
METHOW

Subbasin Plan

Prepared for the Northwest Power & Conservation Council

Final

Methow Subbasin Plan

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Methow Subbasin Plan

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ACRONYMS AND ABBREVIATIONS

APRE	Artificial Production Review and Evaluation
AREMP	Aquatic and Riparian Effectiveness Monitoring Plan
AU	Assessment Unit
B.C.	British Columbia
BAMP	Biological Assessment and Management Plan
BBS	North American Breeding Bird Survey
BiOP	Biological Opinion
BLM	Bureau of Land Management
BMP	Best Management Practices
BO	Biological Opinion
BOR	Bureau of Reclamation
BPA	Bonneville Power Administration
BRT	Biological Review Team
CBC	Christmas Bird Count
CBFWA	Columbia Basin Fish and Wildlife Authority
CCP	Columbia Cascade Province/Ecoprovince
CCT	Colville Tribes (CCT is not contemporary use USE: "Colville Tribes")
cfs	cubic feet per second
Corps	U.S. Army Corps of Engineers
CRB	Columbia River Basin
CREP	Conservation Reserve Enhancement Program
CRFMP	Columbia River Fish Management Plan
CRITFC	Columbia River Inter-Tribal Fish Commission
CRMP	Cultural Resources Management Plan
CRP	Conservation Reserve Program
CSMEP	Coordinated Systemwide Monitoring and Evaluation Program
CWA	Clean Water Act
CWT	Coded Wire Tag
CZM	Conservation
DART	Data Access in Real Time (Columbia Basin database)
DBH	Diameter at Breast Height
DOE	U. S. Department of Energy
DOI	U.S. Department of the Interior

DPS	Distinct Population Segment
EA	Environmental Assessment
Ecology	Washington State Department of Ecology
ECP	Eco-regional Conservation Planning
EDT	Ecosystem Diagnostic & Treatment
EIS	Environmental Impact Statement
EMAP	Environmental Monitoring and Assessment Program
EMS	Energy Management System
EPA	U.S. Environmental Protection Agency
EQIP	Environmental Quality Incentives Program
ESA	Endangered Species Act
ESU	Ecologically Significant Unit
FCRPS	Federal Columbia River Power System
FERC	Federal Energy Regulatory Commission
FWS	U.S. Fish and Wildlife Service
FY	Fiscal Year
GCFMP	Grant County Fish Management Plan
GIS	Geographic Information System
GMA	Growth Management Plan
gpm	Gallons Per Minure
GPS	Geographical Positioning System
HCP	Habitat Conservation Plan
HEP	Habitat Evaluation Procedure
HGMP	Hatchery Genetic Management Plan
HUC	Hydrologic Unit Code
HxH	Hatchery x Hatchery
HxW	Hatchery x Wild
IBIS	Interactive Biological Information System
IDFG	Idaho Department of Fish and Game
IHOT	Integrated Hatchery Operations Team
ISAB	Independent Scientific Advisory Board
ISRP	Independent Scientific Review Panel
JARPA	Joint Aquatic Resources Permit Application

JFC	Joint Fisheries Committee
JFP	Joint Fisheries Parties
LFA	Limiting Factors Analysis
M&E	Monitoring and Evaluation
MSY	Maximum Sustainable Yield
NEPA	National Environmental Policy Act
NFH	National Fish Hatchery
NGO	Non-governmental Organization
NMFS	National Marine Fisheries Service
NMFS	National Marine Fisheries Service
NNI	No Net Impact
NOAA	National Oceanic and Atmospheric Administration
NPPC	Northwest Power Planning Council
NRCS	National Resource Conservation Service
ODFW	Oregon Department of Fish and Wildlife
OOSE	Out-of-Subbasin-Effects
OWEB	Oregon Watershed Enhancement Board
PA	Programmatic Agreement
PATH	Plan for Analyzing and Testing Hypotheses
PCSRF	Pacific Coastal Salmon Recovery Fund
PDA	Personal Data Assistant
PHS	Priority Habitats and Species
PIBO	Pacfish/Infish Biological Opinion
PIT	Passive Integrated Transponder
PNAMP	Pacific Northwest Aquatic Monitoring Partnership
PUD	Public Utility District
QA/QC	Quality Assurance/Quality Control
QHA	Qualitative Habitat Assessment
RC&D Council	North Central Washington Resource Conservation & Development Council
RCW	Revised Code of Washington
Rkm	river kilometre
RM	river mile
RTT	Regional Technical Team

SAR	Spawner to Adult Recruit
SEPA	State Environmental Policy Act
SMA	Shoreline Management Act
SMP	Shoreline Master Plan
SRFB	Salmon Recovery Funding Board
SSHAP	Salmon and Steelhead Habitat Inventory and Assessment Project
TAPPS	Technical Application (WDFW program)
TMDL	Total Maximum Daily Load
TSS	Total Suspended Sediment
UBC	University of British Columbia
UCRFEG	Upper Columbia Regional Fisheries Enhancement Board
UCSRB	Upper Columbia Salmon Recovery Board
UI	University of Idaho
USDA	United States Department of Agriculture
USDI	United States Department of the Interior
USFS	U.S. Forest Service
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
UTM	Universal Transverse Mercator
UW	University of Washington
VSP	Viable Salmonid Population
WAC	Washington Administrative code
WCC	Washington Conservation Commission
WDOE	Washington Department of Ecology
WDFW	Washington Department of Fish and Wildlife
WDNR	Washington Department of Natural Resources
WDW	Washington Department of Wildlife
WNFH	Winthrop National Fish Hatcher
WQI	water quality index
WRP	Wetlands Reserve Program
WSCC	Washington State Conservation Commission (delete duplicate WCC above)
WSU	Washington State University
WxW	Wild x Wild

Yakama Nation

Confederated Tribes and Bands of the Yakama Nation

YFRM

Yakama Fisheries Resource Management

1 Executive Summary

Updates to the Plan

Several tasks were developed by the Council based upon its review of the independent scientists' report, public comments obtained from June through August 2004, and by applying the standards for adoption set forth in the Northwest Power Act. The purpose of the updates is to fill gaps and increase clarity of the Methow Subbasin Plan so the NPCC will accept it as part of their Fish and Wildlife Plan.

