

Lakeview District/Klamath Falls Resource Area

United States Department of the Interior  
Bureau of Land Management  
Lakeview District  
Klamath Falls Resource Area

## Analysis and Evaluation

# Proposed Fourmile Creek ACEC

October 2000

Lakeview District  
Klamath Falls Resource Area

**ANALYSIS AND EVALUATION OF THE FOURMILE CREEK POTENTIAL ACEC**

The following nomination of the Fourmile Creek property as an area of critical environmental concern (ACEC) by resource area staff is based on resource area expertise and biological information and comments from the U. S. Fish and Wildlife Service (USFWS), the Oregon Natural Heritage Program (ONHP), and the Oregon Natural Resources Council (ONRC), staff reports on the various resources on the Fourmile Creek property were prepared by specialists from the Klamath Falls Resource Area, Lakeview District, Bureau of Land Management during the summer of 2000.

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## INTRODUCTION

In 1994, the Bureau of Reclamation (BOR) transferred management of the 1196-acre Fourmile Creek property to the Bureau of Land Management's (BLM) Klamath Falls Resource Area (KFRA). In 2000, the Fourmile Creek property was nominated for consideration as an Area of Critical Environmental Concern (ACEC) by BLM KFRA staff based on resource area expertise and biological information and comments from the U. S. Fish and Wildlife Service (USFWS), the Oregon Natural Heritage Program (ONHP), and the Oregon Natural Resources Council (ONRC).

An ACEC designation highlights an area where special management attention is needed by the Bureau of Land Management (BLM) to protect and prevent irreparable damage to important historic, cultural and scenic values; fish or wildlife resources; or other natural systems or processes; or to protect human life and safety from natural hazards (BLM Regulations, 43 CFR part 1610). The ACEC designation indicates to the public that the BLM not only recognizes the area possesses significant values, but has also established special management measures to protect those values. Designation serves as a reminder that the significant values or resources must be accommodated during the BLM's consideration of subsequent management actions and land use proposals within an ACEC.

To be considered as a potential ACEC, and further analyzed in resource management plan (RMP) alternatives, inventory data for the area must be analyzed to determine whether there are areas containing significant resources, values, systems or processes, or hazards. To be a potential ACEC, an area must meet both relevance and importance criteria, as established and defined in 43 CFR 1610.7-2:

**"Relevance.** There shall be present significant historic, cultural, or scenic values; a fish or wildlife resource or other natural system or process; or natural hazard.

**Importance.** The above described value, resource, system, process, or hazard shall have substantial significance and values. This generally requires qualities of more than local significance and special worth, consequence, meaning, distinctiveness, or cause for concern. A natural hazard can be important if it is a significant threat to human life or property."

Review by resource area specialists of biological information and comments from the U. S. Fish and Wildlife Service (USFWS), the Oregon Natural Heritage Program (ONHP), and the Oregon Natural Resources Council (ONRC) identified fishery, wildlife, and natural process values on the Fourmile Creek property as reasons for its identification as a potential ACEC. After careful consideration, the BLM interdisciplinary team evaluation focused on those values that were identified as a result of the review.

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The property is located approximately 25 air miles northwest of Klamath Falls, Oregon and about 2 miles due west of Agency Lake (Figure 1). The legal description for the proposed Fourmile Creek ACEC is:

T. 34 S., R. 6 E.,  
Section 1, Lots 25 and 26, W $\frac{1}{2}$ SW $\frac{1}{4}$ , SE $\frac{1}{4}$ SW $\frac{1}{4}$ , and SE $\frac{1}{4}$ ;  
Section 12; Section 13, Lots 1 to 3, inclusive, N $\frac{1}{2}$ NW $\frac{1}{4}$ . and NE $\frac{1}{4}$ .

The area described aggregates 1,196.09 acres (Figure 2).

The property is currently administered by the Bureau of Reclamation (BOR) under the Secretarial Order of January 20, 1910 that withdrew the property for the Klamath Project. The Bureau of Reclamation has determined that the property is no longer needed for project purposes and has requested the withdrawal be revoked. Revocation of the withdrawal is pending final review by the Washington Office of the Bureau of Land Management. Until the withdrawal is revoked, thereby returning the property to the administration of the Bureau of Land Management (BLM), the BLM manages the property under BLM/BOR Instruction Memorandum 91-113.

