

## Recommendations

The following are recommendations from the Watershed Analysis update team; these correspond with the questions that structure this update

### Question #1

- Complete NEPA and repair the Echo Creek culvert. (p.24)
- Conduct annual surveys to identify and map primary Bull Trout spawning and rearing habitat in the Middle Fork from below the gorge to Swift Creek. Monitor spawning populations.
- Conduct a groundwater surveys to identify and map upwelling areas that could be used by Bull Trout in the Upper Middle Fork watershed.

### Question #2

The guidance for Bull Trout recovery rests in the USFWS Bull Trout recovery plan. The Middle Fork supports the Draft Recovery Plan from USFWS and will follow that plan with the action items below:.

- Implement the U.S.F.W.S. Bull Trout Recovery Plan.
- Key elements to be implemented on the District include protection of high quality habitat, reduction in road densities, barrier removal, adaptive management, and monitoring.
- Increase efforts in public education through information/interpretation of the Bull Trout fishery with emphasis in the high quality habitat areas.
- Explore opportunities to evaluate special emphasis areas around high quality Bull Trout habitat.

### Question #3 and #6 Combined

- Complete an ATM analysis using the map generated in figure 3-1 as a guide prioritizing road systems that are directly tributary to Bull Trout habitat. These are areas delineated in the “High Quality Habitat”, (polygons designated in black, figure 3-1, p.22).
- Develop a road maintenance plan.
- Apply for watershed restoration grants to obtain funding for Bull Trout habitat restoration (pp.17).
- Encourage partnerships and collaborative efforts that facilitate fish passage around the dams located below the watershed.

## Upper Middle Fork Watershed Analysis Update

- Repair two sites on Swift Creek and one on Echo Creek, for fish passage (pp24.). The remaining 9 will be treated to support fish passage in the future. All are scheduled for replacement as funding becomes available.
- Prioritize funding in the sixth field watersheds 23-6, Echo Creek and 23-5 Swift Creek, which have higher road aquatic risk ratings (Table 3-1).
- Conduct annual surveys to identify and map primary spawning and rearing habitat. Continue to monitor to determine if temperature is an issue in these areas (pp28).
- Continue to work cooperatively with state and federal agencies (pp.19).
- Utilize riparian silviculture treatments (density control) to encourage development of future large wood.
- Utilize density management treatments in 35-80 year old stands to encourage stand structural development, complexity (snags and downed wood), favor minor species, under-planting, reduce fire risk, and reduced risk of loss from insect and disease damage.
- Monitor use of the six dispersed recreation sites listed in high quality Bull Trout habitat (pp22).
- Where appropriate, apply riparian silviculture treatments to enhance stream shading vegetation, this can include planting, thinning, and fertilization.
- Complete the Middle Fork water quality restoration plan. (p.22)
- Work collaboratively with other agencies to improve public awareness of bull trout value and habitat restoration by placing interpretive signs at dispersed campsites. (p. 24)

### Question #4

- Focus large wood restoration in/around high quality habitat refugia.

### Question #5

- Implement large woody in-stream projects that focus on full tree lengths where root wads are attached. Projects to introduce big wood (>24”) are needed in reaches 5, 8, 11, and 14; corresponding to the reaches Staley Creek to Swift Creek, Tumblebug Creek to Middle Fork gorge, and Lower Paddy’s Valley (p. 32).

## Upper Middle Fork Watershed Analysis Update

- Using adaptive management, experiment with different methods to hold wood jams in the Upper Middle Fork river channel.
- Modify upland woody debris levels based on Fire history (p.36) in the Upper Middle Fork watershed, Northwest Forest Plan ROD (ROD C-40). Opportunities to vary the woody debris requirements in the Upper Middle Fork would follow levels outlined in the table below.

Proposed Modification of Large Wood Levels in Upper Middle Fork			
Plant Association	Site Class 1	Site Class 2	Site Class 3&4
PSME/TSME	135 ft./ac.	90 ft./ac.	40 ft./ac
TSHE/ABAM	320 ft./ac.	210 ft./ac.	105 ft./ac.
ABGR	200 ft./ac.	130 ft./ac.	60 ft./ac.

