

9.0 LAND MANAGEMENT PLAN

The discussion of impacts related to the LORP land management plan includes:

- Impacts on rangeland conditions and grazing practices (Section 9.1)
- Impacts on biological resources, including sensitive species (Section 9.2)
- Impacts on adjacent public lands due to changes in livestock distribution (Section 9.3)
- Other impacts considered to be negligible (Section 9.3)

The leases covered by the LORP land management plan overlap with other areas of the LORP. Additional discussion of impacts for these areas is provided in Sections 4 (Riverine-Riparian System), 6 (Delta Habitat Area), 7 (Blackrock Waterfowl Habitat Area), and 8 (Off-River Lakes and Ponds).

9.1 RANGELANDS

9.1.1 Existing Conditions

A description of current grazing practices is presented in Section 2.8.2 for the seven affected leases: Twin Lakes, Thibaut, Blackrock, Island, Lone Pine, Delta, and Intake. Prior to 2002, LADWP leases within the LORP area did not have formal protocols for quantitative monitoring and evaluation of rangeland conditions. However, using the monitoring protocols described in Section 2.8.1.5, a rangeland trend monitoring program was initiated in 2002 on all leases within the LORP area. Minimally, the first two years of rangeland trend monitoring will be considered baseline.

9.1.2 Impacts – Rangelands / Grazing Operations

The LORP land management plan will modify grazing practices in riparian and upland areas on seven LADWP leases in order to complement the habitat enhancements anticipated with the re-watering efforts under the Riverine-Riparian System. Under the proposed land management program, the intensity, location, and duration of grazing will be managed by establishing new riparian pastures, forage utilization rates, and prescribed grazing periods as described in Section 2.8.1.3 and 2.8.2. Other actions include protection of rare plant populations, establishment of off-river watering sources to reduce use of the river and off-river ponds for livestock watering, and monitoring of utilization and rangeland trend throughout the leases to ensure that grazing rates maintain the long-term productivity of the rangelands.

The establishment of pastures with seasonal restrictions and exclosures proposed under LORP will result in a reduction of acreage available for grazing over existing conditions. Initially, this reduction in available acreage will temporarily reduce the amount of forage available for livestock grazing. However, once the river is rewatered under LORP, available forage will increase and improve in condition. In addition, the establishment of utilization rates, modification in timing and duration of grazing, and changes in livestock distribution will also improve rangeland conditions by improving plant vigor and seedling recruitment of forage species. **Plant and soil conditions on the leases would improve due to these actions, resulting in a beneficial impact to rangelands (Class IV).**

9.2 BIOLOGICAL RESOURCES

9.2.1 Existing Conditions

The primary sensitive biological resources that occur on the leases are the riparian and aquatic habitats of the Lower Owens River; seasonal and perennial wetlands such as alkali meadows and freshwater marsh;

elk herds; and rare plant populations. Currently, the riparian and aquatic habitats along the river are mostly degraded due to the lack of flows; grazing has also had adverse effects on riparian understory in some areas.

9.2.1.1 Sensitive Plant Species

There are three sensitive plant species known to occur within the LORP area and on LADWP leases. These species are described below.

- Inyo County star-tulip (*Calochortus excavatus*). This herb occurs in grassy meadows and moist places with alkaline soils in the Owens Valley, primarily in alkali meadow and alkali shrub meadow. Populations are scattered throughout the valley, from Round Valley to Olancho. Populations occur on the Thibaut and Blackrock leases. The Inyo County star-tulip is included in the California Native Plant Society (CNPS) rare plant inventory as rare, threatened, or endangered in California and elsewhere (List 1B) (Skinner and Pavlik, 2001). It has no state or federal status.
- Owens Valley checkerbloom (*Sidalcea covillei*). The Owens Valley checkerbloom is a state listed endangered species. It has no federal status. This species is considered rare, threatened, or endangered in California and elsewhere (List 1B) in the CNPS rare plant inventory (Skinner and Pavlik, 2001). When the Owens Valley checkerbloom was nominated for endangered species status in 1979, there was only one known population of this plant. Several new populations were found soon after the plant was listed, bringing documented populations to ten by 1981. This plant is endemic to the Owens Valley, occurring in scattered populations west of the river. It occurs in moist to wet alkali meadows. Based on long-term monitoring by LADWP, there are over 40 known populations throughout the Owens Valley. One population of Owens Valley checkerbloom has over one million plants, and several populations have more than 100,000 plants. The sites that contain populations of this species have been and are currently grazed. Within the LORP area, populations occur on the Thibaut and Blackrock leases.
- Nevada oryctes (*Oryctes nevadensis*). This species is restricted to sandy soils in desert sink scrub and shadscale scrub habitats. Known populations in the Owens Valley occur from near Lone Pine to Bishop. The plant occurs on the Twin Lakes, Blackrock, Lone Pine and Delta leases. This species is considered rare, threatened, or endangered in California, but more common elsewhere (List 2) in the CNPS rare plant inventory (Skinner and Pavlik, 2001). It has no state or federal status.

