

The McKenzie River Watershed Conservation Strategy

January 2002

The
McKenzie Watershed Council

*Fostering better stewardship of McKenzie
Watershed resources through voluntary
partnerships and collaboration.*



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This project was funded through a grant from the Bonneville Power Administration, and by generous contributions from the McKenzie Watershed Council Partner Organizations.

Funding for the watershed assessments that provided the background material for the Strategy was provided by the Bonneville Power Administration and the Oregon Watershed Enhancement Board.

The Oregon Watershed Enhancement Board staff provided advice on the strategic planning framework.

The McKenzie River Watershed Conservation Strategy

Summary

The recently completed McKenzie Watershed Assessment found that despite significant losses of important fish and wildlife habitats, the McKenzie River Watershed has some of the best remaining habitat in the Willamette River Basin. Even on the edge of urbanized Eugene and Springfield, high quality river channel habitats, floodplain forests, and upland areas remain. It is not too late to anticipate the growing population pressures to assure a healthy McKenzie River Watershed for future generations. The pieces, while fragmented, are in place, and there is a window of opportunity to expand and reconnect remnants of quality habitat. Accomplishing this will require taking steps to protect important areas for fish and wildlife, and restoring habitats that have been lost.

The McKenzie River Watershed Conservation Strategy provides a plan for Council action and partnerships. The strategy outlines a framework for collaborating with watershed residents and other interests to protect and enhance the watershed's important habitats and resources. This effort will enhance community stewardship, contribute to the restoration of the watershed's threatened spring chinook salmon run, and improve habitats for other fish and wildlife species.

The strategy focuses on protecting, restoring, and reconnecting these key aquatic, floodplain, and upland habitats:

- **River and stream habitats.** River and stream channel habitats have been lost through activities such as riverbank stabilization, and changes to flood flows from dams. River channel and tributary stream areas, especially side channels and backwaters offer diverse aquatic habitats, refuge for fish and other species during floods, and important rearing areas for spring chinook salmon and other fish.
- **Floodplain areas and riparian vegetation.** Roads, houses and other human developments concentrated next to streams, rivers, and lakes have contributed to the loss of streamside (or riparian) vegetation. Riparian vegetation provides important wildlife habitat and contributes to the aquatic environment.
- **Wetlands.** Historically, the lower McKenzie River Valley had extensive wetland habitats. In addition to providing valuable fish and wildlife habitat, wetlands offer other benefits such as absorbing flood flows, reducing erosion and storm damage, and maintaining water quality.
- **Pond turtle habitat.** Western pond turtle populations are declining throughout the Willamette Valley. It is important to protect the ponds and other areas that provide the remaining pond turtle population strongholds in the lower McKenzie River Valley.
- **Rare upland habitats.** Historically, the lower McKenzie River Valley, especially in the Springfield area and the lower Mohawk River and Camp Creek Valleys, had extensive oak

woodlands, ponderosa pine stands, and grasslands. These vegetation types, home to declining wildlife species such as the Western Meadowlark (Oregon's State Bird), have been lost through conversion to other land uses and suppression of historical fire regimes.

The McKenzie River Watershed Conservation Strategy is a framework for protecting and restoring these key habitats through voluntary collaboration and partnerships. Turning the strategy into voluntary actions that will improve fish and wildlife habitats and water quality will require working closely with watershed residents and other interests. The intent of the *Strategy* is to provide a landscape approach to voluntary actions on privately held land that will complement federal land management policies and activities.

The McKenzie River Watershed Conservation Strategy identifies five goals and associated actions that will help reach the Council's objective of achieving healthy McKenzie River Watershed resources and human communities:

Goal 1: *Protect and restore key fish and wildlife habitats.*

Actions to protect and restore:

- Habitat connections
- Aquatic habitats
- Riparian / floodplain areas
- Wetlands
- Pond turtle habitats
- Rare upland habitats

Goal 2: *Protect and restore water quality and quantity.*

Actions:

- Protect areas with high quality water & restore areas with degraded water quality
- Identify problem areas and sources of water quality concerns

Goal 3: *Facilitate partnerships to advance local stewardship actions.*

Actions:

- Support community stewardship actions
- Foster ongoing collaboration & promote partnerships

Goal 4: *Promote community understanding and stewardship through outreach and education.*

Actions:

