent to BLM lands in this allotment. Bologna Creek enters the John Day River near RM 182. The mainstem John Day is migratory habitat only, while MCR steelhead may spawn and rear in the 0.25 miles of Bologna Creek. Grazing on BLM lands in this allotment is authorized between April 1 and May 31 for a preferred total of 86 AUMs. There are four pasture units on this allotment; only the Bologna Creek pasture provides MCR steelhead habitat. According to the BA, actual use on this allotment averaged 116 AUMs between 1988 and 1996; actual use has not been measured since 1996. There are three vegetative trend study plots and vegetative utilization sites located on this allotment.

1.2.1.4.9 West Bologna Creek Allotment

The West Bologna Creek Allotment (4093) is located in the LJDR subbasin and contains 80 acres of BLM land and 5,000 acres of private land. There is 0.60 miles of perennial (West Bologna Creek) and 0.40 miles of intermittent streams on or adjacent to BLM land in this allotment. Bologna Creek enters the JDR near RM 182. West Bologna Creek provides some marginal steelhead spawning and rearing habitat. Cattle grazing is authorized between May 1 and June 30 for 12 AUMs. According to the BA, actual use was 3 AUMs in 1993 and 2 AUMs in 1996. There is only one pasture on this allotment. According to definitions provided in Appendix E of the *2000 Grazing Implementation Monitoring Module*, the BLM land on this allotment is considered a Group 4 “scattered tract”. Because of the marginal fisheries potential in Bologna Creek on this allotment, the most recent riparian survey was completed in 1981.

1.2.2 Allotment Monitoring

According to the BA, the BLM conducts grazing monitoring programs consisting of vegetative trend study plots and periodic compliance checks for vegetation utilization on selected allotments. Photopoints are established at one or more locations on most allotments. The Pine Creek Allotment contains six vegetative trend study plots and numerous photopoints. There are two vegetative trend study plots on the Sixmile Allotment, three on Charles H. Hill, two on Squaw Creek, one on Hay Creek, one on Pryor Farms, two on Clark, one on Johnson Creek, two on Dixie, six on Murderers Creek, two on Big Baldy, two on Cottonwood Creek, seven on Rockpile, three on Kinzua, and one on Creek.

In the spring of 2001, Hay Creek on the Sixmile Allotment (2547), the Hay Creek Allotment (2598), Little Ferry Canyon in the Belshe Allotment (2509), and Pine Hollow Creek and Long Hollow Creek in the Pine Creek Allotment (2518) were checked for potential MCR steelhead spawning areas and redds on BLM land. No MCR steelhead redds were found. MCR steelhead spawning has been documented in Hay Creek and is suspected in Sixmile Creek.

A March 9, 2000, USFS/BLM memorandum transmitted the *2000 Grazing Implementation Monitoring Module* to the Prineville BLM District and other BLM Districts and National Forests in Oregon. The CORA of the Prineville BLM District conducted implementation monitoring as directed in the module on BLM allotments in the John Day River basin during 2001, and will do so again during 2002 and 2003. Effectiveness monitoring, also a part of the grazing monitoring module, will be done in selected allotments in 2002 and 2003.

The Central Oregon Resource Area of the Prineville BLM District is within the area covered by PACFISH⁵ (USDA and USDI 1994), therefore, all agency activities are required to be consistent with their Resource Management Plan (RMP) as modified by PACFISH. All land management activities must be consistent with the requirements of NOAA Fisheries’ June 22, 1998, biological opinion, “Section 7 Consultation on the Effects of Continued Implementation of Land

⁵U.S. Department of Agriculture (USDA) and U.S. Department of Interior (USDI). 1994. Environmental Assessment for Implementation of Interim Strategies for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California (PACFISH). March.

and Resource Management Plans on Endangered Species Act Listed Salmon and Steelhead in the Upper Columbia and Snake River Basins” (NOAA Fisheries 1998).

1.3 Biological Information

The listing status and biological information for MCR steelhead are described in Busby et al. (1996) and NOAA Fisheries (1997). According to the BA, MCR steelhead adults enter the John Day River as early as September with peak migration in October, depending on water temperature. Spawning in the John Day basin occurs from March to mid-June. The majority of spawning occurs in the tributaries, starting as low as Rock Creek which enters the John Day River near RM 22. Table B3 in the BA lists 32 tributary streams on BLM land within the UJDR subbasin (HUC 17070201) where MCR steelhead spawning and rearing is known to occur. Tables 2, 3, and 4 of the BA list 13 tributary streams on BLM land within the NFJDR subbasin (HUC 17070202), 6 in the MFJDR subbasin (17070203), and 13 in the LJDR subbasin (HUC 17070204) where MCR spawning and rearing is known to occur. Izee Falls at RM 28.5 on the SFJDR is a natural barrier to upstream migration of anadromous fish.

Fry emergence timing depends on time of spawning and water temperature during egg incubation, but usually occurs from late May through June. MCR steelhead rear in the cooler tributary streams and in the mainstem John Day River upstream from John Day, Oregon (RM 248). The Oregon Department of Fish and Wildlife’s (ODFW) guidelines for the timing of in-water work in the John Day River basin, which are designed to protect salmonid species, do not allow in-water work in any stream in the basin prior to July 15 (ODFW 2000). The period during which spawning MCR steelhead adults may be susceptible to harassment or eggs and pre-emergent fry susceptible to trampling by livestock is from March 15 to July 15 in John Day River basin streams.

1.4 Evaluating Proposed Actions

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR 402.02 (the consultation regulations). In conducting analyses of habitat-altering actions under section 7 of the ESA, NOAA Fisheries uses the following steps of the consultation regulations combined with the Habitat Approach (NOAA Fisheries 1999): (1) Consider the status and biological requirements of the species; (2) evaluate the relevance of the environmental baseline in the action area to the species’ current status; (3) determine the effects of the proposed or continuing action on the species, and whether the action is consistent with the available recovery strategy; (4) consider cumulative effects; and (5) determine whether the proposed action, in light of the above factors, is likely to jeopardize the continued existence of species survival in the wild. In completing this step of the analysis, NOAA Fisheries determines whether the action under consultation, together with all cumulative effects when added to the environmental baseline, is likely to jeopardize the ESA-listed species. If the action is likely to jeopardize the listed species, NOAA Fisheries will identify reasonable and prudent alternatives for the action that avoid jeopardy.

Furthermore, NOAA Fisheries evaluates whether the action, directly or indirectly, has negative impacts on the species' habitat. NOAA Fisheries must determine whether habitat modifications appreciably diminish the value of habitat for both survival and recovery of the listed species. NOAA Fisheries identifies those effects of the action that impair the function of any biological requirements. NOAA Fisheries then considers whether such impairment appreciably diminishes the habitat's value for the species' survival and recovery.

1.4.1 Biological Requirements

The first step the NOAA Fisheries uses when applying the ESA section 7(a)(2) is to define the species' biological requirements. NOAA Fisheries also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species, NOAA Fisheries starts with the determinations made in its decision to list MCR steelhead for ESA protection and also considers new data available that is relevant to the determination.

The relevant biological requirements are those necessary for MCR steelhead to survive and recover to naturally reproducing population levels at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environment.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful adult and juvenile migration, spawning and rearing. MCR steelhead survival in the wild depends upon the proper functioning of certain ecosystem processes, including habitat formation and maintenance. Restoring functional habitats depends largely on allowing natural processes to increase their ecological function, while at the same time removing adverse impacts of current or past practices. In conducting analyses of habitat-altering actions, NOAA Fisheries defines the biological requirements in terms of a concept called properly functioning condition (PFC) and uses a "habitat approach" in its analysis (NOAA Fisheries 1999). This analysis provides the necessary evaluation of important indicators of MCR steelhead habitat. The current status of the MCR steelhead, based upon their risk of extinction, has not significantly improved since the species was listed.

1.4.2 Environmental Baseline

The environmental baseline "includes the past and present impacts of all Federal, state, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of state or private actions which are contemporaneous with the consultation in process" (50 CFR 402.02). The "action area" is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR 402.02). The "action area" for this consultation, therefore, includes the mainstem JDR, SFJD River, NFJD

River, MFJD River, and all of their tributaries that flow through or contiguous to BLM land. These streams contain spawning, rearing, or migratory habitat for MCR steelhead. Table 2 summarizes streams, anticipated livestock use dates, MCR steelhead use, riparian condition, monitoring results, non-grazing habitat impacts, 303 (d) listings by allotment.