The following sensitive species occur on LADWP property outside the LORP area. These species are included in the CNPS rare plant inventory (Skinner and Pavlik, 1994), but have no state or federal status.

- Sagebrush loeflingia (*Loeflingia squarrosa*) (List 2)
- Inyo phacelia (*Phacelia inyoensis*) (List 1B)

In addition, Geyer's milk-vetch (*Astragalus geyeri*) is known to occur in Owens Valley, but has not been recorded on LADWP lands and is not expected based on habitat preferences and the lack of sightings by LADWP, County, and Ecosystem Sciences personnel over many years of field investigations. This species is included in the CNPS rare plant inventory as List 2 (Skinner and Pavlik, 1994), but has no state or federal status.

9.2.1.2 Owens Valley Pupfish

The area near Well 368 in the Blackrock lease supports a population of Owens pupfish (*Cyprinodon radiosus*), a federally listed endangered species. In the past, protective fencing was installed around the

area where the pupfish population was originally located. However, as the local vegetation and hydrologic conditions of the area near Well 368 changed through natural processes over time, the pupfish population migrated to a location outside of the fenced area. Based on a field visit to this site conducted in May 2003, CDFG and USFWS concluded that this pupfish population and its habitat are doing well without fencing and that modifications are not needed (S. Parmenter, CDFG, and D. Threlot, USFWS, pers. comm., 2003). Therefore, LADWP does not propose any management action with regard to the existing pupfish population.

9.2.2 Impacts – Biological Resources

9.2.2.1 Riparian Resources

New riparian pastures will be established via fencing that are either excluded from grazing or, in most cases, used only from December through April and with a maximum allowable utilization rate of 40 percent. The riparian pastures to be established under LORP are listed below in Table 9-1. Overall, approximately 900 acres would be removed from grazing year-round (the 847-acre enclosure at Thibaut Lease will not be grazed for at least 10 years). Approximately 24,700 acres of riparian pastures will be fenced and grazed under prescribed grazing periods and utilization rates to promote a healthy riparian ecosystem (Sections 2.8.1.3 and 2.8.2).

**TABLE 9-1
SUMMARY OF RIPARIAN PASTURES AND RARE PLANT AND REFERENCE
EXCLOSURES**

Lease	Current Lease Area (acres)	Proposed Riparian Pastures* (acres)	Proposed Rare Plant and Reference Exclosures (acres)
Twin Lakes	4,912	1,667	<ul style="list-style-type: none"> ▪ Reconstruction of an existing 0.25-acre rare plant exclosure for the Nevada oryctes
Blackrock	32,674	14,540	<ul style="list-style-type: none"> ▪ Four new rare plant exclosures for the Inyo County star-tulip and the Owens Valley checkerbloom ▪ Two riparian exclosures (ungrazed reference areas to be used for evaluating rangeland trend)
Thibaut	5,259	847	<ul style="list-style-type: none"> ▪ A 847-acre riparian exclosure (excluded from grazing for at least 10 years) ▪ A 211-acre pasture along the east side of the Aqueduct to protect Inyo County star-tulip and the Owens Valley checkerbloom populations ▪ A 247-acre pasture within the Blackrock Waterfowl Management Area in the northwest corner of the lease (to be grazed every other year)
Island	18,970	1,638	<ul style="list-style-type: none"> ▪ A riparian exclosure (size TBD - ungrazed reference area to be used for evaluating rangeland trend)
Lone Pine	8,274	6,016	<ul style="list-style-type: none"> ▪ A 8.5-acre riparian exclosure (ungrazed reference area to be used for evaluating rangeland trend)
Delta	7,110	0	<ul style="list-style-type: none"> ▪ A 30-acre riparian exclosure (ungrazed reference area to be used for evaluating rangeland trend)
Intake	284	N/A	<ul style="list-style-type: none"> ▪ No new fencing is proposed.

* Riparian pastures include areas of upland vegetation.