Existing fences divide the property into four relatively discrete areas previously used as pastures. The North Pasture (approx. 75 acres) is the small northernmost finger of land along the northwest boundary of the property. The South Pasture (approx. 340 acres) is all of the property south and west of Fourmile Creek. The remaining central portion of the property, north and east of Fourmile Creek, is divided by an existing north-south fence into a West Pasture (approx. 250 acres) and an East Pasture (approx. 535 acres). The entire external boundary of the proposed Fourmile Creek ACEC is defined and segregated from adjacent lands by either fencing (south and west boundaries) or by canal levees (north and east boundaries).

## RELEVANCE

As described in BLM Manual 1613, an area meets the "relevance" criteria if it contains one or more of the following:

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archaeological resources and religious or cultural resources important to Native Americans).
2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive, or threatened species, or habitat essential for maintaining species diversity).
3. A natural process or system (including but not limited to endangered, sensitive or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic or riparian; or rare geologic features)

4. Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human activities or developments may meet the relevance criteria if it is determined that it has become part of a natural process, such as an increased risk of landslides or flooding. This determination is made through the resource management planning process.

## **CULTURAL VALUES**

Systematic cultural resources inventory has not been conducted within the proposed Fourmile Creek ACEC. Archaeological sites have not been formally recorded within the proposed Fourmile Creek ACEC. Historic-era sites and Native American religious areas have also not been identified on the property. However, prior to Euro-American settlement of the Klamath Basin, the Klamath Tribes extensively utilized natural resources obtained from creeks and marshes located along the shores of Upper Klamath and Agency Lakes.

**Conclusion.** At this time, the cultural resources of the proposed Fourmile Creek ACEC have not been extensively investigated and are not well understood. There is no information currently available to determine the criterion for relevance with regards to cultural resources.

## **SCENIC VALUES**

The proposed Fourmile Creek ACEC is contained within the Upper Klamath Lake viewshed. This viewshed covers the geographic area including Upper Klamath Lake, Agency Lake and Wood River. The view shed was inventoried as Visual Resource Management (VRM) inventory class II by the BLM in 1989. Although the proposed Fourmile Creek ACEC was not specifically identified during this VRM inventory, it is included in this inventory class II viewshed. The property is currently estimated to be in VRM Class II condition, being very natural appearing. This natural appearing landscape is rare within the viewshed, which is dominated by lands heavily modified for agricultural use.

The proposed Fourmile Creek ACEC is located as close as 1/4 mile from Klamath County's Westside Road. This road passes through several miles of the Winema National Forest. The Westside Road is on the tour route for the National Volcanic Legacy Scenic Byway, which was designated in 1999, and extends from the Oregon/California border to Crater Lake National Park.

## Conclusion

The natural appearing landscape which occurs on the proposed Fourmile Creek ACEC, which is rare within this viewshed, and the location of the property adjacent to the National Scenic Byway satisfy the criterion for Relevance for Scenic values.

## WILDLIFE RESOURCES

The proposed Fourmile Creek ACEC supports populations or critical habitat of several special status species.

### Animals

Shortnose and Lost River Suckers and Proposed Critical Habitat: Lost River sucker (*Deltistes luxatus*) and Shortnose sucker (*Chasmistes brevirostris*) are listed as endangered species under the Endangered Species Act (ESA), as amended (USDI-USFWS. July 18, 1988. Federal Register Volume 53:27130-27134). The proposed Fourmile Creek ACEC is located within lands identified by the U.S. Fish and Wildlife Service as "Proposed Critical Habitat" for the endangered Lost River and Shortnose suckers (USDI-USFWS 1994). Specifically, the proposed Fourmile Creek ACEC is included in Unit Number 4 - Upper Klamath Lake. Although no suckers are known to reside, migrate, or spawn within the confines of the property currently, the proposed Fourmile Creek ACEC does form a small portion of the watershed of Upper Klamath and Agency Lakes. The spring areas are likely historical spawning grounds for endangered Klamath Basin sucker species (Stine 1982). Fourmile Creek is connected to Agency Lake by approximately 7 miles of canal adjacent to drained marshlands. Dikes, levies, and diversions for flood control and irrigation currently prohibit access of listed sucker species to this habitat area. Therefore, critical habitat concerns are those that relate to the impacts of sediment transport and nutrient input on wetlands and water quality of Agency and Upper Klamath Lakes.

