

Section 3: Hazard, Vulnerability and Risk Assessment

Hazards

Wildfire –Wildfire is an unplanned or unwanted natural or human-caused fire, or a prescribed fire that threatens to escape its bounds.

Drought - Drought, a *prolonged period of dryness*, is a normal part of almost every climate and is actually defined in many different ways. Environmental impacts of drought are the result of damages to plant and animal species, wildlife habitat, and air/water quality; forest and range fires; degradation of landscape quality; and soil erosion.

Vulnerabilities

The following general categories were examined in detail to determine specific vulnerable areas within Jefferson County:

- Developed recreation sites
- Summer home sites
- Designated communication sites
- Municipal watersheds
- Private land with structures
- Timber areas
- Above-ground utility corridors
- High-use travel corridors
- Historic areas
- Range land
- Wildlife habitat
- Conservation Reserve Program (CRP) land

Heise/Lorenzo Riparian Area – WUI Vulnerability Zone 1

An evaluation of the Heise/Lorenzo area found the same basic conditions as were reported in 2000 by the Dynamac Corporation. Most of the homes are located adjacent to or are visible from major roads. The riparian areas located between Kelly Mountain and the Menan Buttes consist of predominantly



agricultural lands with homes along the river. These homes typically have access to county major roads. This extremely large wildland/urban interface vulnerability zone has significant light fuel loading. Many of the homes are built in the trees and fronted by agricultural croplands. There appears to be little if any defensible space around these homes. Most of the homes have good road access and the response times to the structures is reported to be approximately 20 minutes. There are no hydrant systems in this area. The Snake River and surrounding irrigation canals provide seasonal water supplies.

Based on information obtained from the 2000 Heise/Lorenzo Riparian Area Risk Assessment, conducted by the Dynamac Corporation, the proposed mitigation projects in order of priority were:

- ❑ Fuels reduction practices within public and private lands.
- ❑ Develop and maintain water storage tanks at specific locations to reduce the time needed for water transport.
- ❑ Develop an ongoing education and outreach program throughout the assessment area to encourage firewise practices.

These proposed projects have not yet been implemented.

Roberts Riparian Area – Vulnerability Zone 2

The Roberts Riparian Area includes the confluences of both the North Fork and South Fork of the Snake River. It has significant light brush and heavy marsh grass fuel loading. Many of the homes are built in the trees and fronted by agricultural croplands. There appears to be little if any defensible space around most of the homes. Most of the homes have good road access and the response times to the structures is reported to be approximately 20 minutes. There are no hydrant systems in this area. The Snake River and irrigation canals provide seasonal water supplies.

Menan/Deer Park Wildlife Mitigation Unit – Vulnerability Zone 3

This area encompasses the marsh and agricultural areas north of the City of Menan between the Snake River and the Menan Buttes. The area has heavy marsh grass fuel loading, light timber and brush. The area is dedicated to management of deer populations. There are several structures on the boundaries of these areas.

Market Lake Wildlife Management Area – WUI Vulnerability Zone 4

The Market Lake Wildlife Management Area is located in Jefferson County, north of Idaho Falls (exit I-15 at Roberts). Partners in Flight designated it in 1998 as a “Globally Important Bird Area.” More than 1% of the biogeographic populations of Snow Geese use the Market Lake area during the spring, and more than 1% of the biogeographic breeding populations of White-faced Ibis nest in the surrounding area. More than 50,000 Snow Geese migrate through each year, and more than 500 pair of Ibises nest there. In addition to these species, more than 4,000 Tundra Swans and 100 Trumpeter Swans migrate through the Market Lake area. There is a quarter mile access trail for the physically disabled that runs through a bird-rich poplar and willow shelterbelt. In addition, there is more than two miles of hiking trails.

The management area has significant fine fuel loading. However, most of the year the area is extremely moist and would be difficult to burn. In the late fall, the fuels are combustible. The area does not contain any permanent structures and the surrounding private lands are used primarily for agricultural purposes.



Mud Lake Wildlife Management Area – WUI Vulnerability Zone 5

Mud Lake WMA is located three miles north of Mud Lake and Terreton. The Management Area (WMA) was established primarily to preserve and improve nesting habitat for waterfowl. In 1940, the Idaho Department of Fish and Game purchased 607 acres of wetlands, creating Mud Lake WMA. Through the years, acquisition of adjacent land parcels, together with lease agreements and a withdrawal of lands from the US Bureau of Land Management have expanded Mud Lake WMA to its present 8,853 acres.

The habitats of Mud Lake WMA vary from bulrush, cattail, sedge, and saltgrass-filled sloughs in moist areas, to sagebrush, rabbitbrush, bitterbrush, and greasewood communities in dry, upland areas. Waterfowl such as trumpeter swans, mallard, northern pintail, gadwall, wigeon, northern shoveler, redhead, and ring-necked ducks can be seen at Market Lake WMA. Red-tailed and Swainson's hawks frequently nest in the area as well. Larger game can also be seen, mule deer, white-tailed deer, and pronghorn antelope.

The management area has significant fine fuel loading. However, most of the year the area is extremely moist and would be difficult to burn. In the late fall, the fuels are combustible. The area does not contain any permanent structures and the surrounding private lands are used primarily for irrigated agriculture purposes.