Specific updates include:

1. Addition of a Prioritization Framework for prioritizing projects and strategies, located in Section 5.3.1;
2. Addition of Technical Appendix I: Listed and Proposed Endangered and Threatened Species, Critical Habitat, and Candidate Species that may occur in the Counties of Eastern Washington as listed by the U.S. Fish and Wildlife Service
3. Addition of Technical Appendix J: Final Hatchery and Genetics Management Plan for Mid-Columbia Coho Reintroduction Program;
4. Addition of Technical Appendix K: Projects in the Methow Subbasin by Assessment Unit and Survival Factor;
5. Incorporation of public comment from the Yakama Nation, U.S. Fish and Wildlife Service, and Methow Conservancy throughout the document. The comments from these entities were also added in their entirety at the end of Appendix H as the "Methow Subbasin Plan Supplement to Appendix H".

Purpose of the Plan

The Methow Subbasin Plan is designed to provide the Northwest Power and Conservation Council (NPCC) with strategic direction for allocating fish and wildlife mitigation and restoration funds to support initiatives within the Methow Basin. To involve the community and public, an outreach program was conducted during the development of the plan and will continue as the plan moves towards approval and implementation.

The plan begins with an enunciation of the vision for the subbasin and an outline of the founding principles for the plan tailored specifically to the Methow sub-basin and its citizens. It then moves into an overview of the subbasin, and its fish and wildlife species and their habitats. Current projects and management programs are discussed and a management plan to guide future decision-making is outlined. A brief overview follows.

Vision

Our Vision for the Methow subbasin includes viable, self-sustaining, harvestable, and diverse populations of fish and wildlife and their habitats, along with recognition of the need to support the economies, customs, cultures, subsistence and recreational opportunities within the subbasin.

Subbasin Assessment

The Methow is comprised mostly of large tracts of relatively pristine habitat. Topography varies from mountainous alpine terrain at elevations over 8,500 feet to gently sloping wide valleys down to an elevation of 800 feet. This diverse habitat supports well over 300 species of fish and wildlife - many of which are listed as Endangered, Threatened or as Species of Concern.

Many of the 5,000 people who live within the Methow are seasonal residents with the majority of permanent residents involved with service-based industries. Recreation, tourism, and related development are playing an increasing role in the area's economy with historic economic generators such as logging, mining, farming and ranching on the decline. Private land holdings comprise roughly 10% of the subbasin with the remainder largely owned by the federal government. The needs and activities of humans have, in some instances, resulted in habitat disturbances and the associated need to protect targeted portions of remaining habitat and restore disturbed habitat.

Focal fish and wildlife species and focal habitats have been chosen to evaluate the health of the subbasin ecosystem and the effectiveness of management actions. This plan discusses habitat requirements of the focal species and the factors that limit their numbers. These guide the development of the management objectives and strategies for this plan. The review of limiting factors for the focal species of wildlife shows that the presence, distribution, and abundance of wildlife species in the Methow subbasin have been affected by habitat losses. Losses are primarily the result of certain agricultural activities, timber extraction, land use activities, mining, and commercial and residential development. These activities have resulted in habitat fragmentation, conversion of land to different ecotypes, vegetation removal, and invasion by non-native grasses and weeds.

To address factors limiting the focal wildlife species, the plan calls for protection of the full size and condition of core areas, physical connections between areas, and buffer zones to ameliorate impacts from incompatible land uses. Attendant with these steps will be the monitoring of improvements in long-term trends and population status. Monitoring of habitat attributes and focal species will provide a means of tracking progress toward recovery.

Qualitative Habitat Analysis (QHA) has been a useful tool to organize and summarize a large amount of information into a useable format. The QHA process was modified from its original design to meet the specific needs of the Methow subbasin planning process regarding bull trout and westslope cutthroat trout,

The QHA relies on the expert knowledge of natural resource professionals, with experience in a local area, to describe bull trout and westslope cutthroat trout use in the target stream. From this assessment, planners are able to develop hypotheses about the population and environmental relationships of the bull trout and westslope cutthroat trout. The ultimate result is an indication of the relative importance for restoration and/or protection management strategies at the sub-watershed scale addressing specific habitat attributes.

An accommodating and powerful tool called EDT (Ecosystem Diagnosis and Treatment) was used to review the limiting factors for the following focal species of fish: spring Chinook salmon, summer/fall Chinook, and summer steelhead. Coho were not addressed with either the QHA or EDT model. The major results of EDT are captured under the plan sections entitled

Major Findings and Assessment Unit Summaries. In brief, they show that in the Methow Basin habitat losses have chiefly resulted from artificial and natural fish passage barriers, alteration and reduction of riparian habitat, loss of habitat connectivity, instream and floodplain habitat degradation, low flows, and dewatering. Added to these limiting factors within the Methow are out-of-basin problems including fish passage over mainstem dams and harvest.