### Question #7

- Retain current riparian widths using average forest site tree widths.

### Question #8

- Conduct intensive site-specific analysis and cumulative effects analysis when proposing to reduce crown closure within the 23-6 watershed (Willamette National Forest Plan, Appendix E).

### Question #9

- At the extensive inventory level; use the 1996 Watershed Analysis mapping that provides a sixth field landscape analysis of the Upper Middle Fork slope stability. This analysis is contained in the Upper Middle Fork WA, 1996, Appendix A. At the intensive project level, complete field inventories of soil stability.

### Question #10

- Implement prescriptions that emphasize species diversity and near term development of large wood sources for future in-stream wood in riparian and downed woody in the upland matrix habitat. Habitat structure, vertical diversity, connectivity and late-successional stand characteristics can be enhanced using variable density management prescriptions. (p.54 )
- Monitor response of riparian thinning in terms of stand growth, understory development, and vigor. Adjust thinning schedules so that riparian treatments rotate through landscapes as treated stands close canopy. Adjacent stand riparian areas need IDT analysis if treatment is planned within 10 years of each other for cumulative effects.
- Heavy thinning treatments in riparian reserves and late successional reserves need to be considered, (20% RD), where suppressed shade tolerant seedlings and saplings exist, for release of understories.

## Upper Middle Fork Watershed Analysis Update

There may be secondary needs for this heavy thinning treatment, such as across landscapes in designated future connectivity corridors in the upland matrix (Swift Creek, and Pioneer Creek)(pp.56&57).

- Many silvicultural prescription alternatives exist on droughty, Douglas-fir climax sites. This includes mechanical removal of competing Douglas-fir. This could be done in groups or over stands areas or localized around residual ponderosa and sugar pine. A treatment zone of 75' from the drip line of large over story mixed conifer pine in the Upper Middle Fork is a second option in LSRs or scenic areas. This treatment needs to be accomplished across the mixed conifer forest type. A range of 70-120 B.A. ft.<sup>2</sup>/ac. could be the target stocking where entire stands are treated. In LSRs it may be necessary to cut green trees in the co-dominant and intermediate crown class to get stocking low enough to reduce competition. In riparian reserves, some partial cutting is also judiciously prescribed around over story pine. Repeated under-burning is needed in this type (pp60.).
- Due to elevated fuels accumulation and fuel ladders across the Upper Middle Fork, mechanical removal of green trees and slash will be needed before repeated under-burning can be accomplished. Subsequent thinning of the understory can be accomplished with a drip torch (pp. 60)

### Question #11

- Follow the USFWS Draft Bull Trout Recovery plan pertaining to monitoring (p60).
- Continue with inter-agency monitoring, collaborative learning, and public participation efforts (p.18)

### Question #12

- Acceptance of the Lynx Biology Team recommendation and current direction results in exemption from conservation measures listed in the LCAS as they may have applied to the small amount of acreage that otherwise met the criteria for lynx habitat within watershed 23 or elsewhere on the Forest. However, if lynx are detected, consultation on that site-specific project will be initiated with FWS to ensure protection of the individual under provisions of the ESA.

### FWS Terrestrial Concern – # 13 *reinterpreted*

#### Question # 13

- Evaluate future transportation projects (road and trail) following a process, such as that outlined by Youmans (1999), as a step towards reducing the potential for adverse impacts to rare forest carnivores. (p.73)
- Incorporate considerations regarding impacts to rare native forest carnivore habitat into the ATM process when evaluating transportation systems in the watershed. (p.73)