Risk Assessment

Heise/Lorenzo Riparian Area – WUI Vulnerability Zone 1

- Dense fuel loading
- No defensible space
- Seasonal static water supply
- One way in and out
- No evacuation planning

Roberts Riparian Area– WUI Vulnerability Zone 2

- Dense fuel loading
- No defensible space
- Seasonal static water supply
- One way in and out
- No evacuation planning

Menan/Deer Park Wildlife Mitigation Unit – Vulnerability Zone 3

- Dense fuel loading
- No defensible space
- Seasonal static water supply
- No evacuation planning

Market Lake Wildlife Management Area – WUI Vulnerability Zone 4

- Light fuel loading
- One way in and out
- No evacuation planning

Mud Lake Wildlife Management Area – WUI Vulnerability Zone 5

- Light Fuel Loading
- One way in and out
- No evacuation planning

For the purpose of quantifying the risk in each of the areas examined, wildland/urban interface zones have been developed. See the following map. An expanded view of the map is available in Appendix 6.

Jefferson County Wildfire Mitigation

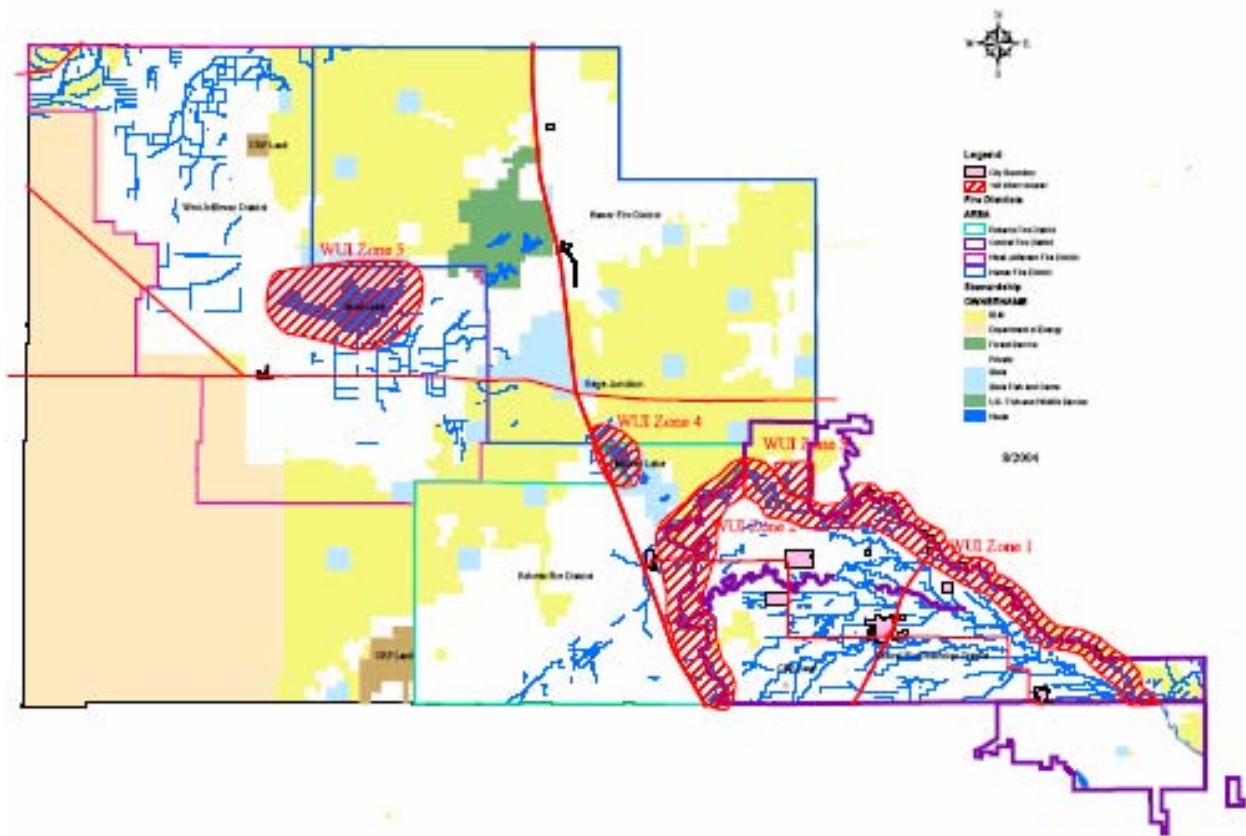


Table 1 is the evaluation of risk probability versus consequence. It will be used as a discussion tool with the Interagency Planning Group in establishing mitigation action priority. The table compares the identified hazard with the potential threat to life, property, and the environment. Future risk analysis efforts will better define the targets of consequence to specific risk. The ranking criteria are presented in Table 2.

Table 1 Risk Ranking

Identified Hazards	Risk Analysis			
	Life Safety	Property Damage	Environmental Damage	Economic Impact
WUI Vulnerability Zone 1	High	High	High	High
WUI Vulnerability Zone 2	High	Medium	High	Low
WUI Vulnerability Zone 3	Medium	Medium	High	Low
WUI Vulnerability Zone 4	Medium	Medium	High	Low
WUI Vulnerability Zone 5	Medium	Medium	High	Low

Table 2 Ranking Criteria

Consequence Criteria		
Life Safety	Low	Injuries limited to the area of effect. < 10
	Medium	Serious injuries >10
	High	Multiple fatalities, critical and serious injuries
Property Damage	Low	Minimal damages
	Medium	Structural damages evident
	High	Loss of structure
Environmental Damages	Low	Minimal impact at area of effect
	Medium	Regional damage
	High	Long-term recovery. Requires significant after action
Economic Impact	Low	Economic impact minimal
	Medium	Loss of business
	High	Regional long term loss