- Provide community outreach
- Support teacher and student education and actions

Goal 5: *Account for investments in the watershed.*

Actions:

- Assess effectiveness of the strategy
- Track project implementation
- Report results

The McKenzie River Watershed Conservation Strategy

TABLE OF CONTENTS

ACKNOWLEDGMENTS

| | |
|---|----|
| SUMMARY | i |
| INTRODUCTION | 1 |
| WHAT IS VOLUNTARY CONSERVATION? | 2 |
| THE WATERSHED: A SENSE OF PLACE..... | 4 |
| WHY FOCUS ON KEY HABITATS?..... | 11 |
| OVERVIEW OF THE STRATEGY..... | 12 |
| MOVING FROM STRATEGY TO ACTION | 14 |
| GOAL ONE: PROTECT AND RESTORE KEY FISH AND WILDLIFE HABITATS | 17 |
| GOAL TWO: PROTECT AND RESTORE WATER QUALITY AND QUANTITY | 23 |
| GOAL THREE: FACILITATE PARTNERSHIPS TO ADVANCE LOCAL STEWARDSHIP ACTIONS | 26 |
| GOAL FOUR: PROMOTE COMMUNITY UNDERSTANDING AND STEWARDSHIP THROUGH OUTREACH AND EDUCATION | 28 |
| GOAL FIVE: ACCOUNT FOR INVESTMENTS IN THE WATERSHED..... | 30 |
| APPENDIX 1: THE BENCHMARKS (SEPARATE DOCUMENT) | 32 |
| APPENDIX 2: RIVER REACH SUMMARIES (SEPARATE DOCUMENT)..... | 32 |

Introduction

The McKenzie River Watershed is a gem. Rushing cold and clear out of the Cascade Mountains, the river and the surrounding watershed support unique fish and wildlife populations, have outstanding water quality, and offer unparalleled scenic treasures. The watershed's diverse ecosystems range from glacier-clad peaks, wilderness forests, old-growth conifers, oak woodlands, numerous streams and lakes, to the meandering river channel and wide floodplain of the lower McKenzie River Valley. The watershed supports diverse recreation activities, towns and cities, and supplies drinking water to over 200,000 residents.

Throughout Oregon, declining fish and wildlife populations, coupled with water quality problems, are signs that watersheds are in trouble. Despite its outstanding features, the McKenzie River Watershed has not escaped these problems. The watershed's upper Willamette River spring chinook salmon, bull trout, Oregon chub, and spotted owls are listed as threatened species under the federal Endangered Species Act. Other wildlife populations, such as the western pond turtle, are also declining. Some streams, especially in the lower portions of the watershed, have water quality problems. The watershed is on the edge of the cities of Eugene and Springfield, and with increasing population comes growing pressure on river and upland habitats, fish and wildlife populations, and water quality.

The McKenzie Watershed Council plays an important role in achieving a healthy watershed. The Council promotes voluntary actions to enhance and protect the watershed's resources through partnerships and collaboration among residents, industry, agencies, and other interests. This collaboration supports the Council's goals of restoring fish and wildlife populations and habitat, improving water quality, and enhancing the diverse ecosystems that are critical for achieving a healthy watershed and thriving communities.

Working in partnership with McKenzie Watershed communities and interests, the Council has completed a number of projects and actions designed to better understand the watershed and improve fish and wildlife habitat and water quality. Map 1 provides an overview of the Council's activities.

Recently, the McKenzie Watershed Council commissioned a biological assessment of the watershed's resources. (The assessment can be found on the Council's Web site at <http://www.mckenziewatershedcouncil.org/>) The Council's key finding is that despite significant losses of important fish and wildlife habitats, the McKenzie River Watershed has some of the best remaining habitat in the Willamette River Basin. Even on the edge of urbanized Eugene and Springfield, there are remaining high quality river channel habitats, floodplain forests, and upland areas. It is not too late to get ahead of the growing population pressures to assure a healthy McKenzie River Watershed for future generations. The pieces, while fragmented, are in place, and there is a window of opportunity to expand and reconnect remnants of quality habitat. Accomplishing this will require taking steps to protect important areas for fish and wildlife, and restoring habitats that have been lost.