Thus, the ecosystem diagnosis method used was intended primarily to address the question: *Is there potential to improve anadromous salmonid population status through improvements to habitat conditions in tributary environments?*

Said in a form of a **central subbasin hypothesis** (for fish and adaptable for wildlife): *Improvements in habitat conditions will have a positive effect on habitat productivity and thus, improve fish population status through increased abundance, diversity, and spatial structure.*

To date, much of the effort and resources allocated to addressing the limiting factors of fish has centered on supplementation with hatchery-reared fish. This has resulted in tangible benefits for certain species in certain areas but there are concerns that, at least in some instances, hatchery fish have displaced rather than supplemented wild fish. The Plan states that while the protection of existing wild stocks and the building of self-recruiting wild populations must be paramount, there is a need to continue with hatchery supplementation in a careful, well-planned, and documented fashion. Uncertainty about population structure, poor adult returns, and a desire to spread the risk of hatchery intervention will require long-term monitoring of population trends and changes in gene pools.

Inventory of Existing Activities

The inventory section outlines the extent to which present programs address the limiting factors outlined in the plan. This section also avoids program overlaps and shows the gaps and unknowns that require more research, monitoring and evaluation.

Management Plan

The management plan is the most important part of the document. It presents a vision of what future conditions could be and identifies the route to get there. It is based on the premise that major portions of the Methow subbasin at higher elevation still have relatively intact, high quality fish and wildlife habitat that requires protection from human disturbance while impacted habitats in the middle and lower reaches of the subbasin require restoration.

Fisheries Management

The goals for fish vary depending on the life history requirements of the species.

The goal for both spring and summer/fall Chinook salmon is to achieve run sizes that provide for stock recovery, mitigation of hydrosystem losses and harvestable surpluses.

Specific objectives address the need to provide for an annual tribal and sport fishery, while conserving natural stocks to a minimum of 2000 spawners (3,500 past Wells Dam) by 2013. Determining natural smolt production and overall limitations by 2013, and improving smolt to adult survival is a key management priority. Updating Methow Chinook status reports is recommended every five years.

For Steelhead the goal is a run size that provides for the recovery of steelhead in the Methow subbasin.

Specific objectives include the need to provide for an annual tribal and sport fishery while conserving natural stocks to a minimum of 2,500 spawners by 2013. Artificial production should be maintained using locally adapted broodstock to meet recovery, conservation and harvest needs, while minimizing the impacts on recovering naturally reproducing stocks. Updating the Methow steelhead status reports is recommended every five years.

The goal for bull trout is delist them; a goal that applies broadly across many focal and affected species.

Specific objectives aim to ensure persistence of self-sustaining groups of bull trout across their native range within the Methow subbasin by providing the habitat and access conditions bull trout require at various stages in their life history. In addition, there is a need to improve the knowledge of bull trout in the Methow subbasin.

The goals and objectives for westslope cutthroat are similar to those for bull trout.

The goal for coho salmon includes re-establishment of run sizes that provide for species recovery, mitigation of hydro-system losses, and harvestable surpluses.

Wildlife Management Plan

The Methow subbasin plan directs major conservation efforts towards three focal wildlife habitats; Eastside (Interior) riparian wetlands, shrubsteppe and Ponderosa pine habitats. The goal is to provide sufficient quantity and quality of each of these habitats to support a diversity of wildlife (represented by the focal species).

The objectives for achieving the goal in all of the focal habitats include:

- determine the necessary amount, quality, and juxtaposition of each focal habitat to sustain focal species
- based on the findings from step 1, provide measures to sustain focal species and habitats by 2010
- improve silviculture practices, fire management, weed control, livestock grazing practices and road management on Ponderosa pine habitats.

Additional objectives specifically for Ponderosa pine habitat include the need to show an increase in distribution and population status of white-headed woodpecker, flammulated owl, gray flycatcher, and Pygmy nuthatch, and an inventory of focal species to test the assumption of the “umbrellas species concept” for conservation of other Ponderosa pine obligates.

For shrubsteppe habitat, objectives include the need to determine the population status of the grasshopper sparrow, Brewer’s sparrow, sharp-tailed grouse and mule deer by 2008. There is also a plan to reintroduce grouse to at the least the desired minimum viable population by 2024, and maintain and enhance mule deer populations consistent with state/tribal herd management objectives.

Objectives specifically designed for improving wildlife conditions in riparian wetlands included the need to determine the population status of beaver (maintaining and enhancing remaining populations where appropriate based on findings), as well as red-eyed vireo, and yellow-breasted chat by 2008. Also, the plan proposes to inventory other riparian wetlands populations to test the assumption of the “umbrella species concept” for conserving other riparian wetlands obligates.