Bull trout: Bull trout (*Salvelinus confluentus*) is listed as a threatened species under the ESA, as amended (USDI-USFWS. June 10, 1998. Federal Register Volume 63, Number 111). The text that follows is a summary of findings from the listing designation:

Historical records suggest that bull trout were once widely distributed and exhibited diverse life-history traits in the Klamath River basin. The earliest records of bull trout in the basin are from Fort Creek (formerly Linn Creek), a tributary to the Wood River. Records from the late 1800s suggest that migratory fish (adfluvial) inhabited Klamath Lake. Other migratory bull trout (i.e., fluvial) were evidently present in some of the larger streams in the basin as recently as the early 1970s. Bull trout are thought to have been extirpated from the Sycan

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River, the South Fork of the Sycan River, and four streams in the Klamath River basin (Cherry, Sevenmile, Coyote, and Callahan creeks) since the 1970s

Currently, bull trout in the Klamath River basin occur only as resident forms isolated in higher elevation headwater streams within three watersheds--Upper Klamath Lake, Sprague River, and Sycan River.

Bull trout have more specific habitat requirements compared to other salmonids. Habitat components that appear to influence bull trout distribution and abundance include water temperature, cover, channel form and stability, valley form, spawning and rearing substrates, and migratory corridors. Bull trout are found primarily in colder streams, although individual fish are found in larger river systems. Water temperature above 15 deg. C (59 deg. F) is believed to limit bull trout distribution, which may partially explain the patchy distribution within a watershed. Spawning areas are often associated with cold-water springs, groundwater infiltration, and the coldest streams in a given watershed. All life history stages of bull trout are associated with complex forms of cover, including large woody debris, undercut banks, boulders, and pools. Juvenile and adult bull trout frequently inhabit side channels, stream margins, and pools with suitable cover. These areas are sensitive to activities that directly or indirectly affect stream channel stability and alter natural flow patterns. For example, altered stream flow in the fall may disrupt bull trout during the spawning period and channel instability may decrease survival of eggs and young juveniles in the gravel during winter through spring.

Habitat alteration, primarily through the construction of impoundments, dams, and water diversions that create unsuitable conditions, has fragmented habitats, eliminated migratory corridors, and isolated bull trout often in the headwaters of tributaries.

A remnant population exhibiting only resident life history traits remains in Threemile Creek on Forest Service administered lands. Threemile Creek is a tributary of Fourmile Creek. Fourmile Creek historically contained habitat suitable for bull trout (personal communication John Bowerman USDI-USFWS July 20, 2000).

*Bald Eagle*. The bald eagle (*Haliaeetus leucocephalus*) is federally listed as a threatened species in Oregon and Washington (USDI-USFWS. July 12, 1995. Federal Register Volume 60, Number 133). It is frequently seen at and around the proposed Fourmile Creek ACEC from early November through February. The area offers hunting habitat for the eagle. Although breeding territories have been documented in adjacent areas, no nesting has been documented within the boundaries of the proposed ACEC.

*Spotted Frogs*: The Oregon spotted frog (*Rana pretiosa*), west coast population, is currently a candidate for listing as threatened or endangered under the ESA (USDI-USFWS. October 25, 1999. Federal Register Volume 64, Number 205). A Jack

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Spring/Fourmile Creek population was first documented in 1995. Mark Hayes (1996) conducted a preliminary survey on Forest Service land in the area in 1996. This species has been documented at approximately five localities within the Klamath Basin, each representing relatively small, disjunct populations (Hayes 1996).

Spotted frogs are generally found in slow-moving aquatic edge habitat along streams and marshes or beaver ponds, and where surface water temperatures exceed 20 degrees Celsius (68° F) at least three months of the summer. Water depth is usually one to three feet (Hayes 1995). This frog is often associated with submergent, floating, and low emergent vegetation, which it uses for basking sites and escape cover. Springs and spring-fed stream reaches are likely over-wintering sites and may be a key habitat component. The wetland area associated with Fourmile Creek is a known location for spotted frogs (Hayes 1996).

Habitat identification and surveys for spotted frogs have predominately been conducted on the Winema National Forest near the spring outlets of Fourmile Creek and Jack Springs (Hayes 1996). Spotted frogs (adults and sub-adults) have also been documented within the BLM property from the BLM/Forest Service boundary along Fourmile Creek to the south boundary of BLM ownership, and in the small feeder tributaries which are perennially connected to the main Fourmile Creek channel. Systematic surveys for spotted frogs have been conducted on portions of the proposed Fourmile Creek ACEC.

Yellow Rails: In Oregon, the yellow rail (*Coturnicops noveboracensis*) is classified as "sensitive" by the Bureau of Land Management. According to BLM policy, "sensitive" species include those that could easily become endangered or extinct in a state, are restricted in range, and have threats to their survival. In addition, the yellow rail is an candidate for Oregon state listing as threatened or endangered, and is on List 2 (threatened with extirpation from the state of Oregon) of the Oregon Natural Heritage Program (ONHP). The yellow rail is currently classified as Sensitive Critical under Oregon's Sensitive Species Rule as developed by the Oregon Department of Fish and Wildlife, and a Sensitive Species by the Pacific Northwest Region of the Forest Service. In some eastern and midwestern states, the yellow rail is currently classified as Threatened or Endangered (Popper, James, and Stern 1999).