Protecting and restoring the McKenzie River Watershed will take a comprehensive and prioritized effort. Addressing this need, *The McKenzie River Watershed Conservation Strategy* builds on the results of the assessment to provide a plan for Council action and partnerships. The strategy

outlines a framework for working in collaboration with watershed residents and other interests to protect and enhance the watershed's important habitats and resources. This effort will enhance community stewardship, contribute to the restoration of the watershed's threatened spring chinook salmon run, and improve habitats for other fish and wildlife species.

What is Voluntary Conservation?

The McKenzie Watershed Council seeks to improve the watershed through voluntary conservation actions. The *Conservation Strategy* outlines a variety of ways to achieve this, primarily through education and voluntary landowner partnerships. These collaborative actions build upon the principles outlined in the *Oregon Plan for Salmon and Watersheds* (sidebar). Many of the voluntary conservation actions concentrate on protecting and restoring fish and wildlife habitat. Protection efforts emphasize maintaining high quality natural habitats and related biological, chemical, and physical processes in the watershed. In many cases, management actions may be necessary to maintain natural functions and characteristics. Restoration actions emphasize reestablishing upland, riparian, and aquatic habitats and related biological, chemical, and physical processes.

Oregon Plan for Salmon and Watersheds

Prescription:

Seek the truth, learn, and adapt

Be humble

Start by obeying the law and living up to our commitments

Then, act voluntarily – the law may not be enough

Respect people – respect nature

Be patient

Build partnerships, make friends, and strengthen community

Strive to let rivers be rivers, and un-tame – a little – our watersheds

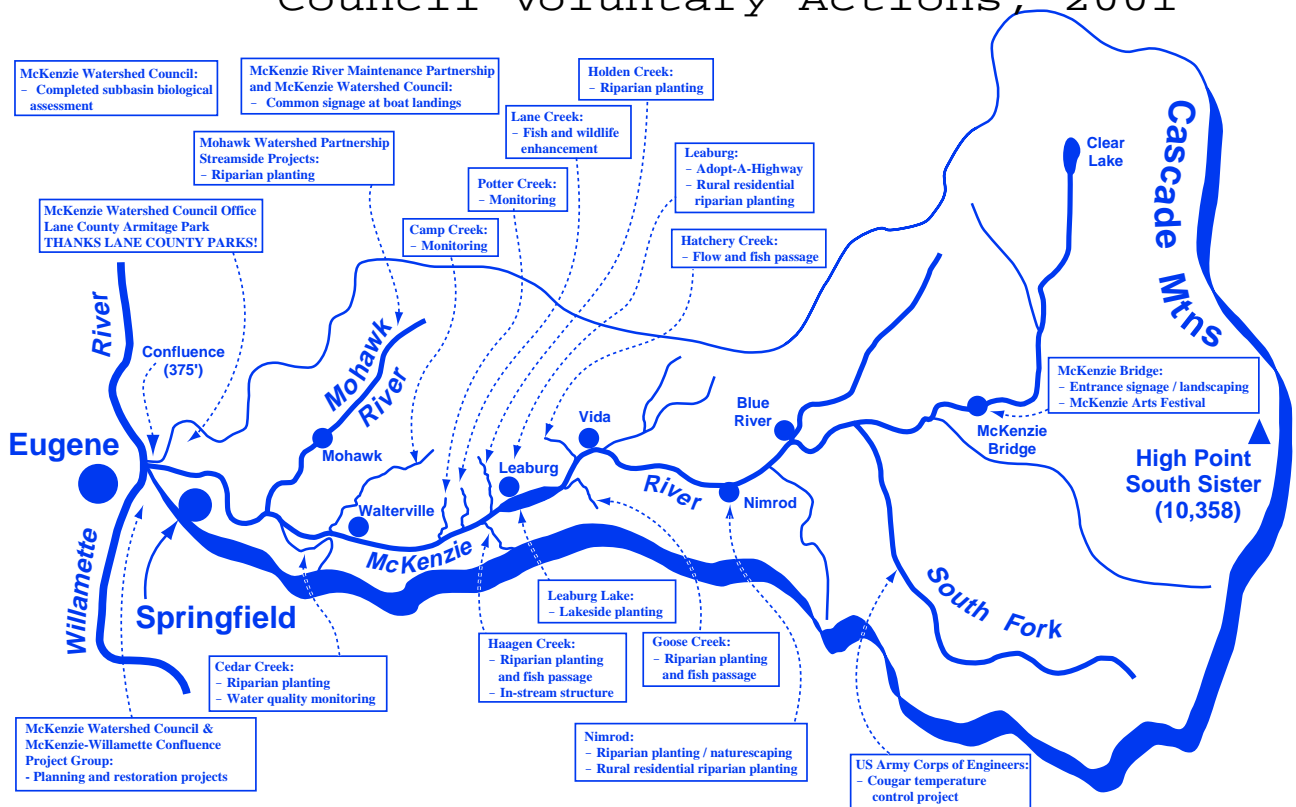
Share information – share the power to make decisions – share the responsibility to act