Linkages

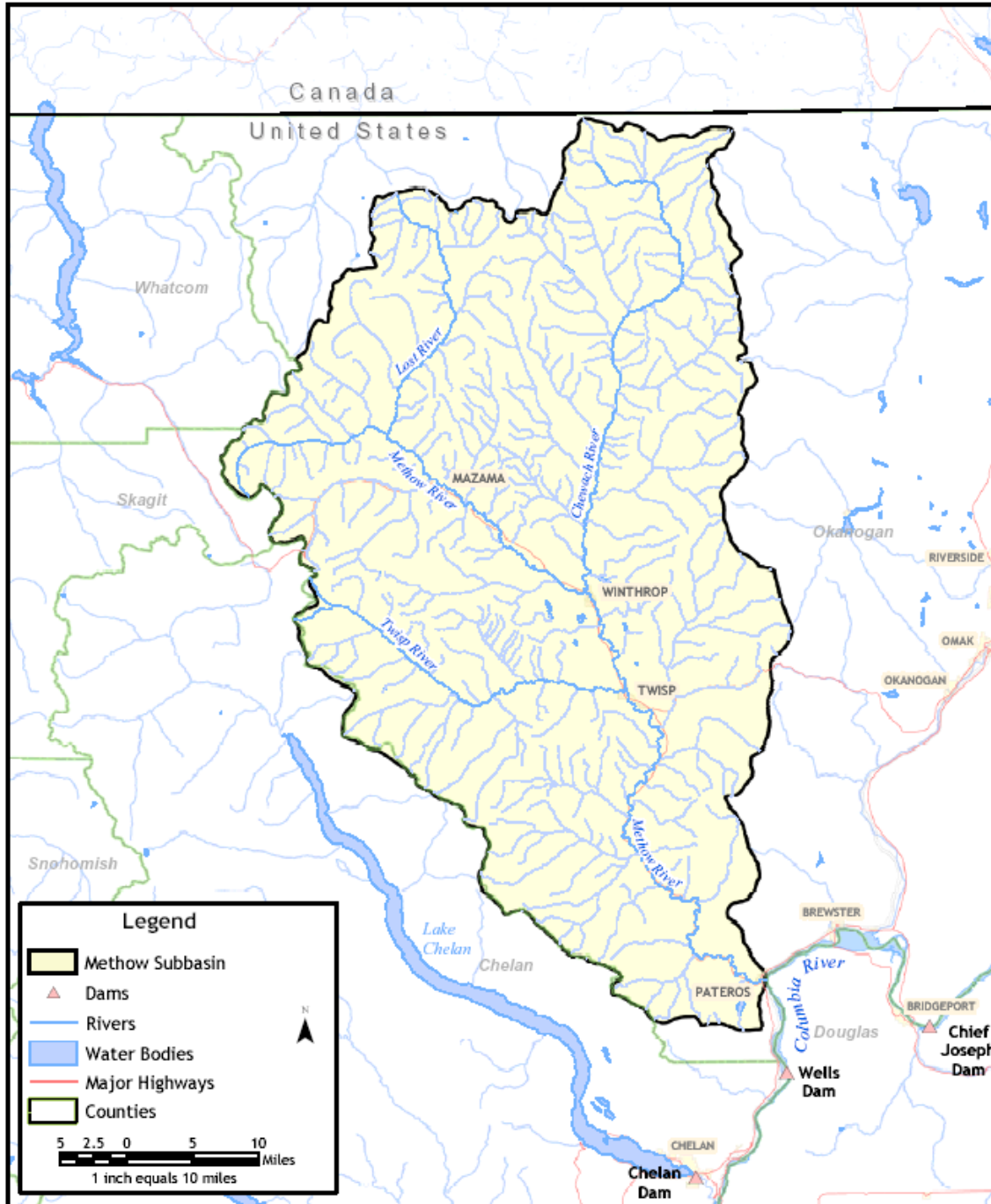
The Methow Subbasin Management Plan wraps up by linking with other major initiatives such as the Northwest Power Act, the Endangered Species Act and the Clean Water Act. It then concludes by recommending a balanced and consistent program framework for monitoring and evaluating progress in meeting (or not) the recommendations, goals and objectives found in the Plan. Adaptive management is an inherent character of this framework that relies upon the monitoring program construct, and then upon subsequent iterations and updates of this plan.

Implementation

It is noted that this plan has limitations, and is, in sum, unfinished in terms of its ability to chart a full term course for sustainability. This is because of the significant resource constraints placed on this process and the fact that the Methow suffered from a lack of an organized planning framework, and a paucity of completed analyses. The fact that this plan was developed within the span of less than a year, unlike any other plan of similar scope or significance, did not escape the planners, initially, or in the end. Nevertheless, they persisted to produce the best product possible, and have in turn, taken a significant step forward to meet a long list of challenges facing natural resources and communities in the region.

Consequently, this plan represents a thoughtful and credible approach; one collectively derived from a tremendous effort on the part of local governments, state, federal and tribal agencies, and the public. Notably, this multifaceted effort was carried out in one of the most complex and politically charged watersheds in the Columbia Basin and in the region to the most imperiled and impacted populations of fish and wildlife.

We are confident that this subbasin plan will now guide state, local, federal and tribal governments, the NPPC, and The Bonneville Power Administration in meeting their respective obligations to implement various programs to conserve and enhance fish and wildlife.



Data Layers: Subbasins and Dams (StreamNet), Counties & Major Rivers (WA Ecology), State Routes (WashDOT) Projection: Washington State Plane North Zone NAD83. Produced by Jones & Stokes for KWA Ecological Sciences, Inc. Map Date: 5/15/2004

Figure 1 Location of Methow subbasin, depicting general features and hydrology

2 Introduction

The Methow subbasin (**Figure 1**) is a truly unique place with a distinctive role in the ecology and economy of the Upper Columbia Basin. Especially beautiful, and both accessible and remote, the Methow subbasin is home to a rich diversity of fish and wildlife species, including some of the uppermost limits of current anadromous salmonid distribution, and is populated by people who care passionately about the place they call home.

Current participation in discussions and decision-making regarding the Methow subbasin's natural resources, involves private citizens, irrigation districts, environmental groups, county government, and state and federal agencies. In addition, both the Colville Tribes and the Yakama Nation have a long history of traditional resource use in the subbasin, and take an active role in fish, wildlife, and habitat management.

The Methow subbasin plan addresses the limiting factors for fish and wildlife ecosystems in the Methow Watershed. However, the needs of watershed residents, and their critical role in ecosystem stewardship, have been clearly considered as part of overall ecosystem recovery and of the benefits of shared stewardship.