In general, implementation of the proposed grazing management actions (i.e., creation of riparian pastures; modification of utilization rates in both riparian and upland pastures; and creation of rare plant, wetland, and waterfowl exclosures) would reduce current grazing impacts to existing biological resources. Beneficial impacts include increased plant production and cover in riparian areas, which would provide more food for small mammals and birds, and cover for ground- and understory-nesting birds. Cattle will graze riparian areas for a shorter period of time, resulting in less frequent disturbance to ground- and understory-nesting birds; **hence, the proposed management actions would result in beneficial impacts to riparian biological resources (Class IV)**. The application of appropriate grazing strategies in the LORP project area would complement the habitat enhancements anticipated along the river and in the Blackrock and Delta areas where a greater diversity and abundance of aquatic and terrestrial species are anticipated.

9.2.2.2 Sensitive Plant Species

Fences will be installed in the Twin Lakes, Blackrock and Thibaut leases to create rare plant exclosures for populations of Inyo County star-tulip, Owens Valley checkerbloom, and Nevada oryctes. Grazing will be excluded from the Twin Lakes rare plant exclosure and one of the four Blackrock exclosures. In the other three Blackrock exclosures and the 211-acre Thibaut Rare Plant Pasture, grazing will be

prohibited during the flowering, fruiting, and seeding period of the species (April - July). These populations have been subjected to grazing for decades and have persisted, despite removal of plants by grazing and trampling effects. The proposed grazing strategies are expected to improve the reproductive success and long-term survival of these rare plant populations. **Therefore, impacts to these populations from future grazing strategies are considered beneficial (Class IV).**

9.2.2.3 Owens Valley Pupfish

As described above, USFWS, CDFG and LADWP have determined that no management action is required with regard to the Owens Valley pupfish population located near Well No. 368 on the Blackrock Lease since current conditions of the site appear to be suitable for the population's continued existence. **Therefore, implementation of LORP would not have any adverse impact on this pupfish population.**

9.3 ADJACENT BLM AND SLC LANDS

9.3.1 Existing Conditions

9.3.1.1 BLM Lands

Management of BLM Lands

BLM's Bishop Resource Area of the Bakersfield District surrounds the LORP project area. The resource area is divided into nine management areas, three of which are lands surrounding the LORP (i.e., Owens Valley, South Inyo and Owens Lake management areas). The Owens Valley Management Area (OVMA) encompasses 153,750 acres containing the Alabama Hills, three developed campgrounds, and areas of dispersed recreation use. Wildlife resources include mule deer, several springs and streams, and tule elk calving habitat. The South Inyo Management Area (SIMA) consists of 65,000 acres. There is important wildlife habitat, including potential bighorn sheep habitat, and small stands of bristlecone pine. The Owens Lake Management Area (OLMA) contains 15,790 acres of BLM land near Owens Lake. It includes important tule elk calving grounds and habitat for several special status wildlife species.

Guidelines for managing the various resources and activities in the resource area are derived from the Bishop Area Resource Management Plan (RMP) (BLM, 1991), and BLM's Standard Operating Procedures. One of the primary activities on BLM lands is grazing. Grazing allotments are established throughout the Resource Area, and leased to non-federal parties. Livestock grazing occurs on 69 allotments in the Bishop Resource Area, with annual licensing of 35,261 AUMs. Allotment management plans are prepared for each allotment to establish grazing utilization rates and protection of other resources. These plans are developed based on federal grazing regulations and BLM rangeland policies contained in the RMP.

Plant phenology of key forage species of livestock and wildlife is considered in determining grazing schedules. The average annual livestock utilization of key forage species is not allowed to exceed 60 percent unless there is an Allotment Management Plan that specifies a different level. When monitoring verifies that utilization levels exceed 60 percent, a change in livestock management practices is implemented, such as changes in grazing preference, season of use, or location of use.

Salting and supplemental feeding locations are not located within ¼ mile of riparian zones, sensitive plant habitats, or sites that are highly susceptible to soil erosion. Livestock grazing is prohibited in unallocated areas or areas outside of existing allotment boundaries. Annual utilization checks are conducted during the grazing season on selected meadows and key wildlife habitats. Trampling of soils is monitored in conjunction with forage utilization to determine whether the limit of allowable grazing has been achieved.

BLM's National Rangeland Management Policy established standard criteria for determining selective management categories for grazing allotments on public lands. An allotment's selective management category may change as resource conditions change or new information becomes available. The goal is to have as many allotments in the Maintain (M) category as possible.