The current population status and trends for MCR steelhead are described in Busby *et al.* (1996) and in NOAA Fisheries (1997). The five subbasins of the John Day River (UJD, SFJD, NFJD, MFJD, and LJD Rivers) each have MCR steelhead runs in excess of 1,000 returning adults, so the total run size for the John Day basin is probably in excess of 5,000 fish (Busby *et al.* 1996). NOAA Fisheries (1997), citing Chilcote (1997), states that recent MCR steelhead redd counts conducted in established index areas throughout the John Day River basin suggest universal declines in redd abundance ranging from -0.9 to -5.6% over several years leading up to 1997. In general, the current status of MCR steelhead populations is the result of several long-term, human-induced factors (*e.g.* habitat degradation, water diversions, hydropower dams) that serve to exacerbate the adverse effects of natural environmental variability from such factors as drought, floods, and poor ocean conditions. Within the action area, habitat degradation has occurred from timber harvest, road construction, water diversions, livestock grazing, agriculture, and water pollution.

Table 2. BLM-Administered Livestock Grazing Allotments in the John Day River Basin Addressed in this Opinion. Streams Providing Middle Columbia River Steelhead Habitat on BLM Lands Within Each Allotment, Anticipated Livestock Use Dates, MCR Steelhead Use, Riparian Condition, Monitoring Results, Non-grazing Habitat Impacts, and 303(d) List.

Allotment	Streams	Anticipated Livestock Use Dates	MCR Steelhead Use	Riparian Condition	Monitoring Results	Non-grazing Habitat Impacts	303(d) List?
Upper John Day River							
Johnson Creek (2662)	Johnson Creek	6/1-7/15	spawning & rearing	good	none	2-3 mi/mi ² road density	no
Squaw Creek (2558)	Squaw Cr., Buckhorn Cr., & Frank Cr.	4/15-5/31	Squaw & Buckhorn - spawning & rearing, Frank - rearing	good	2.5 inch stubble height	2-3 mi/mi ² road density	no
Fopiano (2559)	Willow Cr. & Fopiano Cr.	4/15-5/31	potential spawning & rearing	fair	none	2-3 mi/mi ² road density	yes, Rock Cr. downs tream for temp.
Clark (2645)	Rock Cr., East Fork Birch Cr., & West Fork Birch Cr.	4/15-5/31- Rattlesnake Pasture, 6/1-9/1 - Lower Birch Pasture	E.F. & W.F. Birch Cr. - spawning & rearing, Rock - migration	poor	none	2-3 mi/mi ² road density	yes, Rock Cr. for temp.
Creek (4163)	Cottonwood Cr.	4/15-5/31 or 10/15-10/30	spawning & rearing	good	none	2-3 mi/mi ² road density	yes, temp.
Cottonwood Creek (4076)	Cottonwood Cr.	4/1-6/15	spawning & rearing	poor	none	2-3 mi/mi ² road density	yes, temp.

Allotment	Streams	Anticipated Livestock Use Dates	MCR Steelhead Use	Riparian Condition	Monitoring Results	Non-grazing Habitat Impacts	303(d) List?
Pointer (4056)	Little Pine Cr.	5/1-6/15	spawning & rearing	good	none	OHV use contributes to increased drain. network. Sedimentation from roads.	yes, temp.
Canyon Mountain (4115)	Little Pine Cr.	5/1-6/15	spawning & rearing	poor	none	OHV use contributes to increased drain. network. Past mining.	yes, temp.
Dixie (4016)	Dixie Cr., Standard Cr., West Fork Standard, & Comer Cr.	2 pastures, one 6/1-7/15 & one 7/16-10/15	spawning & rearing	good	3.5"-4" greenline stubble height in Standard Cr. Pasture	Dixie & Standard - irrigation diversions block passage due to low flows. OHV use contributes to increased drain. network.	no
North Fork John Day River							
Little Wall Creek (4108)	Little Wall Cr., Bacon Cr., & Three Trough Cr.	4/1-5/31	spawning & rearing	no info. available	none	many valley bottom roads	no
Johnny Cake Mountain (4042)	N.F. John Day R. & Cabin Cr.	4/1-5/31	NFJD - rearing, Cabin - spawning & rearing	good	none	NF-river fords, 2-3 mi/mi ² road density. Cabin-many valley bottom rds.	no

Allotment	Streams	Anticipated Livestock Use Dates	MCR Steelhead Use	Riparian Condition	Monitoring Results	Non-grazing Habitat Impacts	303(d) List?
North Fork (4029)	N.F. John Day R., Potamus Cr., & Mallory Cr.	4/1-5/31	NFJD - rearing, Potamus & Mallory - spawning & rearing	improving	no use in 2001	NF-river fords, 2-3 mi/mi ² road density. Potamus & Mallory-many valley bottom rds.	yes, Potamus & Mallory temp.
Kinzua (4151)	Squaw Cr., Rudio, Cr., & Gilmore Cr.	6/1-9/1 - 1.5 months during this period.	spawning & rearing	Squaw-fair to poor, Rudio & Gilmore-fair	7" greenline stubble height in Rudio Pasture	many valley bottom roads	yes, Rudio temp.
South Fork John Day River							
Murderers Creek (4020)	S.F. John Day R., Murderers Cr., Cabin Cr., Flat Cr.	5/1-5/20 - three riparian pastures, 5/1-6/1 or 5/20-7/1 - six upland pastures	spawning & rearing	good	none	Timber harvest, rd. construction, & ag. contributed to high sediment levels & lack of rip. connectivity	yes, temp.
Rockpile (4103)	S.F. John Day R., & Frazier Cr.	4/8-9/15	spawning & rearing	good	6" greenline stubble height in Frazier Pasture	Timber harvest, rd. construction, & ag. contributed to high sediment levels & lack of rip. connectivity	yes, temp.

Allotment	Streams	Anticipated Livestock Use Dates	MCR Steelhead Use	Riparian Condition	Monitoring Results	Non-grazing Habitat Impacts	303(d) List?
Big Baldy (4052)	S.F. John Day R. & Deer Cr.	4/15-5/31	spawning & rearing	good to excellent	3.5" - 4" stubble height	timber harvest, rd. construction, & ag. contributed to high sediment levels & lack of rip. connectivity	yes, temp.
Lower John Day River							
Sixmile (2547)	Hay Cr. & Sixmile Cr.	Rotate use 2/16-5/1 one yr. & 12/1-2/15 the next yr.	spawning & rearing	poor	3 spawning survey visits, no redds found	Road density.	yes, Hay temp.
Hay Creek (2598)	John Day R. & Hay Cr.	11/15-4/1	spawning & rearing	improving	3 spawning survey visits, no redds found	some valley bottom roads	yes, Hay temp.
Pryor Farms (2607)	Hay Cr.	June - August	spawning & rearing	no info. available	none	road density.	yes, temp.
Belshe (2509)	John Day R. & Little Ferry Canyon	3/1-5/1	John Day - migration, L. Ferry - spawning & rearing	no info. available	1 spawning survey visit, no redds found	road density.	no
Eakin (2541)	Jackknife Canyon	4/1-6/30	spawning & rearing	no info. available	none	road density.	no
Elsie Martin (2581)	unnamed	5/1-10/15	none	no info. available	none	road density.	no

Allotment	Streams	Anticipated Livestock Use Dates	MCR Steelhead Use	Riparian Condition	Monitoring Results	Non-grazing Habitat Impacts	303(d) List?
Pine Creek (2518)	John Day R., Pine Hollow Cr., & Long Hollow Cr.	3/1-5/1	John Day - migration, Pine Hollow & Long Hollow - spawning & rearing	Pine Hollow - upper reaches vegetated with alder and mock orange, lower reaches degraded by gas pipeline	3 spawning survey visits, no redds found	Pine Hollow - lower portions degraded by past maintenance of natural gas pipeline.	yes, Pine Hollow biol. criteria
C.H. Hill (2552)	John Day R. & Bologna Cr.	4/1-5/31	John Day - migration, Bologna Cr. - potential spawning & rearing	no info. available	none	some valley bottom roads	no
West Bologna (4093)	West Bologna Cr.	5/1-6/30	spawning & rearing	poor in 1981, no newer info. available	none	some valley bottom roads	no

Environmental baseline conditions within the action area were evaluated at the project site and watershed scales. The results of this evaluation, based on the “matrix of pathways and indicators” (MPI) described in *Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NOAA Fisheries 1996), follow. This method assesses the current condition of instream, riparian, and watershed factors that collectively provide properly functioning aquatic habitat essential for the survival and recovery of the species. For the purposes of this consultation, streams within the action area were grouped geographically into nine categories. These are: (1) UJD River and tributaries (except the SFJD River); (2) SFJD River and tributaries downstream from Izee Falls; (3) SFJD River and tributaries upstream from Izee Falls; (4) NFJD River and tributaries; (5) MFJD River and tributaries; (6) LJD River (mainstem); (7) perennial tributaries to the LJD River; (8) intermittent tributaries to the LJD River; and (9) ephemeral tributaries to the LJD River. Since actual data for many of the habitat indicators in the MPI are not available for many streams, ratings are based on professional judgement of BLM fishery biologists. Izee Falls is a natural waterfall located on the SFJD River at RM 28.7 which is a complete barrier to upstream migration by MCR steelhead. Since none of the livestock grazing allotments addressed in this Opinion are located within stream groups 3 or 9, those streams will not be discussed further.

