

CHAPTER 11

SUMMARY OF WATERSHED CONDITIONS

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SUMMARY

Many of the critical watershed components within the SBW are currently unknown. Historical conditions have documented a watershed heavily mined, quickly populated, supporting agriculture, timber harvesting, and fisheries. The ramifications of these land use practices are still present, but have largely not been quantitatively evaluated within the SBW.

Limited data are available for the SBW related to water quality, water quantity, sedimentation sources and loading, riparian conditions, fish habitat and distribution, and the impact of past and present land uses on the various components of the watershed. Available information is highly variable both in time and space and has been collected by numerous groups for a wide range of applications. A significant effort is needed to field verify most of the information compiled for this assessment.

A list of data gaps and suggested recommendations for action plan development were provided at the end of each chapter. For the purposes of Action Plan development the data gaps and recommendations are reiterated below for reference. It is critical that a well focused Action Plan be developed if the condition of the watershed is to be further understood. It is even more critical that a well designed and **implementable** program be developed if conditions within the watershed are to be improved. As the term Action Plan

implies, actions must be taken to further expand our understanding of the many facets of the watershed. This can only be accomplished by strong leadership from the Board of Directors, an enthusiastic volunteer program, development of good working relationships with state and federal agencies, and a vigorous education and community outreach program.

DATA GAPS

Chapter 3: Channel Habitat Type Classification

- Channel confinement designations have not been determined.
- Field verification has not been conducted for any CHT classifications.
- Stream size was not incorporated into this analysis due to the unavailability of ODF Stream Classification maps for the SBW.

Chapter 4: Hydrology and Water Uses

- Stream gage information is not available for all streams in the SBW. Historical data exists only for Evans Creek.
- There are no accurate records of the actual number of wells located in the SBW. A detailed well inventory documenting locations is not available.
- No information is available regarding the amount of water used as a result of exempt uses in the watershed. A survey should be conducted to quantify this gap.

Chapter 5: Riparian

- Riparian Conditions Assessment has not been completed for the entire SBW.
- Riparian Conditions Assessment must be mapped.
- Riparian Conditions Assessment must be ground truthed.
- Habitat surveys have only been located for six years (1994-2000). Recent riparian conditions need to be evaluated.
- All streams throughout the watershed need evaluation as conducted by DEQ in the Riparian Condition Assessment of 303(d) listed streams.
- 303(d) streams have not been mapped in relation to riparian condition.
- Riparian condition of 303(d) streams has not been ground truthed.
- Broad community education of importance of riparian areas and effects of land use practices on riparian areas is needed.

Chapter 5 (cont.): Wetlands Assessment

- National Wetlands Inventory Map is not complete.
- Baseline wetland water quality data is not available.

Chapter 6: Impact of Wildfire

- Fuels research.
- Comparison of efficiency of fuels reductions methods within the watershed.
- Community education of the benefits of fuels reductions.
- Affects of fire on soils, erosion potential, and slope stability.

- Inventory of current water change locations within the SBW.
- Impacts of fire on water quality.
- Understanding of cumulative effect of fire on salmonid habitat.

Chapter 7: Sediment Sources

- No comprehensive field inventory or mapping of recent and historical landslides and severely eroded terrain is available.
- Quantification of landslide and erosion rates for both anthropogenic and natural areas has not been conducted.
- Inventory of roads by type, road density, and distance from riparian areas has not been completed.
- Mapping and evaluation of mine properties located upstream from major barrier structures is insufficient to evaluate impacts on stream sediments and aquatic habitat.
- Geochemical characterization of sediments behind dams that may be impacted by mine tailings has not been conducted.
- Inventory and mapping of streambank erosion has not been completed.

Chapter 8: Channel Modification Assessment

- The exact type and significance of each of the 645 modifications detected from the topographic map inspection is unknown.
- Topographical map inspections for channel modifications are lacking for a portion of the watershed.
- Information concerning channel modifications other than stream crossings and barriers to fish passage is lacking.

- Analysis of aerial photographs and field verification of identified channel modifications has not been conducted.