2.1 Subbasin planning

Subbasin planning is the foundation for the Northwest Power & Conservation Council's (NPPC) revised Fish and Wildlife Program for the Columbia River, and consists of a comprehensive description of the basin general ecology, including the identification of specific fish and wildlife needs. The new program is intended to be more comprehensive than, but complementary to regional efforts related to address the Endangered Species Act (ESA), Clean Water Act (CWA), and state-sponsored recovery and watershed planning; it serves as a valuable tool to assist local fish and wildlife recovery coordination efforts led by stakeholder groups, Okanogan County, the Colville Tribes, and the fish and wildlife co-managers (Yakama Nation and WDFW).

The revised Program divided the Columbia basin into ecological provinces and associated subbasins, and calls for an ecosystem-based approach for planning and implementing fish and wildlife recovery. Future action strategies and project funding are to be based upon the identified needs in subbasin plans.

The Methow subbasin plan is one of six subbasin plans being generated from within the Columbia Cascade Ecoprovince (CCP). The Okanogan, Wenatchee, Lake Chelan, Entiat, and Upper-middle (mainstem) Columbia River subbasins comprise the remainder of this province.

The Methow subbasin summary presented a compilation of known and existing data on anadromous fish and wildlife and their habitats in the Methow River Watershed (CBFWA 2002). Twenty-three subwatersheds of the Methow were examined, although the overall number of tributaries and irrigation channels is much greater. The report also provided data and context for wildlife, land use, human population patterns, and overall resource management issues. This summary, in combination with the Limiting Factors Analysis (LFA) (WSCC 2000), provided a starting point to develop the Methow subbasin plan.

A significant body of science and analysis was undertaken to support the scientific hypotheses described in this subbasin plan. These hypotheses, and the species-based biological objectives set by senior management agencies, form the basis for management decisions which, based on

public policy, will facilitate coordinated recovery planning for the Methow salmon ecosystem. The vision, goals, and supporting principles in this subbasin plan provide the foundation for the implementation of the plan by applying local public jurisdiction to local decisions.

2.2 Methow Subbasin Plan Approach and Public Involvement

Okanogan County and the Washington Department of Fish and Wildlife (WDFW) (the Coordinators) partnered to coordinate subbasin planning for the Methow subbasin. Okanogan County has been largely responsible for the public outreach of the subbasin plan. WDFW has been largely responsible for the technical aspects of the subbasin plan.

The timeline established by the NCCP has necessitated a very compressed process that has allowed limited stakeholder involvement on early drafts completed in May 2004. A total of 43 formal planning team and various communication meetings were convened between August 2003 and May 2004. E-mail circulars and media releases provided regular updates on subbasin planning to more than 250 formal public contacts, providing a description of next steps, and encouraging stakeholder participation.

Early drafts of the subbasin plans were placed in local public libraries, sent to stakeholders on request, and posted on an 'ftp' website. Stakeholders were encouraged to submit comments on the first outline draft (February 11, 2004 – April 16, 2004), and given two weeks to comment on the completed draft (April 23, 2004 – May 10, 2004).

The NPCC public review and comment period (June 4 - August 12, 2004), and the proposed three-year rolling review of subbasin plans (2007), should build on these important first contributions. It is expected that the building of the subbasin plan only begins with the drafting of the plan. Future refinement of the plan, based on public and agency comment, and new contributions, knowledge and information will make the subbasin plans more relevant and responsive to the subbasin Vision

Commitment to Public Outreach

Okanogan County staff and contractors have used the media and a series of public meetings to communicate progress. Evening summary meetings were convened to accommodate stakeholders who were not able to attend during the day. Briefings were provided to interested groups on eight occasions, and to media representatives on request. Three formal public meetings were convened to facilitate public dialogue on the direction of the plan and to answer pertinent questions. Regular e-mail circulars and media releases provided regular updates on subbasin planning, next steps, and invitations welcoming additional stakeholder participation. More extensive review, including that by ISRP and the public, will be complete by August 2004.

In September 2003, the Coordinators assembled an initial outreach list comprising about 130 names. The list included representatives of the following interests:

- Agriculture
- Business
- Conservation and Environment

- Government (including local government, and local and regional representatives of state, tribe and federal agencies)
- Media
- Recreation

The list has continued to grow as individuals have expressed interest in subbasin planning. The outreach list has been used throughout subbasin planning to share information and facilitate dialogue among communities of interest, science, and place. The list was also used to distribute public information; an information bulletin describing ongoing progress on the development of subbasin plans, was regularly sent to the stakeholders, enabling them to track the process and any changes to the planning schedule.

Fact sheet

Okanogan County developed a Fact Sheet to introduce subbasin planning to stakeholders and the media, and to explain opportunities for public involvement. The Fact Sheet included a telephone number, and e-mail, postal mail, and web site addresses that individuals could use to obtain more information.

Public comments

Comments collected at public meetings and during public review of draft subbasin plans have been appended to this plan as [Appendix H](#).

2.2.1 Infrastructure and Organization

Habitat and Subbasin Core Teams

Okanogan County, the Washington Department of Fish and Wildlife, and a working group of co-managers and public stakeholders initiated formation of the Methow Habitat Working Group and Subbasin Core Team (SCT). The HWG/SCT met 62 times to review and refine the Ecosystem Diagnosis and Treatment outcomes (EDT), (i.e. to refine hypotheses based on local knowledge), and to develop management strategies).