1.4.2.1 Upper John Day River Subbasin

The UJD River subbasin encompasses 1.37 million acres from the headwaters of the John Day River in the Blue and Strawberry Mountains, downstream to the NFJD River confluence at RM 185 near Kimberly, Oregon. Major tributaries within the subbasin include Canyon, Beech, Rock, and Johnson Creeks, as well as the SFJD River. The BLM manages a total of approximately 145,635 acres within the UJD River subbasin (10.6%), including the SFJD. There are a total of 54,838 acres (4% of the UJDR subbasin) of BLM-administered lands on the 14 allotments within the UJDR subbasin which are addressed in this Opinion. For purposes of this consultation, the UJD River tributaries (excluding the SFJD River) were divided into two groups based on similarities in environmental baseline conditions. The SFJD River was divided at Izee Falls, which is an impassable natural barrier to anadromous fish.

In the first group of UJD River tributaries including Dixie, Standard, Canyon, Indian, Beech, Little Pine Creeks (refer to page B16 of the BA for a complete list), four habitat indicators (temperature, nutrients, large wood, and disturbance history) are rated as properly functioning based on thresholds established for 18 habitat indicators by NOAA Fisheries' MPI. Water temperatures have been monitored in Dixie, Standard, Canyon, and Indian Creeks. Another three indicators (sediment, pool quality, and refugia) are rated as properly functioning to functioning at risk. Seven indicators (physical barriers, substrate, width/depth ratio, streambank condition, floodplain connectivity, peak/base flows, and road density) are rated as functioning at risk. Irrigation diversions on Dixie and Standard Creeks block fish passage due to low flows. Pool frequency and drainage network increase indicators are rated as not properly functioning. The livestock grazing allotments addressed in this Opinion to which these habitat indicator ratings apply are the Dixie (4016), Pointer (4056), and Canyon Mountain (4115) allotments. There are a total of 2,757 acres of BLM-administered lands on these four allotments (0.2% of the UJDR subbasin). The drainage network increase is mainly due to off-road vehicle use in Standard, Dixie, and Little Pine Creeks. Because of the small size and moderate to steep gradient of these streams, off-channel habitat would not be expected so this indicator was not rated. According to the BA, the BLM believes that in order to accurately rate the riparian reserve indicator as described in the MPI, an assessment of the potential of each riparian site would need to be made. Since this assessment has not been done for these streams, this indicator was not rated. However, available information regarding riparian conditions (based on standardized riparian transects established by the BLM) along streams in most allotments is provided in Appendix C of the BA and summarized in section 1.4.2.1.1 below.

In the second group of UJD River tributaries including Warrens, Flat, Belshaw, and Cottonwood Creeks (refer to page B18 of the BA for a complete list), two of the habitat indicators (physical barriers and disturbance history) are rated as properly functioning based on thresholds established by NOAA Fisheries' MPI. Another indicator (nutrients) is rated as properly functioning to functioning at risk. Seven indicators (sediment, off-channel habitat, streambank condition, floodplain connectivity, peak/base flows, drainage network increase, and road density) are rated as functioning at risk. Substrate and pool quality indicators are rated as functioning at risk to not properly functioning. Temperature, large wood, pool frequency, refugia, and

width/depth ratio are rated as not properly functioning. The livestock grazing allotments addressed in this Opinion to which these habitat indicator ratings apply are: Johnson Creek (2662), Squaw Creek (2558), Fopiano (2559), Clark (2645), Creek (4163), and Cottonwood Creek (4076). There are a total of 18,433 acres of BLM-administered lands on these six allotments (1.3% of the UJDR subbasin). The riparian reserve indicator was not rated for the same reason as stated above, however, riparian condition data are included where available.

In the SFJD River and tributaries downstream from Izee Falls (refer to page B20 of the BA for a complete list), the disturbance history indicator was rated as properly functioning. Ten habitat indicators (temperature, nutrients, pool quality, off channel habitat, refugia, width/depth ratio, streambank condition, floodplain connectivity, peak/base flow, and drainage network increase) are rated as functioning at risk. The road density indicator was rated as functioning at risk to not properly functioning. Sediment, physical barriers, substrate, large wood, and pool frequency are rated as not properly functioning. The livestock grazing allotments addressed in this Opinion to which these habitat indicator ratings apply are Murderers Creek (4020), Rockpile (4103), and Big Baldy (4052). There are a total of 33,648 acres of BLM-administered lands on these three allotments (2.5% of the UJDR subbasin). The riparian reserve indicator was not rated for the same reason as stated earlier, however, riparian condition data are included where available.

1.4.2.1.1 UJD River Range Allotments

The Johnson Creek (2662), Squaw Creek (2558), Fopiano (2559), Clark (2645), Creek (4163), Cottonwood Creek (4076), Pointer (4056), Canyon Mountain (4115), and Dixie (4016) allotments are located in the UJDR subbasin. The BLM-administered portions of these 10 allotments comprise 1.5% of the total acreage in the UJDR subbasin. MPI habitat ratings for streams in the UJDR subbasin are discussed above. The following is a discussion of riparian and streambank conditions, where survey information is available, for allotments in the UJDR subbasin.

On the Johnson Creek allotment (2662), riparian vegetation conditions along Johnson Creek are rated good by the BLM. Johnson Creek flows through a deep, heavily forested canyon. Spawning substrate is limited, with cobble and small boulders dominating the stream bottom. Johnson Creek is not listed on the 1998 Oregon Department of Environmental Quality (ODEQ) Clean Water Act Section 303 (d) list (303(d) list). The China Hat Creek riparian area on the Johnson Creek allotment has been degraded by past heavy grazing, and this pasture will be closed to grazing until recovery occurs.

On the Squaw Creek Allotment (2558), riparian conditions were rated good by the BLM along Squaw and Buckhorn Creeks with good vegetative diversity (white alder, birch, cottonwood, douglas fir, gooseberry, currant, mock orange, chokecherry, rose, and willow). Channel stability was also rated good. A steelhead redd survey conducted in 1999 found three redds on BLM land in Squaw Creek, but none in Buckhorn. The streams in this allotment are not on the 303(d) list.

On the Fopiano Allotment (2559), riparian conditions were rated fair by the BLM along Willow and Fopiano Creeks. Channel stability was rated good on both streams. Rock Creek to which Willow Creek is a tributary is on the 303(d) list for exceeding temperature standards.

On the Clark Allotment (2645), Rock Creek is rated as poor MCR steelhead habitat with a high width/depth ratio, minimal pool habitat, and high summer water temperatures. The East and West Forks of Birch Creek also lack pools, spawning gravel, and instream wood. Rock Creek is on the 303(d) list for exceeding temperature standards.

On the Creek Allotment (4163), Cottonwood Creek is rated in good condition by the BLM with a diversity of shrubs, willows, birch, alder, and black cottonwood. Streambank stability is also good. A fence along the west side of Cottonwood Creek prevents livestock from crossing the creek in this segment. Cottonwood Creek is on the 303(d) list for exceeding temperature standards.

In the Cottonwood Creek Allotment (4076), riparian vegetation conditions have been heavily impacted by decades of season-long grazing resulting in reduced vegetation cover, unstable streambanks, and increased width/depth ratio. Spawning and rearing habitat for MCR steelhead is marginal. According to the BA, the BLM changed from season-long grazing to spring grazing (April 1 - June 15) in 1990, however the permittee, who recently passed away, did not follow the new schedule. Early indications are that the heir of the permit will comply with the schedule. Cottonwood Creek is on the 303(d) list for exceeding temperature standards.

Riparian conditions along Little Pine Creek on the Pointer Allotment (4056) are rated as good by the BLM, with streambanks being stable and well vegetated with grasses and forbs. Sedimentation from adjacent roads has impacted stream substrate. Little Pine Creek is on the 303(d) list for exceeding temperature standards.