Consider our children's needs – salmon and human

Never give up hope

–Year 2000 Update on the Oregon Plan for Salmon and Watersheds

McKenzie River Watershed Conservation Strategy Council Voluntary Actions, 2001



Map 1: Council Voluntary Actions

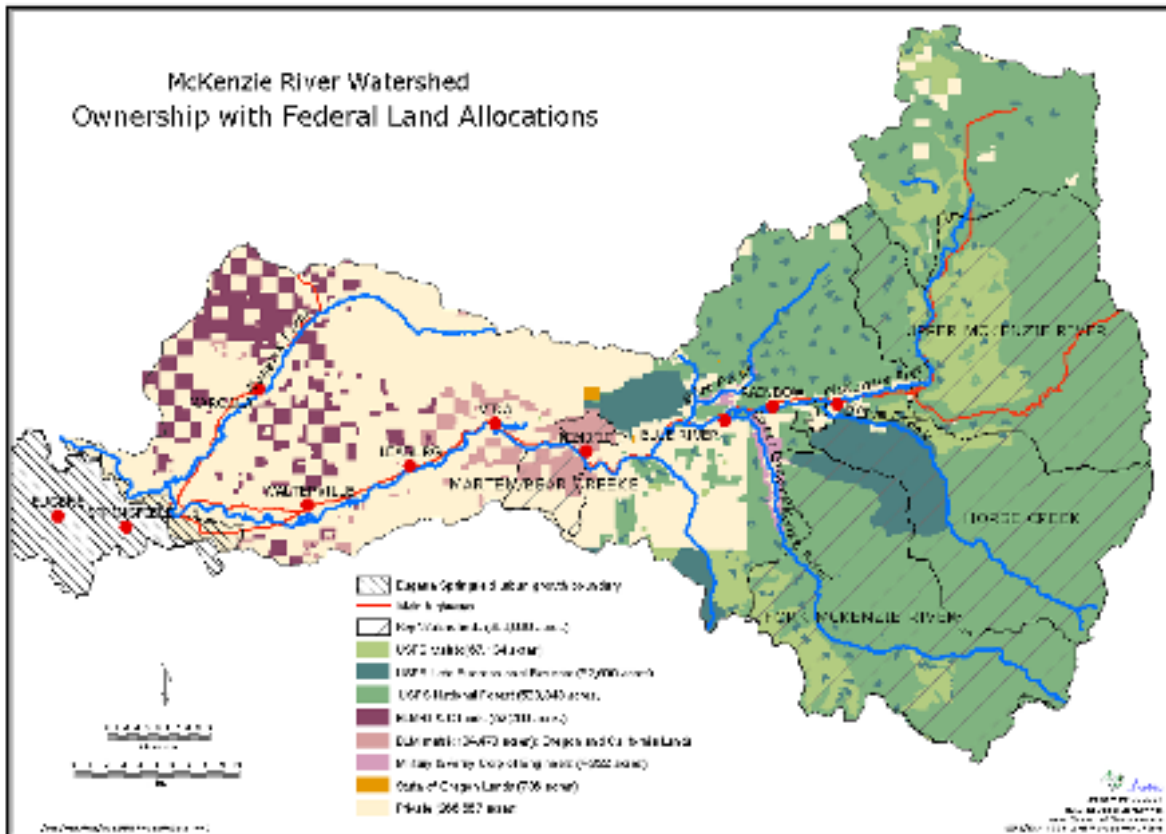
The Watershed: A Sense of Place

The McKenzie River Watershed Conservation Strategy recognizes that the watershed's 857,364 acres encompass diverse ecosystems, ownerships, and communities (Map 2). The patterns of landownership and management affect strategies to collaboratively protect and restore habitat across the watershed. The federal government manages over 69 percent of the watershed. In the upper basin, the Forest Service manages large contiguous blocks of land. Below Blue River, federal and private forestlands, primarily owned by forest products companies, are mixed in a checkerboard pattern with federal lands managed by the Bureau of Land Management.