The yellow rail primarily breeds in the northern United States and southern Canada from the Dakotas east to Maine and New Brunswick. These populations winter along the coast of the southeastern United States (Bookhout 1995). Historically, there were also disjunct breeding populations in southern Oregon and eastern California, with two or three nesting records from Southern Oregon in 1926 (Contreras 1983, Griffiee 1944) and four others in Mono County, California from 1922-1950 (McCaskie et al. 1980). The yellow rail was later thought to be extirpated from the western United States (AOU 1983), until its rediscovery in the Wood River Valley on 19-20 June 1982 (Rogers 1982 as cited in Popper, James, and Stern 1999). The rediscovery of the yellow rail was at the proposed Fourmile Creek ACEC.



Knowledge concerning the general breeding biology of the yellow rail is primarily from studies of the populations in the central and eastern states (Bookhout and Stenzel 1987, Stalheim 1974, Walkinshaw 1939) and Canada (Robert et al. 1995, Robert and LaPorte 1999). Information on yellow rails in Oregon consists of incidental observations by various birders and extensive inventories conducted by the Oregon Natural Heritage Program between 1982 and 1992 (Stern et al. 1993). From 1992 to the present, censusing has continued on an annual basis to determine the number of territorial male yellow rails using the Fourmile Creek wetlands and other suitable habitats in the Wood River Valley. There have also been efforts to classify habitat needs, locate nest sites, determine site fidelity and longevity of individuals, and estimate population size.

The wintering area for rails that breed in Oregon is unknown. There are, however, historical sightings of yellow rails from the coastal marshes in California including the San Francisco Bay (Grinnell and Miller 1944), and more recent sightings of lone birds along the coast in Humboldt and Medocino Counties (Harris 1996) and further south. These winter records from coastal California represent the closest and most logical wintering sites for rails breeding in south-central Oregon.

Studies of rails in the Fourmile Creek wetlands have indicated that the majority of territorial male yellow rails are present on the proposed Fourmile Creek ACEC. As of 1999, the population of yellow rails in the Wood River Valley (of which the proposed Fourmile Creek ACEC has the highest number and concentration of rails) was one of only three breeding sites west of the Rocky Mountains. The other two sites are the Klamath Marsh and Sycan Marsh. As of 1999, it was estimated by Popper and Stern that the total breeding population of yellow rails at known sites in Oregon was 200 to 250 pairs (Popper, James, and Stern 1999).

The yellow rail has specific requirements for water depth, amount and type of vegetative cover, and senescent vegetation required for nesting. Proper water depth is a strong determining factor for rail presence. In addition to these specific habitat requirements, this species has been determined to have a high site fidelity and a short life span. Between 1995 and 1999, 86% of the maximum number of rails heard in the Wood River Valley were captured and banded. The return rate for birds banded more than one year previous was only 1% which may reflect a short life span for this species (Popper, James, and Stern 1999).

The population of yellow rails at the proposed Fourmile Creek ACEC has fluctuated considerably during the years they were studied in the 1990s. Considering the small population size of this species in Oregon, the species' low survivorship, short life span, and susceptibility to yearly changes in habitat, and the losses of over 85% of the native wetlands in the Upper Klamath Basin (Bottorff 1989), managing the proposed Fourmile Creek ACEC in a way that it is compatible with the needs of the yellow rail is a key component for the long-term survival of this disjunct population.

Greater Sandhill Crane. The Greater Sandhill Crane (*Grus canadensis tabida*) is a State Sensitive (vulnerable) species, and is on List 4 (of conservation concern, but not currently threatened or endangered) of the ONHP. Greater Sandhill Cranes have been observed using the proposed Fourmile Creek ACEC for foraging and nesting.

## Plants

There are no known populations of federally listed Threatened or Endangered plant species on the proposed Fourmile Creek ACEC. However, two populations of fringed campion (*Silene nuda* ssp. *insectivora*), a Bureau tracking species, have been identified on the property.