Chapter 9: Water Quality

- Water quality data are completely lacking for Rogue-Table Rock subwatershed, Evans-May/Sykes subwatershed, and Evans-Rock/Salt subwatershed.
- Limited and/or historical water quality data are available for Evans Creek-Upper subwatershed, Evans Creek-Lower subwatershed, West Fork Evans subwatershed, Pleasant Creek subwatershed, Rogue-Kane/Galls subwatershed, Rogue-Sardine subwatershed, Rogue-Birdseye/Ward subwatershed, and Foothills Creek sub watershed.
- Available data sets are random and discontinuous both spatially and temporally.
- Existing data does not represent current water quality conditions in the SBW.

Chapter 10: Fish Assessment

- Random coho spawning surveys have only been conducted for the last two years. This is currently an incomplete data set in that insufficient data are available spatially and temporally to allow trends to be observed.
- Coho and steelhead smolt trapping surveys have only been conducted from 1999-2002, along West Fork Evans Creek. This is not a complete representation of the entire watershed.

- Summer steelhead redds/mile surveys do not encompass enough sample years or streams surveyed to adequately understand the trends in these data.
- Non-native species inventories are lacking for the entire watershed.

ACTION PLAN RECOMMENDATIONS

The Action Plan Recommendations are based on the data gaps present within the SBW. No attempt has been made during this assessment to prioritize the recommendations. Prioritization will be done by the Action Plan Committee of the Seven Basins Watershed Council. It is intended that the following recommendations be used to guide the generation of the companion document to this assessment: ***The Seven Basins Watershed Action Plan***.

Chapter 3: Channel Habitat Type Classification

- Channel confinement designations should be determined.
- Field verification should be conducted for the channel confinement designations once completed.
- Stream size should be incorporated into this analysis as ODF Stream Classification maps become available for the SBW.
- Highly sensitive and moderately sensitive CHTs should be prioritized for monitoring efforts with regards to LWD, fine sediments, coarse sediments, and peak flows.
- Field verification should be conducted for all CHT classifications.
- A database should be assembled to efficiently manage future data. A GIS component should be used with this database in order to make it fully functional, accessible, and current.

Chapter 4: Hydrology and Water Uses

- Use prediction equations developed by OWRD to estimate peak flows for primary streams in each subwatershed. Develop a data base of subwatershed characteristics needed for calculations.
- Design a stream gauging program and establish gauging stations in each subwatershed. Data can be used to evaluate the peak flow estimates based on prediction equations.
- Develop a plan to establish several weather stations within the SBW. Stations should be located various locations throughout the watershed that have different weather conditions (i.e., upland areas, Sams Valley, etc.) Data could be collected and by volunteers.
- Work with OWRD to develop a data base of wells with emphasis given to location and flow.
- Develop an interactive environmental data base coupled with GIS to document information collected and map spatial data.
- Provide educational information regarding surface water and ground water resources in the SBW.

Chapter 5: Riparian

- Riparian Conditions Assessment should be completed for the entire SBW.
- Riparian Conditions Assessment should be mapped for the entire SBW. By mapping this data in GIS, this component will become fully accessible, functional, and easily updated.
- Riparian Conditions Assessment should be ground truthed. Seven Basins Watershed Council members and community volunteers should

conduct ground truthing to increase understanding of riparian processes and effects of land use practices.

- Current riparian conditions need to be evaluated through continued ODFW habitat surveys. The contribution of SBW volunteers will aid in the continuation, regular occurrence, and community understanding of these surveys.
- All streams throughout watershed need evaluation as conducted by DEQ in the Riparian Condition Assessment of 303(d) listed streams. 303(d) streams should be mapped in relation to riparian condition. The use of GIS will make this data fully functional and accessible.
- Riparian condition of 303(d) streams should be ground truthed. SBW volunteers will provide DEQ with extra labor, and provide the Council with an enhanced understanding of agency processes and assessment goals.
- Baseline riparian data should be generated regarding plant and animal species within the SBW that are dependent on riparian areas during specific life cycle stages. SBW volunteers should produce a database and GIS component to make this data functional, accessible, and easy to update.
- Broad community education of the importance of riparian areas and the effects of land use practices on riparian areas is needed. The Seven Basins Watershed Council should provide community education and outreach with regard to basic riparian processes, effects of land use practices, and proactive land use practices which should be used by landowners.