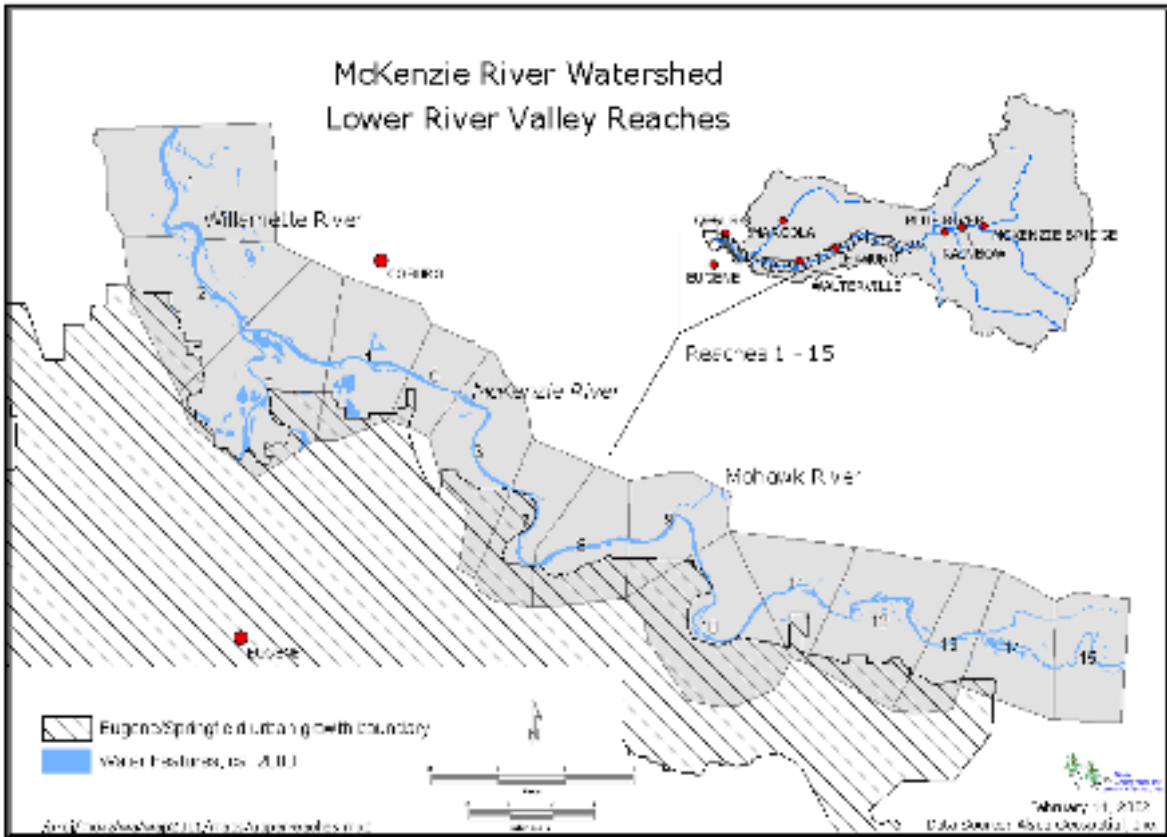
The McKenzie River Watershed is also home to approximately 35,000 people. Communities are located along the river and its tributary streams: Eugene, Springfield, Marcola, Camp Creek, Walterville, Leaburg, Vida, Nimrod, Blue River, Rainbow, McKenzie Bridge, and others. Most of the lower McKenzie River valley, and almost all of the river's broad flood plain and riparian area, is in private ownership.

In 2000, the McKenzie Watershed Council completed an assessment of the watershed's fish and wildlife habitats (Alsea Geospatial, Inc. and others, 2000). The assessment was designed to help the Council better understand the historical characteristics of fish and wildlife habitat, the current status of those habitats, and future trends. The assessment was intended to serve as a roadmap for actions to protect and improve fish and wildlife habitat. Because the assessment identified fish and wildlife species, habitat types, and areas of the watershed that are high priorities for conservation actions, it provides the scientific framework for the development of the *McKenzie River Watershed Conservation Strategy*. The assessment, while examining the entire watershed, focused on the Lower McKenzie River Valley, generating detailed information on the river and floodplain habitats from Quartz Creek near Nimrod to the river's confluence with the Willamette River near Eugene (Map 3).