Although no natural populations have been found, redroot yampah (*Perideridia erythorrhiza*), a Bureau sensitive species, occurs at the nearby Pelican Barn site on the national forest in similar habitat to that found on the southern portion of proposed Fourmile Creek ACEC. The proposed Fourmile Creek ACEC was included in a Challenge Cost Share (CCS) project to establish reintroduction sites for *Perideridia erythorrhiza* on lands managed by each federal cooperator, using propagation and cultivation techniques developed by the Oregon Department of Agriculture (ODA) in 1997. Experimental plantings of red root yampah were initiated in the fall of 1998, and are being monitored for establishment success

**Conclusion.** The presence and significance of both the populations and habitat of shortnose and Lost River suckers, bull trout, bald eagle, Oregon spotted frog, yellow rail, greater sandhill crane, fringed campion, and red-root yampah satisfy the criterion for relevance.

## NATURAL PROCESSES AND SYSTEMS

**Hydrologic Processes.** Stream channel form, function, and composition can be described using the Rosgen Stream Classification System (Rosgen 1994). Stream morphology classifications were made using information gathered in a Level 1 inventory based on Rosgen (1994). These delineations provide a broad characterization of channel type that integrates the landform and fluvial features of valley morphology with channel relief, pattern shape, and dimension.

Field measurements taken in 1997 on two representative reaches of Fourmile Creek resulted in a Level II classification of the BLM reach of Fourmile Creek as a C6c-system according to Rosgen (1994). The C6 stream type is a slightly entrenched, meandering, silt-clay dominated, riffle-pool channel with a well developed floodplain. C6 stream channels with gradients <0.001 are denoted as a C6c- type. According to Rosgen (1996), many C6 stream types are associated with a high organic component, such as peat. The C6 stream type occurs in broad valleys, plains and delta areas with

a history of riverine, lacustrine, and eolian deposition (loess). The C6 stream type can be found in very low relief basins associated with marshes and other wetland complexes. Sensitivity to disturbance is very high in this type, and vegetation has a very high influence on bank stability and width-to-depth ratio. The C6 stream type is very susceptible to shifts in both lateral and vertical stability caused by direct channel disturbance and changes in the flow and sediment regimes of the contributing watershed (Rosgen 1996).

**Riparian and Wetland Processes.** According to BLM Technical Reference 1737-11, "Federal Policy defines wetlands as areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." (USDI-BLM 1994). The entire proposed Fourmile Creek ACEC exhibits wetland and/or riparian characteristics, with the exception of the estimated 2-4 percent of the area that has the Collier loamy-sand soil type. For most of the year, much of the proposed Fourmile Creek ACEC is inundated by high ground water. These high waters tend to recede in July, reach a low level in September, and then begin rising again in the fall of the year.

The property is dissected by Fourmile Creek (a perennial spring creek) and by Crane Creek. Crane Creek is intermittent, as water at times is entirely diverted from it by neighboring landowners. Both creeks were formally classified in 1997 using the Bureau's Proper Functioning Condition assessment outlined in Technical Reference 1737-9 (USDI-BLM 1993). All of the Fourmile Creek was classified as "proper functioning condition", although the creek is speculated to be aggrading (streambed elevation is increasing) due to a lack of adequate flow to move sediments through the system. The lack of flow is due to the diversion of flows for irrigation purposes. In addition, historic grazing on the property and the lack of woody vegetation (e.g. willows) along the bank has probably caused the stream channel to increase in width. Crane Creek was rated as "functional - at risk"; also due to water diversions for irrigation.

These riparian and wetland processes support a complex of native wet meadow plant communities described by Kovalchik (1987), including significant areas of the Nevada rush (*Juncus nevadensis*) association (MW39-11), the short-beaked sedge (*Carex simulata*) association (MM29-15), and the beaked sedge (*Carex utriculata* syn. *C. rostrata*) association (MW19-24). There are also smaller areas of the Nebraska sedge (*Carex nebraskensis*) community type (MM29-12), and the common (or creeping) spike rush (*Eleocharis macrostachya* syn. *E. palustris*) association (ME49-12). While none of these plant communities are rare, this complex of native wet meadow plant communities occurs within a landscape in the upper Klamath River Basin where similar habitats have been converted to pasture grasses utilized by livestock, or conservation areas (e.g., wildlife refuges) which are dominated by freshwater marsh vegetation characterized by hard stem bulrush (*Scripus acutus*), burreed (*Sparganium eurocarpum*), and cattail (*Typha latifolia*). These plant communities which occur on the proposed Fourmile Creek ACEC also support the diversity of wildlife species noted in

the previous section. The short beaked sedge association is particularly important as habitat for the yellow rail (Popper, James, and Stern 1999).

**Conclusion.** The hydrological functions are susceptible to disturbance. These functions, however, are not uncommon and, as such, do not meet the criterion for relevance. However, the riparian and wetland ecosystem processes meet the criterion for relevance since they support a diversity of native wet meadow communities which provide habitat essential for maintaining wildlife species diversity, including habitat for a special status species. The relevance criterion for the occurrence of a natural process or system is met.