Chapter 5 (cont.): Wetlands Assessment

- Seven Basins Watershed Council volunteers should work with agencies to create a database for baseline wetland water quality. This should be coupled with a GIS mapping component to make this database easy to update and readily accessible.
- Field verification of wetland locations should be conducted by Seven Basins Watershed Council volunteers to enhance understanding of location of wetlands, characteristics of wetlands, and effects of local land use practices.
- Community education regarding wetland functions, processes, characteristics, and effects of land use practices should be provided by the Seven Basins Watershed Council.

Chapter 6: Impact of Wildfire

- Investigate the relation between rainfall intensity and peak water discharge from burned watersheds, a relation that depends on the size of the rainstorm, the size of the burned area and burn severity, and the changes in infiltration capacity of the soil.
- Investigate hillslope and channel erosion and deposition processes after wildfire.
- Evaluate water quality impacts of wildfire and develop post-fire water-quality sampling protocols.
- Development of additional water chance sites.
- Develop an interactive environmental data base of fire information coupled with GIS to allow mapping and tracking of changes in the watershed as a result of fire activity.

Chapter 7: Sediment Sources

- Work with federal and state agencies to develop a program for characterization of sediments behind dams that have a high potential for contamination based on historic mining activity.
- Develop a program to map areas that have a high potential for slope instability. This should include field checking of areas mapped by ODF as having high to moderate potential for debris flows.
- Devise a strategy for mapping roads throughout the watershed and continue to map sediment sources associated with roads. This should include mapping distances from streams and determining widths of buffer zones along stream reaches.
- Develop an approach for quantifying the amount of sediment transport potential and impact to streams from both natural and anthropogenic sources. This should be coupled with sediment evaluations related to wildfire.
- Develop an interactive environmental data base coupled with GIS to document inventory information and map spatial data. All information collected as part of Action Items listed above.
- Provide community education related to the importance of sediment issues. This program should include ways that stakeholders can get involved in the characterization effort.

Chapter 8: Channel Modification Assessment

- The types and significance of the 645 modifications detected from the topographic map inspection should be studied and identified using aerial photographic analysis and field verification.

- Additional topographical map inspection should be completed for the entire watershed. This should be conducted in conjunction with aerial photographic analysis and field verification.
- Information concerning channel modifications other than stream crossings and barriers to fish passage should be obtained using analysis of aerial photographs and field verification.
- Research should be conducted to determine priorities with respect to channel modification mitigation. These issues should be addressed with the cooperation of watershed council volunteers, RBFAT and ODFW.
- All information thus obtained should be assembled into one useful and accessible database. A GIS component should be used with this database to make it fully functional.

Chapter 9: Water Quality

- Seven Basins Watershed Council and community volunteers should be involved in water quality sampling and monitoring within the SBW.
- Develop a comprehensive strategy to address specific water quality monitoring needs to include other watershed assessment components such as sediments, fire, toxics, urbanization and development, riparian areas, wetlands, fisheries, and fish habitat.
- Devise a sampling and analysis plan which takes into account collection, analysis, location, protocol, and frequency. This plan should include a Quality Assurance/Quality Control program to ensure high quality data is collected.
- Seven Basins Watershed Council should coordinate water quality sampling, monitoring, and analysis efforts with state and federal

agencies to maximize efficiency and promote broad dissemination of water quality results.

- Develop an interactive environmental data base coupled with GIS to document inventory information and map spatial data.
- Provide community education related to the importance of water quality issues. This program should include ways that stakeholders can get involved in the sampling, monitoring, and analysis.

Chapter 10: Fish Assessment

- Watershed council members and volunteers should work closely with ODFW staff and RBFAT to combine the fish database and barrier database into one useful and accessible database. This should be maintained and updated quarterly. A GIS component should be used with this database to make it fully functional.
- Barrier priorities should be addressed with the cooperation of watershed council volunteers, RBFAT, and ODFW.
- Flow issues in relation to salmonid life cycles needs immediate attention. Monitoring flow throughout this watershed should be a top priority.
- ODFW fish surveys should continue and expand throughout the entire watershed. Use of trained watershed council volunteers will aid in expansion of resources and labor.
- Watershed council and agencies should be instrumental in local education regarding fisheries life cycles, effects of barriers, flow issues, and land use effects on fisheries.