Along Little Pine Creek on the Canyon Mountain Allotment (4115) riparian conditions are degraded by past mining activities, but have shown some improvement in recent years.

Riparian vegetation conditions along Dixie and Standard Creeks on the Dixie Allotment (4016) are rated good by the BLM, being heavily forested with pine, willow, alder, and dogwood. Streambanks are stable and well vegetated. Low summer stream flows downstream from water diversions on private land and sediment from past mining activities reduce fish habitat quality in Dixie and Standard Creeks. No streams on this allotment are on the 303(d) list.

1.4.2.1.2 SFJD River Range Allotments

The Murderers Creek (4020), Rockpile (4103), and Big Baldy (4052) allotments are located in the SFJD River subbasin. The BLM-administered portions of these three allotments comprise 2.5 percent of the total acreage in the UJDR subbasin. MPI habitat ratings for streams in the SFJDR subbasin are discussed above. The following is a discussion of riparian and streambank conditions, where survey information is available, for allotments in the SFJDR subbasin.

In the Murderers Creek Allotment (4020), riparian vegetative condition along Murderers Creek is rated good by the BLM with diverse composition and good vegetative cover on streambanks. Riparian vegetation along the SFJDR is improving, based on photopoint data. High summer water temperatures and elevated sediment levels reduce the quality of spawning and rearing habitat in the SFJD River in this allotment. As described above, all of Murderers Creek and most of the SFJD River on BLM and ODFW lands in this allotment are enclosed by fencing. Murderers Creek is on the 303(d) list for exceeding temperature standards.

Riparian conditions are rated good by the BLM along the SFJD River on the Rockpile Allotment (4103) which is located downstream from Izee Falls on the SFJD River. Photopoints established at four locations along the SFJD River in 1979, and retaken in 1997 and 1998, show marked improvement in streambank stability, herbaceous ground cover, and shrub canopy. Steelhead spawning and rearing potential in the SFJD River is reduced by high summer water temperatures and excessive sediment. The SFJD River is on the 303(d) list for exceeding temperature standards.

Riparian vegetation conditions along the SFJD River and Deer Creek in the Big Baldy Allotment (4052), are rated good to excellent overall by the BLM. Deer Creek is inaccessible to cattle in this allotment because of dense riparian vegetation. Large boulder substrate and steep gradient in Deer Creek also discourage entry by cattle. Deer Creek is on the 303(d) list for exceeding temperature standards.

1.4.2.2 North Fork John Day River Subbasin

The NFJD River subbasin encompasses 1.18 million acres. The Prineville District of the BLM manages a total of approximately 35,350 acres (3.0 percent) from the mouth of the NFJD River to RM 51.4. Major tributaries within the subbasin include Granite, Desolation, Camas, Potamus, Big Wall, Cottonwood, and Rudio Creeks, as well as the MFJD River. There are a total of 11,987 acres (1.0% of the NFJDR subbasin) of BLM-administered lands on the four allotments within the NFJDR subbasin which are addressed in this Opinion. For purposes of this consultation, the NFJDR subbasin was divided into the mainstem NFJD River, and NFJD River tributaries (refer to page B28 of the BA for a complete list).

In the mainstem NFJD River, three habitat indicators (nutrients, physical barriers, and disturbance history) are rated as properly functioning. Seven indicators (sediment, substrate, pool quality, streambank condition, floodplain connectivity, drainage network increase, and road density) are rated at risk. Temperature, large wood, pool frequency, off-channel habitat, refugia, width/depth ratio, and peak/base flow are rated as not properly functioning. The riparian reserve indicator was not rated for the same reason as stated earlier. The livestock grazing allotments addressed in this Opinion to which these habitat indicator ratings apply are: Johnny Cake Mountain (4042) and North Fork (4029). There are a total of 2,174 acres of BLM-administered lands on these two allotments (0.2% of the NFJDR subbasin).

In the NFJD River tributaries, three habitat indicators (nutrients, physical barriers, and disturbance history) are rated as properly functioning. Eight indicators (sediment, substrate, pool quality, off-channel habitat, streambank condition, floodplain connectivity, peak/base flow, and drainage network increase) are rated at risk. Three indicators (temperature, large wood, and road density) are rated at risk/not properly functioning, and three (pool frequency, refugia, and width/depth ratio) are not properly functioning. The riparian reserve indicator was not rated for the same reason as stated above. The livestock grazing allotments addressed in this Opinion to which these habitat indicator ratings apply are: Little Wall Creek (4108) and Kinzua (4151). There are a total of 9,813 acres of BLM-administered lands on these two allotments (0.8% of the NFJDR subbasin).

1.4.2.2.1 NFJD River Range Allotments

The Kinzua (4151), Little Wall Creek (4108), Johnny Cake Mountain (4042), and North Fork (4029) allotments are located in the NFJD River subbasin. MPI habitat ratings for streams in the NFJDR subbasin are discussed above. The following is a discussion of riparian and streambank conditions, where survey information is available, for allotments in the NFJDR subbasin.

In the Kinzua Allotment (4151), a 1981 survey rated riparian conditions along Squaw Creek as fair to poor, Rudio Creek as fair, and Gilmore Creek as fair. Later BLM surveys in 1997 on Squaw Creek and 1993 on Gilmore Creek noted that riparian conditions are improving. Part of this very large allotment (9,493 acres of BLM and 33,018 acres of private lands) also lies within the UJDR subbasin. Rudio Creek is on the 303(d) list for exceeding temperature standards.

No information is available on riparian condition of streams in the Little Wall Creek Allotment (4108). Past grazing practices and an adjacent road have reduced the quality of fish habitat. No streams on this allotment are on the 303(d) list.

Riparian vegetation conditions along Cabin Creek in the Johnny Cake Mountain Allotment (4042) are rated good by the BLM, with willows dominating. No streams on this allotment are on the 303(d) list.

In the North Fork Allotment (4029), according to the BLM, riparian conditions appear to be improving along Potamus and Mallory Creeks since grazing strategies were modified in 1996. Data from a photopoint established in 1995 along the NFJD and retaken each year through 1998 indicate increases in riparian herbaceous vegetation. Both Potamus and Mallory Creeks are on the 303(d) list from exceeding temperature standards.

1.4.2.3 Lower John Day River Subbasin

The LJD River subbasin encompasses 2.01 million acres. The Prineville District of the BLM manages a total of approximately 242,600 acres (12.1%) from the mouth to the NFJD River confluence at RM 185. Major tributaries on BLM land within the subbasin include Bridge, Thirtymile, and Rock Creeks. There are a total of 16,568 acres (0.8% of the LJDR subbasin) of

BLM-administered lands on the nine allotments within the LJDR subbasin which are addressed in this Opinion. For purposes of this consultation, the LJDR subbasin was divided into the mainstem LJD River, LJD River perennial tributaries, and LJD River intermittent tributaries.

The LJD River mainstem serves as a migration corridor for MCR steelhead. The substrate, large wood, off channel habitat, and refugia indicators were not rated since it serves as a migration corridor. However, large wood can play an important role in providing holding areas and cover for adults, and off-channels can provide foraging habitat for outmigrating smolts. Six indicators (nutrients, physical barriers, pool frequency, pool quality, width/depth ratio, and drainage network increase) are rated as properly functioning. Five indicators (sediment, streambank condition, floodplain connectivity, peak/base flows, and road density) are rated as functioning at risk.

In the LJD River perennial tributaries (refer to page B37 of the BA for a complete list), three habitat indicators (nutrients, drainage network increase, and disturbance history) are rated as properly functioning. Nine indicators (physical barriers, substrate, pool quality, off-channel habitat, refugia, width/depth ratio, floodplain connectivity, peak/base flow, and road density) are rated at risk. Five indicators (temperature, sediment, large wood, pool frequency, and streambank condition) are rated as not properly functioning. The livestock grazing allotments addressed in this Opinion to which these habitat indicator ratings apply are: Hay Creek (2598), Pine Creek (2518), C.H. Hill (2552), and West Bologna (4093). There are a total of 8,851 acres of BLM-administered lands on these four allotments (0.4% of the LJDR subbasin).

In the LJD River intermittent tributaries (refer to page B38 of the BA for a complete list), seven habitat indicators (sediment, nutrients, substrate, pool quality, streambank condition, drainage network increase, and disturbance history) are rated as properly functioning. Four indicators (physical barriers, floodplain connectivity, peak/base flow, and road density) are rated at risk. Three indicators (temperature, pool frequency, and refugia) are rated as not properly functioning. The livestock grazing allotments addressed in this Opinion to which these habitat indicator ratings apply are: Sixmile (2547), Pryor Farms (2607), Belshe (2509), Eakin (2541), and Elsie Martin (2581). There are a total of 7,717 acres of BLM-administered lands on these five allotments (0.4% of the LJDR subbasin).