2.2.2 Local and Regional Socio-economic Conditions

The Methow subbasin is a microcosm of current natural resource management and public policy change to meet the new resource development-conservation challenges. Management for the sustainability of subbasin fish and wildlife populations is challenged by human population growth and land development, increasing demands on fish and wildlife habitats, oversubscribed instream flows, and the downstream Columbia River Hydropower System.

Subbasin plans will contribute to solving these challenges by providing a compendium of resource information and the tools to empower planners and decision-makers to implement programs appropriately and in a coordinated manner at the local level.

2.3 Overall Direction and Goal of Subbasin Plan

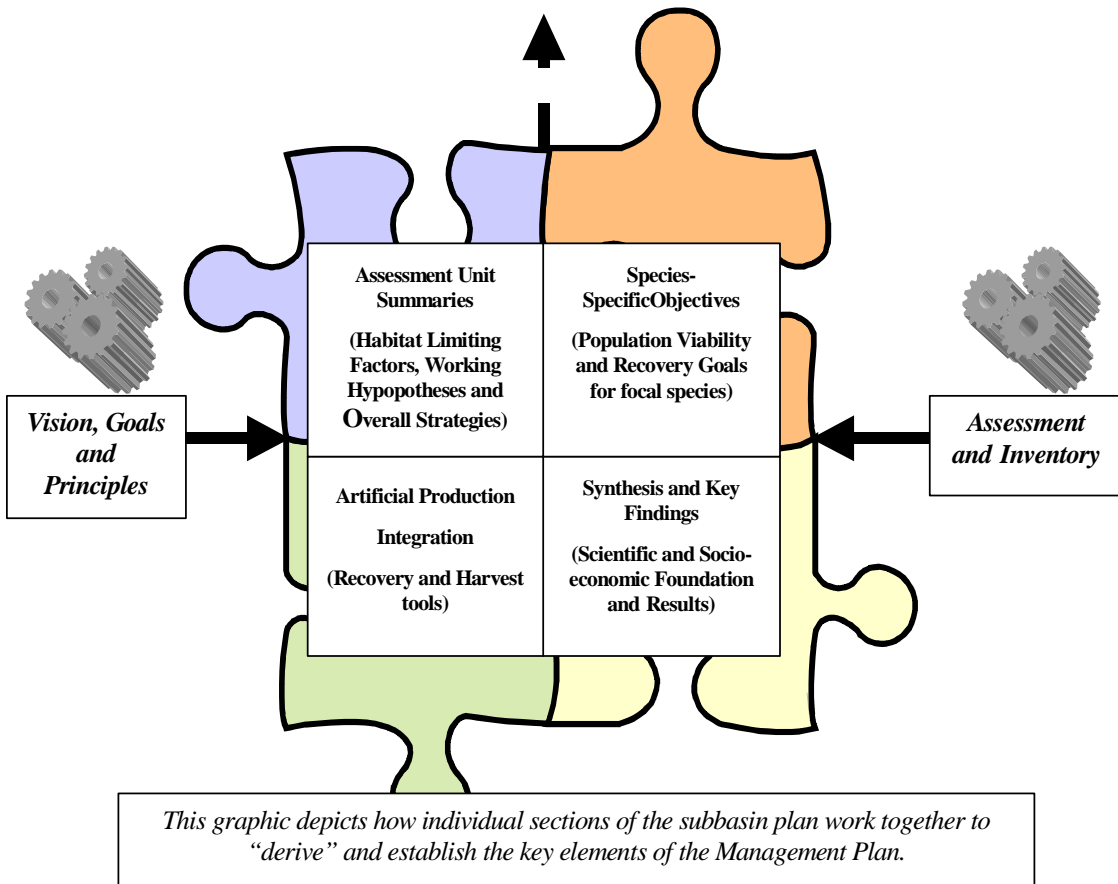
The technical components of this subbasin plan will require an integrated (ecosystem-based) approach; the issues are often regional and ecologically interconnected. Moreover, the

requirements of each life stage of all indigenous fish species (both historic and existing) linked to the salmon ecosystem must be identified and addressed within each assessment unit to develop a complete picture of the subbasin ecosystem. Unfortunately, at times there is incomplete data or disconnected understanding adding greatly to the difficulty of managing the Methow subbasin. These gaps and the approach to filling them in short- and mid-term plans will likely extend to all management plans and every assessment unit.

The technical components of this subbasin plan are undoubtedly important and useful in the development of projects provided by the framework in this subbasin plan; however, success can only truly occur if the impacts on local communities are considered. Though the continuing balance between technical and community priorities is always a challenge, this and other planning processes must continue to try to strike that balance.

Though it is suggested that the Vision and supporting items be provided in the management plan portion of the document, the subbasin planners have chosen to provide these components at the beginning of the document to “set the tone” for the document. The Vision, planning assumptions, foundation principles, and supporting principles provide the overall direction and goal of this subbasin plan. The logic path for development of the subbasin plan is illustrated in **Figure 2**.

Management Plan



Source: KWA 2004

Figure 2 Logic Path for the Development of the subbasin plan

2.4 Our Vision for the Methow subbasin

Consistent with the 2000 Columbia Basin Fish and Wildlife Program's vision, yet tailored specifically to the geographic region of the Methow subbasin and its citizenry, within 10 to 15 years, it is envisioned that:

The Methow subbasin supports self-sustaining, harvestable, and diverse populations of fish and wildlife and their habitats, and supports the economies, customs, cultures, subsistence and recreational opportunities within the basin. Decisions to improve and protect fish and wildlife populations, their habitats, and ecological functions are made using open and cooperative processes that respect different points of view, statutory responsibilities, and are made for the benefit of current and future generations.