## **NATURAL HAZARDS**

No natural hazards in the proposed ACEC have been identified.

**Conclusion.** The relevance criterion for the occurrence of natural hazards is not met.

## **IMPORTANCE**

The value, resource, system, process, or hazard described under the Relevance Criterion must have substantial significance and value to satisfy the Importance criteria. This generally means that the value, resource, system, process, or hazard is characterized by one or more of the following:

1. Has more than locally significant qualities which give it a special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.
2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.
3. Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of the Federal Land Policy and Management Act.
4. Has qualities that warrant highlighting to satisfy public or management concerns about safety and public welfare.
5. Poses a significant threat to human life and safety, or to property.

## SCENIC VALUES

There are relatively few remaining natural appearing landscapes of the wetland/riparian plant community type located in the Upper Klamath viewshed. The vast majority of nearby properties, along with similar properties found basinwide have been extensively modified for agriculture or livestock production purposes. These modifications typically drastically alter native plant communities, and further change the scenic attributes of the area through ranch/farm land property developments. These modifications have greatly reduced the natural landscape and associated scenic attributes found in this viewshed. This rare quality, along with the nearby location of the Volcanic Legacy National Scenic Byway, makes the scenic resources of the proposed Fourmile Creek ACEC fairly unique for this region, and worthy of protection.

**Conclusion.** The scenic values satisfy the importance criterion.

## WILDLIFE RESOURCES

There are four special status animal species that have been documented as utilizing the habitat offered by the proposed Fourmile Creek ACEC. These include one species federally listed as endangered (bald eagle), one species is a federal candidate for listing as threatened or endangered (spotted frog), one species is a state candidate for listing as threatened or endangered (Yellow Rail), and one species is a state sensitive species (Greater Sandhill Crane).

The proposed Fourmile Creek ACEC is also located within lands identified by the U.S. Fish and Wildlife Service as "Proposed Critical Habitat" for two species federally listed as endangered (Lost River and Shortnose suckers).

The proposed Fourmile Creek ACEC offers habitat currently being utilized for the experimental field propagation of one species that is Bureau sensitive (red root yampah).

**Conclusion.** The wildlife habitat and population values on the proposed Fourmile Creek ACEC have more than local significance. Several of the species are threatened, endangered, or sensitive and would be vulnerable to adverse changes in habitat. These values satisfy the importance criterion.

## NATURAL PROCESSES AND SYSTEMS

**Hydrologic Processes.** Field measurements taken in 1997 on two representative reaches of Fourmile Creek resulted in a Level II classification of the BLM reach of Fourmile Creek as a C6c- system according to Rosgen (1994). Sensitivity to disturbance is very high in this type, and vegetation has a very high influence on bank

stability and width-to-depth ratio. The C6 stream type is very susceptible to shifts in both lateral and vertical stability caused by direct channel disturbance and changes in the flow and sediment regimes of the contributing watershed (Rosgen 1996).

**Riparian and Wetland Processes.** The proposed Fourmile Creek ACEC supports a complex of native wet meadow plant communities. These native wet meadow communities occur within a landscape in the upper Klamath River Basin where similar habitats have been converted to pasture grasses that are heavily utilized by livestock, and conservation areas (e.g., wildlife refuges) which are dominated by freshwater marsh vegetation characterized by hard stem bulrush (*Scripus acutus*), burreed (*Sparganium eurocarpum*), and cattail (*Typha latifolia*). The plant communities within the proposed Fourmile Creek ACEC also support a diversity of wildlife species including special status species. The short beaked sedge association is particularly important as habitat for the yellow rail (Popper, James, and Stern 1999).

**Conclusion.** Hydrologic processes on the potential ACEC are fragile and subject to adverse change. The riparian and wetland processes are unique and rare in the province, support habitat for special status species that are of more than local significance, and riparian and wetland resources have been recognized as warranting protection to satisfy national priority concerns. The importance criterion for natural processes or systems is met.

## SUMMARY

It is only necessary for an area to meet the relevance and importance criteria for one value to qualify as an ACEC. The proposed Fourmile Creek ACEC has been found to meet the relevance criterion for scenic values, fish and wildlife resources (both populations and habitat), and a natural process or system (riparian and wetland processes). The proposed Fourmile Creek ACEC has also been found to meet the importance criterion for scenic values, fish and wildlife resources, and a natural process or system.

## CONCLUSION

The proposed Fourmile Creek ACEC meets BLM's relevance and importance criteria for designations as an area of critical environmental concern. Consequently, the area is recommended for further evaluation as an area of critical environmental concern in a plan amendment to the Upper Klamath Basin and Wood River Wetland Resource Management Plan/Environmental Impact Statement, approved in July, 1995.