1.4.2.3.1 LJD River Range Allotments

The Sixmile (2547), Hay Creek (2598), Pryor Farms (2607), Belshe (2509), Eakin (2541), Elsie Martin (2581) Pine Creek (2518), C.H. Hill (2552), and West Bologna (4093) allotments are located in the LJD subbasin. MPI habitat ratings for streams in the LJDR subbasin are discussed above. The following is a discussion of riparian and streambank conditions, where survey information is available, for allotments in the LJDR subbasin.

In the Sixmile Allotment (2547), eleven photopoints have been established along Hay Creek. In 1980, according to the BA, the riparian area along Hay Creek was in poor condition. Photos

taken in 1995 revealed a noticeable increase in riparian herbaceous vegetation. Riparian area vegetation appears to be in an upward trend along both Hay and Sixmile Creeks in this allotment. Hay Creek is on the 303(d) list for exceeding temperature standards.

In the Hay Creek Allotment (2598), data from a photopoint established in 1987 and retaken twice since then (most recently in 1995) indicates an increase in riparian herbaceous vegetation, increased vigor in alder, and recruitment of cottonwoods along Hay Creek.

No information is available regarding riparian conditions along Hay Creek on the Pryor Farms allotment, but riparian photopoints will be established in 2002.

In the Belshe Allotment (2509), data from a photopoint established along the John Day River at RM 55 in 1987 and remeasured in four different years since then reveals no obvious changes in riparian conditions. There has been no change in the extent or distribution of willow communities in the allotment since 1981.

No information is available regarding riparian conditions along the intermittent streams on the Elsie Martin allotment (2581).

In the Pine Creek Allotment (2518), the upper reaches of Pine Creek are vegetated with alder and mock-orange. The lower portion of Pine Creek has been degraded by past maintenance of the Pacific Gas and Electric (PG&E) natural gas pipeline which is buried beneath the stream channel or within the stream corridor in the lower 6 miles of Pine Hollow. Pine Creek is on the 303(d) list for not meeting biological criteria.

In the Charles H. Hill Allotment (2554), according to the BLM, low summer flows in West Bologna Creek would not support summer rearing of MCR steelhead, and spawning potential is marginal. No streams on this allotment are on the 303(d) list. A 1981 survey found riparian conditions along West Bologna Creek to be poor; more recent information is not available.

1.5 Analysis of Effects

1.5.1 Effects of Proposed Actions

The effects determination on habitat parameters in the BA was made using a method for evaluating current aquatic conditions (the environmental baseline) and predicting effects of the action on them. The process described in NOAA Fisheries (1996) was used to provide adequate information in a tabular form in the BA for NOAA Fisheries to determine the effects of actions subject to consultation. The expected effects of the actions are expressed in terms of how they restore, maintain, or degrade each of 18 aquatic habitat factors in the action area, as described in the “checklist for documenting environmental baseline and effects of the action” (checklist) completed for each action and watershed. The results of the completed checklist for the action provide a starting point for determining the overall effect of the action on the environmental

baseline in the action area and for assessing effects on biological requirements of MCR steelhead.

Impacts of livestock grazing to stream habitat and fish populations can be separated into direct and indirect effects. Direct effects are those which contribute to the immediate loss or harm to individual fish or embryos (*e.g.*, directly stepping on a fish, trampling a redd that results in the actual destruction of embryos, or dislodging the embryos from the protective nest and ultimately destroying eggs). Indirect effects are those impacts which occur at a later time, causing loss of specific habitat features (*e.g.*, undercut banks, sedimentation of spawning beds), localized reductions in habitat quality (*e.g.*, sedimentation, loss of riparian vegetation, changes in channel stability and structure), and, ultimately, cause loss or reduction of entire populations of fish, or widespread reductions in habitat quantity and/or quality.

1.5.1.1 Direct Effects

Direct effects of livestock grazing may occur when livestock enter the streams occupied by MCR steelhead to loaf, drink, or cross the stream. During the early phases of their life cycle, MCR steelhead have little or no capacity for mobility, and large numbers of embryos or young are concentrated in small areas. Livestock entering fish spawning areas can trample redds and destroy or dislodge embryos and alevins. Belsky *et al.* (1999) provides a review of these direct influences on stream and riparian areas. Wading in streams by livestock can be assumed to induce mortality on eggs and pre-emergent fry at least equal to that demonstrated for human wading (Roberts and White 1992). In this investigation, a single wading incident upon a simulated spawning bed induced a 43% mortality of pre-hatching embryos. In a recent (July 12, 2000) occurrence of unauthorized livestock grazing in the Sullens Allotment on the Malheur National Forest, five of five documented MCR steelhead redds in a meadow area of a Rosgens C-type stream channel in Squaw Creek (MFJDR subbasin) were trampled by cattle (U.S. Forest Service memorandum, August 17, 2000).

Avoidance of direct impacts to MCR steelhead spawning areas can be achieved by scheduling grazing in pastures where spawning habitat is present to occur after July 15 or by excluding livestock access from known spawning areas. As mentioned above, ODFW guidelines for the timing of in-water work in the John Day River basin, which are designed to protect salmonid species, do not allow in-water work in any stream in the basin prior to July 15. The period during which spawning MCR steelhead adults may be susceptible to harassment or eggs and pre-emergent fry susceptible to trampling by livestock is from March 15 to July 15 in John Day River basin streams. In some allotments or pastures, there are pre-existing natural topographic, geologic, and vegetative features or high spring water flows that naturally exclude or minimize livestock use from spawning areas. Other forms of direct take (*e.g.*, harassment of MCR steelhead by livestock when livestock enter or are adjacent to occupied habitat, resulting in MCR steelhead behavioral modifications) are more difficult to address in the context of an economically-viable grazing program. Direct take in the form of harassment is reduced, in the long term, by rangeland management that results in better riparian and in-channel habitat

conditions that creates more cover and other important habitat features conducive to MCR steelhead survival and recovery.

Cattle wading into a stream to loaf, drink, or cross the stream have the potential to frighten juvenile MCR steelhead from streamside cover. Once these juveniles are frightened from cover and swim into open water, they become more susceptible to predation from larger fish and avian predators. However, NOAA Fisheries believes that the risk of mortality of juvenile salmonids due to flushing from cover by watering cattle is minimal.

1.5.1.2 Indirect Effects

Numerous symposia and publications have documented the detrimental effects of livestock grazing on stream and riparian habitats (Johnson *et al.* 1985; Menke 1977; Meehan and Platts 1978; Cope 1979; American Fisheries Society 1980; Platts 1981; Peek and Dalke 1982; Ohmart and Anderson 1982; Kauffman and Krueger 1984; Clary and Webster 1989; Gresswell *et al.* 1989; Kinch 1989; Chaney *et al.* 1990, Belsky *et al.* 1999). These publications describe a series of synergistic effects that can occur when cattle over-use riparian areas: (1) Woody and hydric herbaceous vegetation along a stream can be reduced or eliminated; (2) trampling by livestock causes streambanks to collapse; (3) without vegetation to slow water velocities, hold the soil, and retain moisture, floods cause more erosion of streambanks; (4) the stream becomes wider and shallower and in some cases downcut; (5) the water table drops; and (6) hydric, deeply rooted herbaceous vegetation dies out and becomes replaced by upland species with shallower roots and less ability to bind the soil. The resulting instability in water volume, increased summer water temperature, loss of pools and habitat adjacent and connected to streambanks, and increased substrate fine sediment and cobble embeddedness adversely affect MCR steelhead and their habitat.

Indirect effects of livestock grazing on riparian and instream habitats include compacted stream substrates, collapse of undercut banks, destabilized streambanks, localized reduction or removal of herbaceous and woody vegetation along streambanks and within riparian areas, increased width/depth ratio, reduced pool frequency, incised channels, and lowered water tables (Platts 1991). Belsky *et al.* (1999) provides a review of these indirect influences on stream and riparian areas. Riparian areas in poor condition are unable to buffer the effects of accelerated runoff. Accelerated runoff can cause unstable stream channels to downcut or erode laterally, accelerating erosion and sediment production (Chaney *et al.* 1990). Lateral erosion results in progressively wider and shallower stream channels that have warmer water temperatures, less structure, and are less productive, thus adversely affecting fish populations. Streambank hoof shearing, hummocking, bank sloughing and inadequate carry-over vegetation reduces bank stability and silt filtration capacity (Kinch 1989).