## Upper Middle Fork Watershed Analysis Update

- Because of the importance of large mammals as principle prey species in the diet of rare native forest carnivores (particularly wolverine), follow through on recommendations made in the 1996 Watershed 23 Analysis pertaining to road closures necessary to meet current elk emphasis area Standards and Guidelines.
- Increase emphasis for road closures to enhance big game populations and to bring open road densities into compliance with current Forest Plan Standards and Guidelines.
- With respect to management practices that would result in long-term beneficial effects for rare native forest carnivores such as fisher and wolverine, continue to consider the recommendations presented in the 1996 Watershed 23 analysis (pp 103-106) pertaining to stand characteristics, fragmentation and interior forest habitat, upslope and interdrainage connectivity, riparian reserves, terrestrial large woody material, non-forested special habitats and wildlife species.
- Consider and incorporate management practices that recognize specific habitat requirements of prey species for fisher and wolverine in future vegetation management planning.
- Management supporting the viability of rare native forest carnivore species such as fisher and wolverine cannot be accomplished within a single 5<sup>th</sup> field watershed such as the Upper Middle Fork of the Willamette. Because these species have extremely large home ranges in proportion to their body size, and considering that the largest ranges may occur in the poorest quality habitat (Powell and Zielinski 1994), effective management for these species will ultimately require a coordinated ecosystem approach across the landscape. It is recommended that managers better address this approach through a strategy such as that presented by Heinemeyer and Jones (1994) or Lyon et al. (1994) by integrating a planning process modeled on Youmans' (1999) that is responsive to applicable regulation and policy (Joslin 1999). (p.74)
- It is recommended that surveys to detect the presence of fisher and wolverine be initiated in order to establish a current understanding of occupancy by these rare native forest carnivores in Watershed 23.
- It is recommended that a review be conducted of existing Willamette National Forest Standard and Guidelines for Management Areas 2a and 2b, as well as OCRA Management Plan Direction, and action taken to resolve conflicting objectives with respect to wolverine habitat management.
- Evaluate future recreation projects following a process such as that outlined by Youmans (1999) as a step towards reducing the potential for adverse impacts to rare forest carnivores.
- A prioritized approach to future management activities within Watershed 23 is recommended that would respond to the rank of potential wolverine denning habitat zones (6<sup>th</sup> field watersheds) based on the current assessed level of impacts to habitat.

## Upper Middle Fork Watershed Analysis Update

- Limits of Acceptable Change (LAC) inventories of dispersed recreation sites throughout Watershed 23 (particularly in 6<sup>th</sup> fields 23-3 and 23-5) should be completed and reviewed to identify where potential negative impacts to rare native forest carnivores may exist. It is recommended that an interdisciplinary review of LAC inventories identify potential areas for obliterating as a step towards reducing the potential for human disturbance near fisher and wolverine denning habitat.

### Question #14

- Continue to assess need and implement projects that would reduce the potential for catastrophic disturbance, especially fire, within LSRs RO221 and 222. These LSRs will be important in the future in providing habitat for the spotted owl, especially as projects continue to alter or remove suitable habitat in matrix lands. From a vegetation standpoint, a significant portion of this watershed exists in mixed conifer stands, more indicative of forest conditions to the south in the Southern Oregon Klamath Province. The ROD identifies the need to take additional measures in those LSRs where levels of risk are particularly high. “Consequently, management activities designed to reduce risk levels are encouraged in those Late-Successional Reserves even if a portion of the activities must take place in currently late-successional habitat (USDA, 1994).” (p.88)
- Assess fuel loadings adjacent to these areas and establish priorities for treatment of those fuels where loadings and risks are high for potential loss of reserved LSRS habitat. Higher priority areas to treat may be in mixed conifer stands with evidence of frequent historic fire occurrence or late-successional forest stands with high fuel loadings. (p.88)
- As site-specific planning is implemented in the watershed, consider silvicultural prescriptions that might degrade instead of downgrade (for instance moving from nesting habitat to foraging habitat); or remove suitable habitat (where it still functions as habitat). Consider these prescriptions as treatments in designated critical spotted owl habitat. (p.89)
- Consider harvest areas that would avoid blocks of nesting habitat as identified in Figure 14-3 in the short term (10-30 years). If entry is necessary in these blocks, consider entry into smaller blocks first, while maintaining the larger, more contiguous nesting habitat as alternative core areas in case of LSRS loss. Consider entry into foraging habitat first and reduce impacts to NRF habitat. Consider maintaining blocks that are immediately adjacent to known spotted owl activity centers as priority. As the riparian reserve system begins to function as intended in the NWFP, maintaining blocks of habitat outside of the RR system may not be as critical in the long run. (p.88)