The vision and subbasin plan is the outcome of an open process, and is intended to provide a framework under which future projects can be developed and implemented. Actions taken in the subbasin should be consistent with the Methow subbasin plan, the NPCC Columbia Basin Fish and Wildlife Program, the Clean Water Act, and the Endangered Species Act.

2.4.1 Specific Planning Assumptions

Planning assumptions were developed for incorporation into project plans or actions developed within the framework provided by this subbasin plan. Actions taken in the subbasin should be consistent with these planning assumptions.

As a part of the subbasin Vision, the subbasin plan adopts the following policy considerations and planning assumptions for the Methow subbasin plan:

The ultimate success of the projects, process, and programs used to implement the subbasin plan will require a cooperative and collaborative approach that balances the economies, customs, cultures, subsistence, and recreational opportunities within the basin, with the federal/state mandates to protect fish and wildlife.

The subbasin plan is not a land use management plan, nor contains any regulatory authority, but it is, however, intended to guide Bonneville Power Administration (BPA) in meeting its mitigation obligations.

No single activity is sufficient to recover and rebuild fish and wildlife species in the Methow subbasin or in the Columbia River basin. Successful protection, mitigation, and recovery efforts must involve a broad range of strategies for habitat protection and improvement, for improvements to the operations of the hydrosystem, for effective and equitable harvest management, and for the continued incorporation of artificial production.*

The BPA should make sufficient funds available to implement, in a timely fashion, projects developed within the framework of this plan.*

This is a habitat-based program for rebuilding healthy, naturally producing fish and wildlife populations by protecting, mitigating, and restoring habitats and the biological systems within them, including anadromous fish migration corridors. Artificial production and other non-natural interventions will be used judiciously, and will be consistent with the central effort to protect and restore habitat and to avoid adverse impacts on native fish and wildlife species.

It is important to consider out-of-basin effects (including ocean habitat and predation) on salmonid species when evaluating freshwater habitat management in order to understand all stages of the salmon and steelhead life cycle.

There is an obligation to provide fish and wildlife mitigation where habitat has been permanently lost because of hydroelectric development. Artificial production of fish may be used to replace capacity, bolster productivity, aid recovery, and alleviate harvest pressure on weak, naturally spawning resident and anadromous fish populations. Restoration of anadromous fish into areas blocked by dams should be actively pursued where feasible.

Management and artificial production actions must have an experimental, adaptive management design. This design will allow the region to evaluate benefits, address scientific uncertainties, and improve survival. It is important that actions be integrated with research and monitoring activities to evaluate their effects on the ecosystem.

Harvest can provide significant cultural and economic benefits to the region, and the program should seek to increase harvest opportunities consistent with sound biological management practices. Harvest rates should be based on population-specific adult escapement objectives designed to protect and recover naturally spawning populations.

Achieving the Vision requires that habitat, artificial production, harvest, and hydrosystem actions are thoughtfully coordinated with one another. There must be coordination among actions taken at the subbasin, province, and basin levels, including actions not funded by this program.

Participation of stakeholders, local and regional planning organizations, and/or groups in implementation of subbasin plans should be fostered to the fullest extent possible or where appropriate.

2.4.2 Foundation and Supporting Principles

These foundation principles are reflected in a framework of six key elements, which include natural and cultural systems from which the subbasin plan is built.

- Economies, customs, cultures, subsistence, and recreational opportunities within the basin
- Regulation of land use
- Out-of-basin effects
- Long term sustainability
- Fish and wildlife habitat
- Biological interactions and connectivity

The foundation and supporting principles drafted to guide the subbasin plan are as follows:

Economies, customs, cultures, subsistence and recreational opportunities within the basin.

The people of the Methow subbasin are diverse and independent. They value a wide range of customs and cultures. Actions, strategies, programs and projects for fish and wildlife and their habitats will be more successful if developed in context with the basin's economic needs and opportunities, and with an understanding of the impacts on the human environment in the basin.

1. Activities associated with the subbasin plan, undertaken to protect and/or restore fish and wildlife, have the potential to improve opportunities for cultural and recreational uses and, thus, the social and economic well-being of the communities. Strategies and projects should be reviewed and evaluated based on the potential for such positive impacts, and methods should be developed to measure and monitor the success of such efforts.
2. The cost of actions to implement the Methow subbasin plan is estimated in relation to benefits. Within the context of priorities established to recover listed species or mitigate for the impacts of the hydropower system, alternatives that achieve the greatest benefits at the least costs are preferred. Consideration of social costs should include the effects (positive and negative) of implementation on short- and long-term economic stability in the subbasin. Consideration should include (but is not limited to) project feasibility, cost-share opportunities, job growth, longevity, effects of increased electrical rates, increased development costs, and increased public land ownership.
3. Actions derived from the Methow subbasin plan are undertaken with the understanding that the natural environment, including its fish and wildlife resources, is the cultural heritage that is common to the diversity of human existence; and such actions play a key role in the long-term sustainability of the common cultural heritage within the subbasin.
4. Acknowledgement, integration, and balancing of human, fish and wildlife needs will be necessary to ensure the successful implementation of this plan. Methow subbasin stakeholders' values are clearly stated and reflected in this process.
5. Programs and actions are monitored and evaluated for effect, and may be altered as necessary to achieve the intended results, recognizing that science, strategies and the art of restoring ecosystems is evolving and adaptive.

Regulation of land use.

The ability to implement protection or restoration strategies will require a close and cooperative relationship among federal, state, tribal and local governments and a wide range of interest groups. Protection and/or restoration strategies that affect land use will require action (both for the adoption and implementation) by local, state, federal and/or tribal governments.