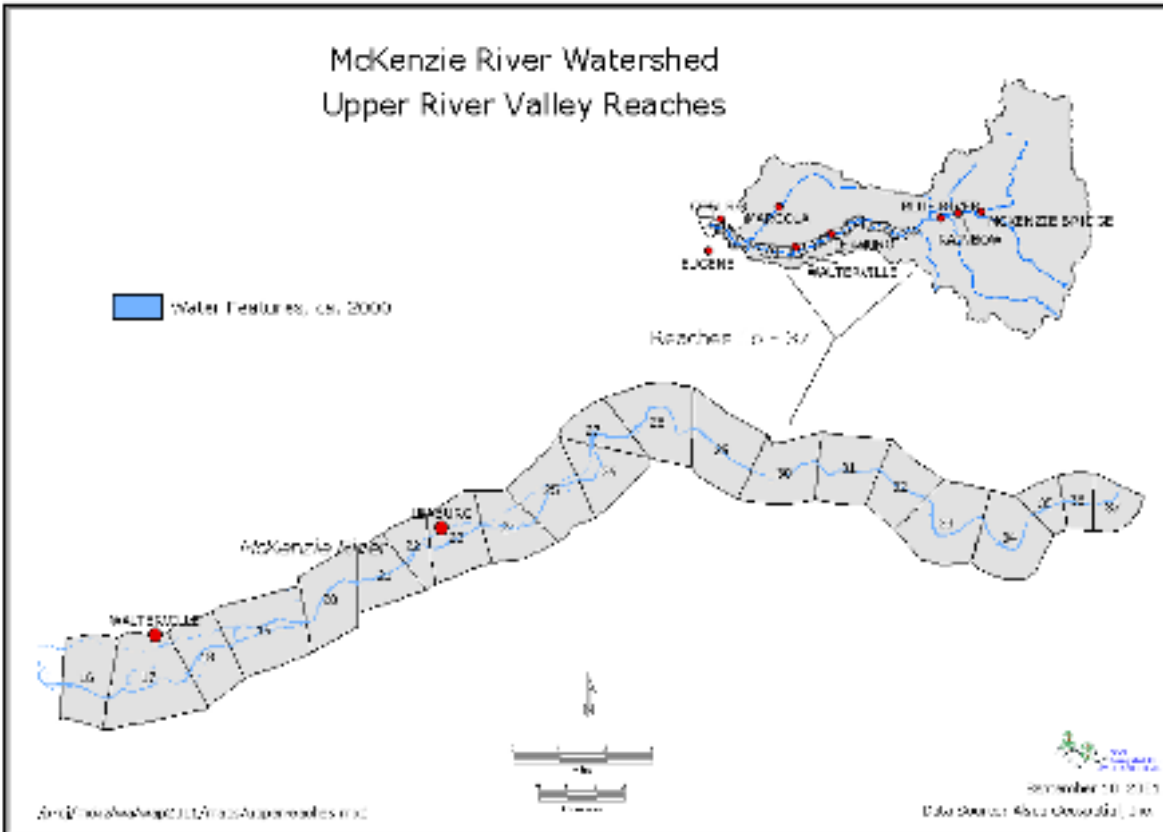
The assessment found that while there have been significant changes to habitats in the upper portions of the watershed on federal land – the dams that block upstream migration of salmon, for example – there are good reasons to focus Council actions on the lower river valley. The lower McKenzie River Valley, where private property is concentrated, has changed greatly over the last century, primarily as a result of population growth and associated residential and other development. This trend is continuing. Most of the future population growth and new residences in the watershed will be concentrated in the lower valley, especially in and around the cities of Eugene and Springfield within the river's wide floodplains and upland habitats. The wide floodplains of the lower McKenzie River, with islands, side channels and wetlands, are some of the most productive fish and wildlife habitat in the basin. The lower river, for example, provides valuable rearing habitat for spring chinook salmon juveniles and other fish species. On the valley floor and in the adjacent hills, the lower portions of the watershed also contain remnants of rare upland habitats like oak woodlands and grasslands. For these reasons, the assessment concluded that there are significant opportunities and challenges in the lower portions of the McKenzie River Watershed for fish and wildlife habitat restoration and protection (Photos 1 - 6).