Based on plant phenology, the only grazing strategies generally considered to have a good chance for rehabilitating degraded streams and riparian areas are light or tightly controlled uses such as winter-only grazing or riparian pastures with short, early-spring use periods, and certain

strategies incorporating a full season rest (Platts 1991). Clary and Webster (1989) consolidated a number of studies to outline measures needed for maintenance and restoration of fully functioning riparian areas. They recommend resting most poor ecological condition (percent similarity of riparian vegetation to the potential natural community/composition < 25%; or stream bank/channel condition rating of "poor") riparian areas and applying "riparian grazing management practices" such as spring-only grazing and residual vegetation requirements to riparian areas in fair (percent similarity of riparian vegetation to the potential natural community/composition 26-50% or better; and stream bank/channel condition rating of at least "fair") or better ecological condition. They stress that even ecologically conservative grazing systems will not succeed without good range management such as adequate fencing, good distribution of water and salt, and adequate riding to ensure uniform cattle distribution. Cow/calf pairs have a tendency to concentrate and loaf in riparian areas during mid to late summer.

Concentrated livestock use, as often occurs in uncontrolled season-long and certain rotational grazing systems, may cause unacceptable damage to woody plants and streambank morphology (Clary and Webster 1989). Spring and winter season use generally produce better livestock distribution between riparian and upland areas due to flooding of riparian areas (resulting in limited access for cattle), the presence of palatable forage on the uplands, and alternative water sources (Leonard *et al.* 1997, Ehrhart and Hanson 1997, and Kinch 1989). Myers (1989) concluded that good or excellent riparian conditions were maintained by grazing systems which lacked livestock use during the hot season, and recommended grazing not be allowed during the hot summer months more than once every four years. Similarly, Clary and Webster (1989) stated grazing should be avoided during mid and late summer and recommend early grazing, followed by complete removal of livestock. Early grazing allows significant herbaceous regrowth to occur in riparian areas, reducing most grazing damage before higher flows occur the following spring or summer, and avoids impacts to woody plant species when livestock forage preference shifts occur.

In areas under historic season-long grazing, major vegetation changes can and have taken place with changes in livestock use. Routinely grazing an area too late in the growing season can cause adverse changes in the plant community. Individual plants are eliminated by re-grazing them during the growing season and not allowing adequate recovery after grazing. Regardless of seral stage, at least six inches of residual stubble or regrowth is recommended to meet the requirements of plant vigor maintenance, bank protection, and sediment entrapment (Clary and Webster 1989). More than six inches of stubble height may be required for protection of critical fisheries or easily eroded streambanks and riparian ecosystem function (Clary and Webster 1989).

Over time, entire plant communities can change as a result of heavy grazing pressure. In mountain riparian systems of the Pacific Northwest, the replacement of native bunch grass with Kentucky bluegrass has occurred in many areas. Kentucky bluegrass has established itself as a dominant species in native bunch grass meadows as a result of overgrazing and subsequent habitat deterioration. Plants in the early seral stage community do not provide as much protection for the watershed and streambanks. Many forbs and annual plants that frequently

dominate early seral plant communities do not have the strong deep root systems of the later seral perennials such as bunchgrasses, sedges, rushes, shrubs, and willows.

According to the BA, with the implementation of the Strategy for Salmon in 1992 and PACFISH in 1994, many riparian areas in the John Day River basin have management programs in place to protect and enhance their condition. On the Prineville BLM District, which includes the John Day River basin, a concerted effort was begun in the early 1990s to rework grazing management strategies and institute science-based grazing systems in order to eliminate long-term habitat deterioration and promote riparian recovery. Season-of-use changes and restrictions were instituted, based on scientific knowledge which deals with the phenology of key plant species in order to determine timing of grazing and lead to development of healthy riparian areas. Science-based grazing strategies to promote riparian vegetative growth have been completed for most allotments with the John Day basin. In general, this has meant a shift from summer long, hot season grazing to early spring grazing strategies.

1.5.1.3 Allotment-Specific Effects

As discussed above, MCR steelhead spawn in John Day River basin streams beginning as early as March and continuing through mid-June. Fry emergence occurs from late May into mid-July, depending on time of spawning and water temperature. Therefore, if livestock access is allowed at any time between mid-March and mid-July on streams where MCR steelhead spawn, there is potential for harassment of spawning adults or trampling of redds. Trampling of redds can result in direct mortality to eggs and pre-emergent fry in stream gravels. As described above, if riparian grazing is allowed when and where local conditions can support it, the best time for grazing to occur (from a vegetation only standpoint) is probably during early spring green-up to allow for regrowth of vegetation prior to the end of the growing season.

Studies (Leonard *et al.* 1997, Ehrhart and Hanson 1997, and Kinch 1989) have shown that cattle are less likely to concentrate in riparian areas during spring months because of flooding and because water and herbaceous vegetation for grazing is readily available in upland areas away from streams. By June, stream flows have receded and water and forage may be less available in upland areas. All allotments covered by this Opinion, except for the Elsie Martin allotment (spawning and rearing occurs in Jackknife Canyon downstream from this allotment), contain or are adjacent to streams where MCR steelhead are known or suspected to spawn and rear. Current BLM grazing strategies allow grazing in these allotments during the time when MCR steelhead eggs or pre-emergent fry may be present in stream gravels. In 15 of the 26 allotments discussed in this Opinion, the authorized grazing season in riparian areas ends on or before May 31.

Under current BLM strategies, early season grazing ends by April 1 on the Hay Creek allotment; by May 1 on Belshe, Pine Creek, and Sixmile allotments; by May 20 on riparian pastures in the Murderers Creek allotment; and by May 31 on C.H. Hill, Squaw Creek, Fopiano, Clark, North Fork, Johnny Cake Mountain, Big Baldy, and Little Wall Creek allotments as well as on two

pastures of the Johnson Creek allotment. Somewhat later grazing is allowed until June 15 on Pointer, Cottonwood Creek, and Canyon Mountain allotments; until June 30 on the Eakin and West Bologna allotments; and until July 15 on two pastures of Johnson Creek allotment and Dixie allotment. Grazing is rotated among several pastures on the Rockpile (April 8-September 15) and Kinzua (1.5 month sometime between May 1 and October 31). The potential exists for cattle to disturb spawning adult MCR steelhead and trample redds in streams within any of these allotments. Similarly, all MCR steelhead streams within these allotments which are accessible to cattle may be susceptible to habitat degradation if not properly managed.

Because of warmer water temperatures and the flow regimes on some of the lower elevation streams in allotments such as Pryor Farms, Hay Creek, Belshe, and Eakin, MCR steelhead fry have probably emerged from stream gravels by June 1 or earlier. On the Rockpile allotment, high flows in the SFJD River would discourage cattle from entering that stream. On the Kinzua allotment, steep gradient and a deep canyon along Rudio Creek would limit cattle access.

Based on riparian photopoints and riparian vegetative trend data from studies conducted by the BLM, riparian vegetative conditions along streams on BLM-administered lands in the Sixmile (2547), Squaw Creek (2558), Fopiano (2559), Clark (2645), Johnson Creek (2662), Dixie (4016), Murderers Creek (4020), North Fork (4029), Johnny Cake Mountain (4042), Big Baldy (4052), Pointer (4056), Rockpile (4103), Canyon Mountain (4115), and Kinzua (4151) allotments are improving and in an upward trend from the degraded condition created by grazing strategies prior to 1994. Conversely, according to the BA, riparian vegetative conditions along streams on BLM-administered lands in the Cottonwood Creek (4076), West Bologna (4093), and Creek (4163) allotments remain poor. Because changes in grazing practices on these allotments brought about by PACFISH did not occur until 1994, and because of the degraded conditions existing along streams in these allotments when changes were implemented, BLM states there has not been sufficient time for significant improvement in riparian conditions to occur.

No data are available regarding riparian vegetative conditions along streams on BLM-administered lands in the Belshe (2509), Pine Creek (2518), Eakin (2541), C.H. Hill (2554), Elsie Martin (2584), Hay Creek (2598), and Pryor Farms (2607) allotments in the LJDR subbasin. Past BLM experience has shown that streams on the Belshe, Eakin, and Elsie Martin allotments are intermittent and only used by MCR steelhead during high flow years. BLM parcels on the Pine Creek and Pryor Farms allotments are considered Group 4 scattered tracts. In addition, no data on riparian condition was presented for the or Little Wall Creek (4108) allotment which are located in the NFJDR subbasins.