Under the existing Upper Klamath Basin and Wood River Wetland Resource Management Plan, the identified relevant and important values within the potential ACEC may not be adequately protected from long-term degradation. The proposed

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Fourmile Creek ACEC was not specifically included in the designated Wood River Wetland ACEC, and therefore was open to application for livestock grazing use as general public lands. The Upper Klamath Basin and Wood River Wetland Resource Management Plan states (page S-2) that "*Newly acquired lands in this area will be managed for consistency with management objectives of nearby BLM-administered land.*" The Wood River Wetland ACEC is the nearby BLM-administered land relative to the proposed Fourmile Creek ACEC. The plan also goes on to state "*If lands with unique or fragile resource values are acquired, the BLM would protect or enhance those values until the next plan revision.*" This statement describes the proposed Fourmile Creek ACEC. Therefore, interim management has and will continue to exclude livestock grazing until a resource management plan amendment can be completed. The record of decision for the plan amendment will replace interim management and management direction in the Upper Klamath Basin and Wood River Wetland Resource Management Plan.

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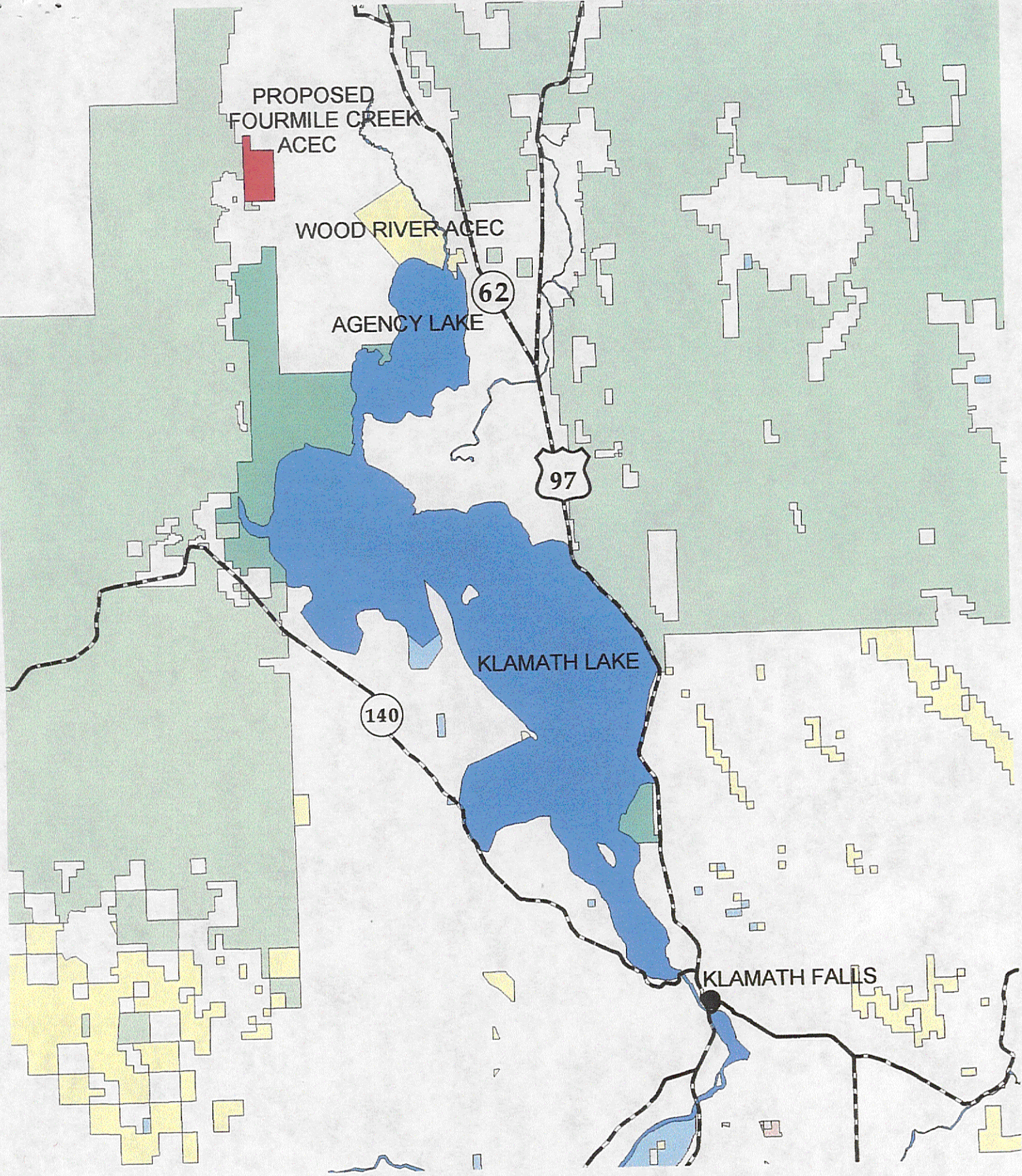
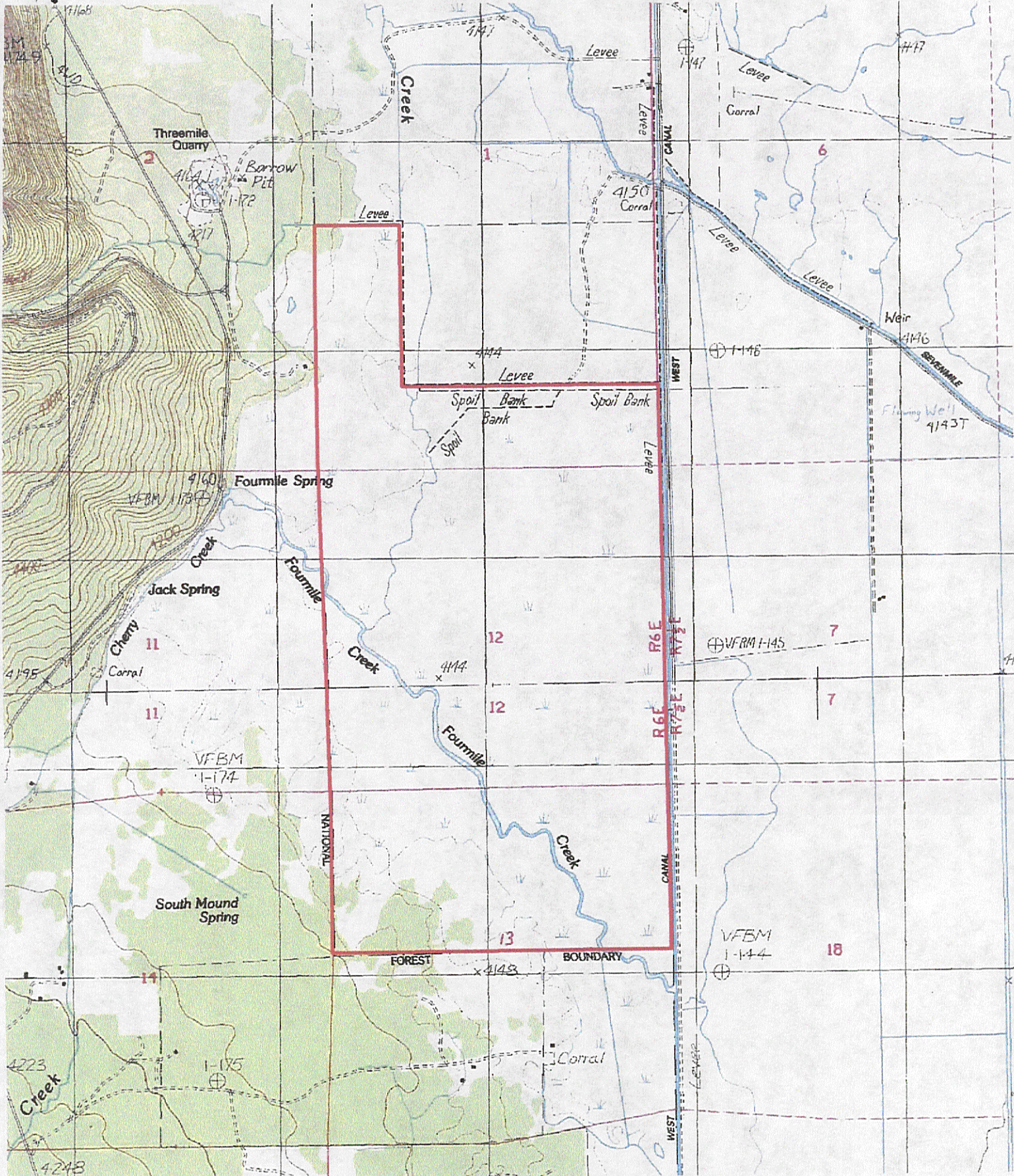


Figure 1. Location of Proposed Fourmile Creek ACEC





Scale 1:24,000

Figure 2. Proposed Fourmile Creek ACEC