1. No existing water right is affected by actions derived from the Methow subbasin plan without the consent of the holder of that right.
2. The processes of subbasin plan preparation, implementation (including project development and planning), and amendment are open, voluntary, and collaborative.
3. Actions derived from the Methow subbasin plan acknowledge the statutory authority of local, state, federal and tribal governments and of existing plans, programs, and processes.
4. Future land use planning and activities that involve potential impacts on fish and wildlife and their habitats should be fully discussed with those agencies and tribes holding management authority, prior to implementation.

Out-of-basin effects.

The Columbia River basin is characterized by natural environmental variability, fluctuation in production, and established human urban and rural activities. Restoration and management of

fish and wildlife and their habitats in the Methow subbasin must consider both in- and out-of-basin effects within the entire Columbia River basin ecosystem, including the natural as well as the cultural effects, and those associated with freshwater, estuary, and ocean.

1. Strategies for recovery or maintenance of self-sustaining populations need to be evaluated within the context of the entire life history of the populations, and not just within the life history stages within the subbasin geographic area.
2. Important environmental attributes that determine the distribution and productivity of fish and wildlife populations have been influenced by natural and cultural activities in and outside the subbasin.

Long-term sustainability.

Life history, genetic diversity, and metapopulation organization reflect the ways that fish and wildlife adapt to their habitat. Diversity and population structure are how fish and wildlife species adapt to spatial and temporal environmental variations. High diversity promotes production and long-term persistence at the species level.

1. In addition to fish and wildlife populations that support the custom, culture, subsistence, and recreational opportunities in the subbasin, indigenous fish and wildlife species should be enhanced and restored to be self-sustaining.
2. For aquatic- and fish-related interests, selection of a broad range of focal species provides a basis for development of holistic management strategies. For terrestrial- and wildlife- related interests, the selection of focal habitats and related focal species provide a basis for developing holistic management strategies.
3. Biological inter- and intra-specific interactions shape fish and wildlife populations. Restoration of individual populations may not be possible without restoring other fish and wildlife populations with which they co-evolved.
4. Most native fish and wildlife populations are linked across large areas and do not consider political borders; therefore, the possibilities for extinctions or extirpations is reduced. An important component for recovery of depressed populations is to work within this framework and maintain or recreate large-scale spatial diversity.
5. Populations with the least amount of change from their historical spatial diversity are the easiest to protect and restore, and will have the best response to restoration actions.
6. Small populations are at greater risk of extinction than large populations, primarily because they are more vulnerable to environmental changes such as catastrophic events.

Fish and wildlife habitat.

Fish and wildlife productivity requires a network of complex, interconnected habitats that are created, altered, and maintained by both natural and human processes in terrestrial, freshwater, estuary, and ocean areas.

1. The habitat in the Methow subbasin should be capable of supporting self-sustaining, harvestable and diverse populations of fish and wildlife.

2. Physical characteristics of the alluvial valley and floodplains of the Methow River have changed ecosystem attributes, and restoring watershed processes, where possible, will require a long-term collaborative commitment to fish and wildlife recovery.
3. The Methow subbasin is a dynamic system that will continue to change through natural events and human activities.

Biological interactions and connectivity.

Population, abundance and diversity, and the biotic community, reflect ecosystem attributes. Co-evolved assemblages of species share requirements for similar ecosystem attributes and require connectivity among them.

1. Sustainable, harvestable, and diverse populations of fish and wildlife are dependent upon properly functioning environments and the processes that sustain them.
2. Changes to the physical characteristics and connectivity of the Methow subbasin have contributed to the changes of native fish and wildlife populations; therefore, reconnecting the native ranges of fish and wildlife species is critical.

Okanogan County Comments on Land Acquisition

In the subbasin plan, a potential management strategy is the protection of existing habitat for both fish and wildlife. Protection currently occurs by two actions – conservation easements and/or land acquisition. The Okanogan County Board of Commissioners (Board) believes that these protection activities potentially impact Okanogan County’s economic base and culture. The Board believes that other innovative solutions exist to achieve the same benefit and urges individuals using the plan to propose actions to explore them.

Though the Board strongly opposes further acquisition of private lands in Okanogan County, they respectfully acknowledge a private landowner’s right to do with their property as they choose. It has been the Board’s experience that, in some instances, government entities often offer a private landowner exorbitant prices for a property, disallowing those in the private sector to compete in purchasing the land.

When the state, federal government or other groups, such as not-for-profits and the Bonneville Power Association, acquire properties in Okanogan County, the Board of County Commissioners desire that the following be considered:

- Consider and mitigate the economic impacts of removing the property from the County tax base or decreasing the amount of revenue generated by the property. (Economic impacts can occur not only from lost taxes but also from money spent in the community to maintain the property, the equipment necessary, and possible wages to individuals working on the property)
- Develop a multi-use land management plan that is consistent with Okanogan County’s Comprehensive Plan.
- Incorporate the cost to implement the Land Management Plan (Okanogan County planning division) when requesting funds for the land purchase.
- Implement the Land Management Plan.

The Board also wishes to point out that social and economic impacts occur to rural school districts (decreasing enrollment), hospitals, and to downtown businesses as a result of poorly developed and implemented land acquisition or easement policy. Typically, removing land from private ownership creates nuisances such as noxious weed control and fire danger, often derived due to the lack of proper land management.

With the numerous economic impacts from permanently removing private properties from the County's tax base as well as the increasing disturbance to the County's culture, the Board strongly recommends that other actions other than land acquisition occur to assist in the mitigation of impacts to fish and wildlife (Okanogan County Commissioners, pers. communication).