1.5.2 Cumulative Effects

"Cumulative effects" are defined in 50 CFR 402.02 as those effects of "future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." The "action area" for this consultation, therefore, includes the mainstem JDR, SFJD River, NFJD River, and all of their tributaries within or adjacent to BLM-administered livestock grazing allotments. The BLM identified no

specific private or state actions that are reasonably certain to occur in the future that would affect MCR steelhead or their habitat within the action area. The BLM manages 332,300 acres (about 7%) of the 5.1 million-acre JDR basin. The Forest Service manages 1.53 million acres (30 %). Approximately 3.2 million acres (over 62%) within the basin are privately owned.

Significant improvement in MCR steelhead reproductive success outside of BLM-administered land is unlikely without changes in grazing, agricultural, and other practices occurring within these non-Federal lands that influence riparian areas in the JDR basin. Given that the MCR steelhead is listed as threatened, NOAA Fisheries assumes that non-federal land owners will take steps to curtail or avoid land management practices that would result in the take of MCR steelhead. However, NOAA Fisheries is not aware of any specific future actions which are reasonably certain to occur on non-federal lands. Until improvements in non-federal land management practices are actually implemented, NOAA Fisheries assumes that future private and state actions will continue at similar intensities as in recent years.

1.6 Conclusion

NOAA Fisheries has determined that, when the effects of the subject actions addressed in this Opinion are added to the environmental baseline and cumulative effects occurring in the action area, they are not likely to jeopardize the continued existence of MCR steelhead. This conclusion was reached primarily because: (1) Available BLM monitoring data indicate that implementation of a spring grazing season on most allotments has resulted in improvement in riparian vegetation and streambank conditions; (2) although available data shows that trampling of MCR steelhead redds does occur and that the percentage of redds trampled can be high in certain channel types (meadow area, C-type stream channels), improvements in BLM-administered livestock grazing (riders & fencing) in allotments containing or adjacent to MCR steelhead spawning areas are expected to minimize the number of redds trampled by livestock; and (3) because of improvements in riparian vegetation, stream shading, and streambank stability, aquatic habitat indicators such as water temperature, sediment, substrate embeddedness, width/depth ratio, and streambank condition are expected to be improved and restored over the long term on John Day River tributary streams. In reaching these conclusions, NOAA Fisheries has utilized the best scientific and commercial data available as documented herein and by the BA describing the Federal actions.

1.7 Conservation Recommendations

Section 7 (a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species or to develop additional information. NOAA Fisheries believes that the following conservation recommendation regarding livestock grazing should be implemented:

1. Review range improvement budget annually and give the top priority to riparian areas along streams containing MCR steelhead habitat which would benefit from development of off-channel water sources and cattle exclusion devices.
2. Review all livestock grazing allotments for opportunities to allow for rest or additional rest of high priority pastures. Use the results of that review to reduce grazing impacts by making allotment management changes such as more efficient grazing systems, restructuring pasture boundaries, and increasing the number of pastures within an allotment.

1.8 Reinitiation of Consultation

Reinitiation of consultation is required if: (1) The action is modified in a way that causes an effect on the listed species that was not previously considered in the BA and this Opinion; (2) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered; (3) a new species is listed or critical habitat is designated that may be affected by the action; (4) monitoring requirements are not met (50 CFR. 402.16); or (5) reinitiation may be required if the proposed actions are not consistent with conservation measures developed through the pending consultation on land and resource management plans for Federal land management units in the Mid- and Upper Columbia River basins.

2. INCIDENTAL TAKE STATEMENT

Section 9 and rules promulgated under section 4(d) of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. “Harm” is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. “Harass” is defined as actions that create the likelihood of injuring listed species by annoying it to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. “Incidental take” is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

2.1 Amount or Extent of Take

NOAA Fisheries anticipates that the subject grazing actions covered by this Opinion are reasonably certain to result in incidental take of MCR steelhead. Some level of incidental take is expected to result from livestock grazing due to the potential for cattle to actually trample MCR

steelhead redds, disturbance of spawning adult steelhead, or frightening of juvenile MCR steelhead from cover by livestock wading in streams. Current grazing systems (e.g. Elsie Martin and Pryor Farms allotments) which allow summer-long (June-September) grazing may also result in impacts to riparian vegetation, streambank stability, and sedimentation. Because of the inherent biological characteristics of aquatic species such as MCR steelhead, however, the likelihood of discovering direct take attributable to these actions is very small. Effects of actions such as those addressed in this Opinion are largely unquantifiable in the short term, and may not be measurable as long-term effects on the species' habitat or population levels. Therefore, although NOAA Fisheries expects some incidental take to occur due to the actions covered by this Opinion, the best scientific and commercial data available are not sufficient to enable NOAA Fisheries to estimate a specific amount of incidental take of listed fish at any life stage.

2.2 Effect of the Take

In this Opinion, NOAA Fisheries has determined that the level of anticipated take is not likely to result in jeopardy to MCR steelhead when the reasonable and prudent measures are implemented.

2.3 Reasonable and Prudent Measures

NOAA Fisheries believes the following reasonable and prudent measures are necessary and appropriate to minimize the likelihood of take of MCR steelhead resulting from the actions covered by the Opinion. The BLM shall:

1. Minimize the likelihood of incidental take resulting from livestock grazing and associated activities by managing livestock grazing allotments such that direct effects of livestock on spawning adult MCR steelhead, steelhead eggs, and pre-emergent fry in streams within or adjacent to those allotments are avoided or minimized.
2. Minimize the likelihood of incidental take resulting from livestock grazing and associated activities by managing livestock grazing allotments such that direct and indirect effects of livestock on key components of MCR steelhead habitat are avoided or minimized.

2.4 Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the BLM must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. To implement reasonable and prudent measure #1 (minimize effects to spawning adult MCR steelhead, steelhead eggs, and pre-emergent fry), the BLM shall:

- a. Identify which specific stream reaches within or adjacent to the BLM portions of range allotments covered by this Opinion currently provide suitable spawning habitat for MCR steelhead.
- b. Determine timeframes (from BLM data files, ODFW, or other sources) during which MCR steelhead could be expected to utilize those stream reaches for spawning and during which eggs and pre-emergent fry would be expected to be present in the stream gravels.
- c. Rank stream reaches by sensitivity to grazing impacts based on Rosgen's stream channel types and the quantity, quality, and concentration of MCR steelhead spawning habitat within each stream reach.
- d. Provide the list of ranked stream reaches in a report that includes at least 40% of the affected streams to the Level I Interagency Streamlining Consultation Team (on which NOAA Fisheries is represented) at least 120 days prior to the 2003 turnout date for allotments covered by this Opinion.
- e. Based on this ranking, the Level I Team for the Prineville BLM Central Oregon Resource Area shall determine on which of those stream reaches it is necessary to eliminate access by livestock, during those times when eggs or pre-emergent fry would be expected to be present in the gravel. Problems associated with Rosgen C- and E- type stream channels will be corrected first. Access would be eliminated by installing and maintaining temporary electric fencing during the grazing season, permanent fencing, redesigning pasture layout, or changing grazing rotations along those key stream reaches which currently provide the important MCR steelhead spawning habitat. These actions will be implemented for the grazing season that immediately follows receipt date of monitoring report (see 1d, above).
- f. Implement grazing strategies and protective measures in order to avoid any impacts livestock may have on MCR steelhead spawning in the areas addressed by this Opinion.
- g. Install, maintain and ensure proper operation of all enclosure structures, such as fences, necessary to protect MCR steelhead spawning and rearing on all allotments.
- h. When unauthorized livestock use⁶ or excess⁷ by permitted livestock occurs within stream reaches identified as MCR steelhead spawning habitat prior to July 15, the permittee will be notified to remove the livestock immediately. BLM shall also notify NOAA Fisheries within 24 hours. Livestock shall be removed within two days of notification. If take has occurred, NOAA Fisheries Law Enforcement shall also be notified by BLM within 24 hours of discovery.

⁶Unauthorized use is any incident whereby livestock owned by a non-permittee enter onto the Federal lands.

⁷Excess use is any incident whereby livestock owned by a permittee holding a grazing permit are found in areas or at times other than shown on the grazing permit or otherwise authorized under a bill for collection.