Map 2: Watershed and major land ownership, including conservation designations



Map 3a: The lower watershed and river assessment river reaches



Map 3b: The upper watershed and river assessment river reaches



Photo 1.
Oak woodland habitats are disappearing from the lower McKenzie River Watershed. (Photo courtesy of the City of Eugene.)

Photo 2.
This pond near the confluence of the McKenzie and Willamette Rivers is an example of pond turtle habitat. (Photo by John Runyon.)





Photo 3.
Riparian vegetation and river habitat is modified through actions such as placement of rocks on the bank and removal of trees and other vegetation. (Photo courtesy of Karl Morgenstern, Eugene Water & Electric Board.)

Photo 4.
Large trees along the McKenzie River provide wildlife and fish habitat. (Photo courtesy of Karl Morgenstern, Eugene Water & Electric Board.)





Photo 5.
Side channels and
backwater areas
provide important
habitats for a variety of
wildlife and fish,
including resting areas
for juvenile salmon.
(Photo courtesy of Karl
Morgenstern, Eugene
Water & Electric
Board.)

Photo 6.
This tree and shrub
planting project near
Vida, is an example
of voluntary
restoration actions.
(Photo by John
Runyon.)



Why Focus on Key Habitats?

The McKenzie Watershed assessment described the loss of significant aquatic and upland habitats in the lower watershed that are reduced from historical levels and are important for fish and wildlife populations and water quality. These key habitats include:

- **River and stream habitats.** River channel and tributary stream areas, especially side channels and backwaters offer diverse aquatic habitats, refuge for fish and other species during floods, and important rearing areas for spring chinook salmon and other fish. River islands are especially important fish and wildlife habitat due to their extensive edge habitat and isolation from other areas. River and stream channel habitats have been lost through activities such as riverbank stabilization to protect homes, and changes to flood flows from the dams that once scoured out side channels and created islands.
- **Floodplain areas and riparian vegetation.** Roads, houses and other human developments concentrated next to streams, rivers, and lakes have contributed to the loss of streamside (or riparian) vegetation. Riparian vegetation provides important wildlife habitat and contributes to the aquatic environment. It is important to protect remaining riparian areas and larger expanses of floodplain vegetation, especially older tree stands such as cottonwoods and conifers. In addition, it is critical to prevent further development of low elevation areas next to the river channel where it used to regularly flood and allow the river to continue to shift and interact with the floodplain.
- **Wetlands.** Historically, the lower McKenzie River Valley had extensive wetland habitats. Besides providing valuable fish and wildlife habitat, wetlands offer other benefits such as absorbing flood flows, reducing erosion and storm damage, and maintaining water quality.
- **Pond turtle habitat.** Western pond turtle populations are declining throughout the Willamette Valley. Causes for the decline include introduced predators (such as bass); loss of ponds and side channel areas in the river for adults and juveniles; and the reduction in upland areas with open vegetation, coupled with increased disturbance in their egg-laying territory. It is important to protect the ponds and other areas that provide the remaining pond turtle population strongholds in the lower McKenzie River Valley.
- **Rare upland habitats.** Historically, the lower McKenzie River Valley, especially in the Springfield area and the lower Mohawk River and Camp Creek Valleys, had extensive oak woodlands, ponderosa pine stands, and grasslands. These vegetation types, home to declining wildlife species such as the Western Meadowlark (Oregon's State Bird), have been lost through conversion to other land uses and suppression of historical fire regimes.

Focusing conservation efforts on these key habitats in the lower watershed and other private lands is consistent with the McKenzie Watershed Council's emphasis on working with private landowners to promote voluntary stewardship actions.

Conifer forests dominate the land cover of the McKenzie River Watershed. These forests are divided between federal and private lands. On the federal forestlands, the Northwest Forest Plan, administered on Forest Service and Bureau of Land Management lands in the watershed, provides a

conservation focus for the upper watershed. This federal strategy restores and protects important habitats in the watershed: key watersheds that benefit fish and forest habitats, and Late Successional Reserves (LSRs) that protect species including the spotted owl (Map 2). Key watersheds in the McKenzie River Watershed selected for their direct contribution to bull trout and spring chinook salmon conservation are Bear and Martin Creeks, the South Fork of the McKenzie River, Horse Creek, and the upper McKenzie River.