- **Maintain (M) Category Criteria** – present range condition is satisfactory; the allotment has moderate to high resource production potential and is producing near that potential, with no serious resource use conflicts or controversy. Opportunities may exist for positive economic return from public investments; present management is accomplishing the desired results, and any other appropriate criteria.
- **Improve (I) Category Criteria** – present range condition is unsatisfactory; the allotment has moderate to high resource production potential but is not producing near that potential, and serious resource use conflicts or controversy exist. Opportunities exist for positive economic return from public investments; opportunities exist to achieve the allotment's potential through changes in management, and any other appropriate criteria.
- **Custodial (C) Category Criteria** – present range condition is not a factor, the allotment has low resource production potential and is producing near that potential, limited resource use conflicts or controversy exist.

BLM Lands Adjacent to LADWP Leases in the LORP Area

Most allotments on BLM land are adjacent to or intermingled with lands controlled by LADWP or the Inyo National Forest. On several allotments, the boundaries are not fenced. Numbers of stock, seasons of use, and range facilities and treatments are often cooperatively handled by means of MOUs, cooperative agreements, and other less formal arrangements between the agencies and the permittees.

BLM lands located adjacent to LADWP leases within the LORP area are as follows:

- **Twin Lakes Lease.** BLM Black Mine Allotment (# 6023) assigned to 4-J Cattle Co. (Mark Johns) adjoins the Twin Lakes lease.
- **Blackrock Lease.** Approximately one-half section (at Black Jack Mine Section 1) of the BLM Allotment # 6023 adjoins the Blackrock Lease. The BLM lands adjoining this lease are partially unallocated for livestock grazing and have been for over 20 years. In addition, the West Santa Rita Allotment #6048 abuts the Blackrock Lease.
- **Thibaut Lease.** BLM lands adjacent to the Thibaut Lease are unallocated for grazing.
- **Lone Pine Lease.** The Ash Creek Allotment #6042 is located adjacent to this lease west of U.S. Highway 395.
- **Delta Lease.** There are scattered parcels of BLM land within the Delta Lease that are unallocated for livestock grazing.

Under existing conditions, livestock drift onto adjacent BLM land from LADWP leases is known to occur occasionally, particularly in early spring in years with high precipitation and resultant growth of annual forage species on BLM uplands. Quantification of livestock drift is currently not conducted.

9.3.1.2 State Lands Commission Lands

The southern boundary of the Delta Lease has an unusual shape. A long narrow parcel (361 acres) of Delta Lease (LADWP land) extends 2.5 miles along the west side of the Delta Habitat Area (Figure 2-23), which is surrounded by state-owned lands under management by the State Lands Commission (SLC). No fence separates LADWP and SLC lands.

9.3.2 Impacts – Adjacent BLM and SLC Lands

Under LORP, forage on LADWP leases would improve from the rewatering of the river and would become more attractive to livestock than the upland areas (poorer forage) in public lands. In addition, the proposed grazing management strategies will require lessees to manage livestock distribution more intensively than the current practice. The proposed maximum allowable utilization rates for the riparian and upland areas would result in improved management of cattle distribution. Areas where drift occurs on the east side of the Owens River will now have a utilization criteria of 40 percent in the riparian areas. When the utilization criteria is met, the cattle will be moved from the riparian pasture to the next fields in rotation, therefore reducing the chance of drift. Therefore, LORP implementation is generally expected to reduce livestock drift onto adjacent public lands. Lease-specific actions proposed under LORP that may affect livestock drift are described below.

Twin Lakes Lease: Grazing period in the proposed riparian pasture (located on the eastern portion of the lease adjacent to BLM land) will be restricted to approximately 2.5 months (March to mid May), which is shorter than the existing practice (late October to May). Therefore, the potential for livestock drift would be reduced compared to existing conditions.

Blackrock Lease: Grazing period in the proposed riparian pastures (located on the eastern portion of the lease adjacent to BLM land) will be restricted to approximately 2 months (late March to May), which is shorter than the existing practice (early October to June). Therefore, the potential for livestock drift would be reduced compared to existing conditions.

Thibaut Lease. The establishment of Thibaut Riparian Exclosure, which will not be grazed for a minimum of 10 years, will eliminate livestock from the portion of the lease adjacent to BLM lands (east side of the river). Therefore, livestock drift onto BLM land from Thibaut Lease would be reduced upon LORP implementation.

Island Lease: The establishment of the Carasco and Depot Riparian Pastures (less than 10 percent of total lease area) is expected to result in negligible, if any, increase in cattle drift onto BLM lands. The proposed maximum allowable utilization rates for the riparian and upland areas in the River Pasture would result in improved management of cattle distribution, and would likely contribute to decreasing cattle drift onto adjacent areas.