2. To implement reasonable and prudent measure #2 (minimize direct and indirect effects of livestock on MCR steelhead habitat), the BLM shall:
 - a. Consistently implement grazing-related standards and guidelines listed in PACFISH and not retard the attainment of Riparian Management Objectives regarding bank stability, water temperature, large woody material, lower bank angle, and width/depth ratio; as well as other aquatic habitat parameters which may be effected by livestock grazing.
 - b. Meet all requirements of and fully implement the *2000 Grazing Monitoring Module* with the 2002 modifications to include a reassessment of when to use the Group 4 monitoring exemption.
 - c. Meet implementation and effectiveness monitoring requirements developed by the Level I Team for specific pasture units.
 - d. Based on information in the BA, for those allotments on which such information was available, actual use has consistently exceeded authorized use on the C.H. Hill (2552), Squaw Creek (2558), Johnson Creek (2662), and Cottonwood Creek (4076) allotments. The BLM shall assess how these violations of the Allotment Management Plans affect MCR steelhead. Report to NOAA Fisheries by December 2002, the actions that are taken by the BLM to correct these violations and actions taken to ensure they are not repeated. If violations continue and degradation of habitat results, the BLM shall take actions to restrict use to include the possibility of withdrawing the grazing permit.
 - e. Update information on riparian vegetative conditions along streams in the Squaw Creek (2558), Clark (2645), Johnson Creek (2662), Dixie (4016), Murderers Creek (4020), Creek (4163), Cottonwood Creek (4076), Johnny Cake Mountain (4042), North Fork (4029), Rockpile (4103), Pryor Farms (2607), Belshe (2509), and C.H. Hill (2552) allotments, and submit updated information to NOAA Fisheries by December 2002.
 - f. Establish photopoints and riparian vegetation trend areas along streams in the Little Wall Creek (4108) and Pryor Farms (2607) allotments to determine existing riparian conditions. Provide a report on these sites established by December 2002 and report to NOAA Fisheries on results of the information obtained. According to the BA, no information is currently available.
 - g. Correct sedimentation and erosion problems where they occur on BLM-administered lands along Little Pine Creek on the Pointer (4056) and Canyon Mountain (4115) allotments by eliminating livestock access to sensitive areas as soon as the areas are identified.
 - h. Provide the necessary training for all permittees and range riders to monitor livestock use and pasture move “triggers” (stubble height, woody utilization, and bank damage), and to clearly understand objectives stated in the BA.
 - i. Provide an end-of-year annual grazing tour with NOAA Fisheries. The tour’s purpose is to review successes and failures of the current year’s grazing activities, and develop recommendations for future activities. A summary of the grazing tour will be provided in the end-of-year report.

- j. Provide information, including allotment maps and spawning survey data to be used by NOAA Fisheries Oregon Habitat Branch personnel during activities on MCR steelhead. Site visits may occur at anytime during the FY2002/2003 grazing seasons.
- k. Provide an end-of-year report on grazing in allotments which contain MCR steelhead habitat or which may affect downstream steelhead habitat to NOAA Fisheries by December 1 of each year. The report shall include the following:
 - i. An overview of the proposed action and actual management (livestock numbers, on-off dates for each pasture, grazing strategy, etc.).
 - ii. Specific BLM implementation and effectiveness monitoring data, date, and location collected (stubble height, use of woody vegetation, bank damage, unauthorized or other illegal grazing, fence construction and maintenance).
 - iii. Results from all vegetative trend study plots and vegetative utilization study sites.
 - iv. Most recent photos documenting trend at riparian photopoints.
 - v. Specific permittee monitoring data.
 - vi. Review of management and compliance successes and failures.
 - vii. New habitat trend or steelhead population data to include updated spawning surveys.
 - viii. Compliance with each pertinent term and condition listed above.
 - ix. Progress towards implementing conservation recommendations.
 - x. Management changes made for current year and recommendations for future years. Please send the completed report to:
 - NOAA Fisheries
 - Habitat Conservation Division, Oregon Habitat Branch
 - Attn: Scott Hoefler
 - 525 NE Oregon Street, Suite 500
 - Portland, Oregon 97232-2778
- l. NOTICE. If a dead, injured, or sick endangered or threatened species specimen is found, initial notification must be made to the NOAA Fisheries' Law Enforcement Office, at Vancouver Field Office, 600 Maritime, Suite 130, Vancouver, Washington 98661; phone: 360.418.4246. Care should be taken in handling sick or injured specimens to ensure effective treatment and care or the handling of dead specimens to preserve biological material in the best possible state for later analysis of cause of death. Besides the care of sick or injured endangered and threatened species, or preservation of biological materials from a dead animal, the finder has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence with the specimen is not unnecessarily disturbed.

3. MAGNUSON-STEVENSON ACT

3.1 Background

The objective of the essential fish habitat (EFH) consultation is to determine whether the proposed action may adversely affect designated EFH for relevant species, and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH resulting from the proposed action.

3.2 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires the inclusion of EFH descriptions in Federal fishery management plans. In addition, the MSA requires Federal agencies to consult with NOAA Fisheries on activities that may adversely affect EFH.

EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3). For the purpose of interpreting the definition of essential fish habitat: “Waters” include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; “substrate” includes sediment, hard bottom, structures underlying the waters, and associated biological communities; “necessary” means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and “spawning, breeding, feeding, or growth to maturity” covers a species' full life cycle (50 CFR 600.110).

Section 305(b) of the MSA [6 USC 1855(b)] requires that:

- Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH.
- NOAA Fisheries shall provide conservation recommendations for any Federal or state activity that may adversely affect EFH.
- Federal agencies shall within 30 days after receiving conservation recommendations from NOAA Fisheries provide a detailed response in writing to NOAA Fisheries regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NOAA Fisheries, the Federal agency shall explain its reason for not following the recommendations.

The MSA requires consultation for all actions that may adversely affect EFH, and does not distinguish between actions within EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and upslope activities, that may have an adverse effect on EFH. Therefore, EFH

consultation with NOAA Fisheries is required by Federal agencies undertaking, permitting or funding activities that may adversely affect EFH, regardless of its location.

3.3 Identification of EFH

The Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Pacific salmon: Chinook (*Oncorhynchus tshawytscha*); coho (*O. kisutch*); and Puget Sound pink salmon (*O. gorbuscha*) (PFMC 1999). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC), and longstanding, naturally-impassable barriers (*i.e.*, natural waterfalls in existence for several hundred years). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the *Pacific Coast Salmon Plan* (PFMC 1999). Assessment of potential adverse effects to these species' EFH from the proposed action is based on this information.

3.4 Proposed Action

The proposed action is detailed above in section 1.2. The proposed action is the implementation of the livestock grazing program on BLM-administered lands within the John Day River Basin for 2001. The action area for this consultation includes the mainstem JDR, SFJD River, NFJD River, and all of their tributaries within or adjacent to BLM-administered livestock grazing allotments. Streams within the JDR Basin are part of the proposed designated EFH for chinook salmon (PFMC 1999). A description and identification of EFH for salmon is found in Appendix A to Amendment 14 to the *Pacific Coast Salmon Plan* (PFMC 1999). Assessment of the impacts to chinook salmon EFH from the subject action is based on this information.

The objective of this EFH consultation is to determine whether the implementation of the livestock grazing program on the CORA is likely to adversely affect EFH for chinook salmon in the JDR Basin.

3.5 Effects of Proposed Action

As described in detail in the ESA portion of this consultation, the proposed activities may result in detrimental, short-term, adverse effects to a variety of habitat parameters.

3.6 Conclusion

NOAA Fisheries believes that the proposed action may adversely affect the EFH for chinook salmon.

3.7 EFH Conservation Recommendations

Pursuant to section 305(b)(4)(A) of the Magnuson-Stevens Act, NOAA Fisheries is required to provide EFH conservation recommendations for any Federal or state agency action that would adversely affect EFH. All of the reasonable and prudent measures and the terms and conditions contained in sections 2.3 and 2.4 of the ESA portion of this Opinion are applicable to salmon EFH. Therefore, NOAA Fisheries incorporates each of those measures here as EFH conservation recommendations.

3.8 Statutory Response Requirement

Please note that the Magnuson-Stevens Act (section 305(b)) and 50 CFR 600.920(j) requires the BLM to provide a written response to NOAA Fisheries' EFH conservation recommendations within 30 days of its receipt of this letter. The response must include a description of measures proposed to avoid, mitigate, or offset the adverse impacts of the activity on EFH. If the response is inconsistent with NOAA Fisheries' conservation recommendations, the BLM shall explain its reasons for not following the recommendations.

3.9 Supplemental Consultation

The BLM must reinitiate EFH consultation with NOAA Fisheries if either action is substantially revised or new information becomes available that affects the basis for NOAA Fisheries' EFH conservation recommendations (50 CFR 600.920).

4. LITERATURE CITED

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this Opinion in addition to the BA and additional information requested by NOAA Fisheries and provided by the Prineville BLM District.

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