Lone Pine Lease: The establishment of the River Riparian Pasture (located on the eastern portion of the lease adjacent to BLM land) will be restricted to approximately 3 months (January to March), which is shorter than the existing practice. Therefore, the potential for livestock drift would be reduced compared to existing conditions.

Delta Lease: The only fencing proposed in the Delta lease is for the 30-acre Riparian Exclosure, which will be excluded from grazing (see Section 2.8.2.5). This riparian exclosure represents less than 0.5 percent of the total lease area. Therefore, establishment of the Riparian Exclosure is anticipated to result in negligible, if any, increase in cattle drift onto SLC lands. The proposed maximum allowable utilization

rates for the riparian and upland areas would result in improved management of cattle distribution, and would likely contribute to decreasing cattle drift onto adjacent areas.

Intake Lease: No new fencing is proposed for the Intake Lease. The proposed maximum allowable utilization rates for the riparian and upland areas would result in improved management of cattle distribution, and would likely contribute to decreasing cattle drift onto adjacent areas.

LADWP expects that the grazing management actions proposed under LORP, combined with the increase in forage in riparian areas from rewatering the river, will result in no change or a net reduction in livestock drift onto public lands. However, the potential for localized increase in livestock drift under LORP cannot be eliminated (e.g., from establishment of stockwater areas closer to public lands).

Therefore, this impact is considered adverse, but not significant (Class III). If it is determined by BLM and SLC that the rangeland management actions proposed under LORP are resulting in a substantial increase in cattle drift, LADWP will implement Mitigation Measure LM-1. Under Mitigation Measure LM-1, LADWP will consult with BLM and SLC in determining lease-specific measures to reduce potential unauthorized drift.

9.3.3 Mitigation Measures

LM-1 If it is determined by BLM or SLC that the rangeland management actions proposed under LORP are resulting in a substantial increase in cattle drift, the grazing management plan(s) for the relevant lease(s) shall be modified to incorporate herd and grazing practices to reduce drift. These lease-specific measures shall be developed in consultation with BLM (Blackrock, Twin Lakes, Island, Lone Pine, Intake, and Thibaut Leases) or SLC (Delta Lease) and shall include specific measures to discourage unauthorized drift, such as strategic placement of watering troughs and salt blocks/supplements and coordination of grazing rotation patterns between LADWP and BLM pastures. The effectiveness of these measures shall be evaluated in the LORP monitoring and adaptive management program.

9.4 OTHER IMPACTS THAT ARE CONSIDERED NEGLIGIBLE

Installation of fencing to establish riparian pastures would have a negligible effect on native vegetation. Posts would be installed by hand crews working from small trucks that travel overland. No new roads would be constructed, nor would any grading or excavation be required. Minor mowing and brush clearing may be required at fence post sites, and along the alignment. The footprint of disturbance for each post would be several square feet. No permanent or irreversible damage to vegetation would occur, nor would the type of surface disturbance facilitate weed colonization. Stringing the fence would also occur by hand crews.

Fence installation is also not expected to adversely affect movement by elk or deer, as the grazing management plans include provisions to create specialized fences (Figure 2-17) to accommodate elk/deer passage along known elk/deer trails.

Fence installation will require use of small trucks; however, air pollutant emissions from the fence installation are not expected to be substantial. Emissions would be short-term and similar to those caused by current routine rangeland management activities on the leases.

The new fences are not expected to cause any visual impacts, as they will be difficult to see from paved public roads. Fencing is a common visual feature in the Owens Valley, and wire fencing presents a very diffuse visual image that does not generally detract from the landscape.

Upon initial implementation of the LORP, most existing roads and trails on the leases that have been used by the public to access the river and off-river lakes for recreation (e.g., fishing and bird watching) will continue to provide access. Gates or cattle guards will be installed to control cattle movement, and access for the public will be provided (see Section 2.8.1.3); hence, no adverse impacts to public access and recreational uses are anticipated. (See Section 10.1 for additional discussion of recreation-related impacts.)

Various cultural resources occur on the leases, including prehistoric and historic archaeological sites. The modification of grazing practices would generally reduce the overall intensity of grazing, and thereby reduce any ongoing disturbances (if any) to archaeological sites. The installation of fence poles was deemed an insignificant impact by the State Office of Historic Preservation (Far Western, 2001) because the physical damage from post installation is very limited and diffuse; hence, no adverse impacts to cultural resources are expected.