The efforts on federal lands, however, leave gaps in the conservation of fish and wildlife species. There are species that need the entire McKenzie Watershed to thrive, or require habitats that are mostly on private lands that do not fall under these actions. Spring chinook salmon, for example, must pass through the growing population centers of the lower watershed on their journey to spawn in the upper portions of the river on federal lands – in Horse Creek and other tributaries. On the return journey, the young salmon will stay for a time in the lower river to grow before continuing to the ocean. Many of these river channel areas in the lower valley have lost significant quantities of the side channels and pools that are important rearing habitats. On private lands, such as rural residential and urban areas concentrated on the floodplain of the lower McKenzie River Valley, western pond turtles require conditions that are in short supply, such as ponds and clearings that are free of predators. Rare upland habitats, such as grasslands and oak woodlands, only occur on private lands in the lower watershed.

The Council, while continuing to support wise stewardship on federal lands, understands the need to address this critical gap in private land conservation actions. The intent of the *Conservation Strategy* is to provide a landscape approach to voluntary actions on private ownerships that will complement federal land management policies and activities.

Overview of the Strategy

The *McKenzie River Watershed Conservation Strategy* is a framework for protecting and restoring the watershed through voluntary collaboration and partnerships. Turning the strategy into voluntary actions that will improve fish and wildlife habitats and water quality will require working closely with watershed residents and other interests. The goal is not to return the watershed to a pre-settlement “pristine” state. The intent of the *Strategy* is to work with local communities and other interests to define a future for the watershed that includes a healthy ecosystem which supports thriving social and economic systems.

For reasons stated above, the *Strategy* will focus actions on priority watershed areas and communities of interest in the lower McKenzie River Valley. The seven community areas and their surrounding environment have distinct fish, wildlife, and water quality (Table 1, Map 4).

The *McKenzie River Watershed Conservation Strategy* identifies five goals that will help reach the Council’s objective of achieving healthy McKenzie River Watershed resources and human communities. These goals are:

- Protect and restore key fish and wildlife habitats
- Protect and restore water quality and quantity
- Facilitate partnerships to advance local stewardship actions

- Promote community understanding and stewardship through outreach and education
- Account for the results of the investments in the watershed

Table 1: *McKenzie River Watershed Conservation Strategy* community focus areas.

| <u>Community Conservation Focus Areas</u> | <u>Assessment River Reaches</u> |
|--|--|
| <i>McKenzie-Willamette River Confluence</i> | 1-5 |
| <i>Springfield and Mohawk River Watershed</i> | 6-12 |
| <i>Cedar and Camp Creek Areas</i> | 13-16 |
| <i>Walterville</i> | 17-20 |
| <i>Leaburg</i> | 21-27 |
| <i>Vida</i> | 28-30 |
| <i>Nimrod</i> | 30-37 |
| <i>Upper Watershed Communities</i> | Not assessed |

The *Strategy*, based on current conservation science, emphasizes the following principles for aquatic and upland habitat improvement:

- Concentrate protection in areas of the watershed with remaining high quality habitats
- Reconnect isolated high quality habitats
- Concentrate restoration in areas where natural processes once created the best habitats and there has been a loss in quality, amount, or both.

To achieve these goals the Council will promote strategies and actions that will help achieve the vision:

Through the McKenzie Watershed Council's Conservation Strategy, the McKenzie River Watershed supports exceptional water quality and habitats in balance with human economic livelihood and quality of life.

This document outlines the four key components of the strategy: The Vision, Goals, Strategies, and Benchmarks.

Vision:

It is important to describe what the Council would like to achieve with the *Conservation Strategy*. The vision describes the Council’s desired future for the watershed for fish and wildlife habitat, water quality, and collaboration with residents and other interests.

Goals:

Goals are the results of actions completed under the *Conservation Strategy*. Achievement of the goals will move the McKenzie River Watershed toward the Council’s vision.

Strategies:

The strategies outline the actions the Council will take to achieve the Goals.

Benchmarks:

Benchmarks measure whether investment in the McKenzie River Watershed is showing progress toward achieving the Council's vision. By measuring progress and reporting the results, we can begin to portray how the *Conservation Strategy* is both contributing to the health of the watershed and building community stewardship. The benchmarks are set out to 2020, providing a long-term goal. Performance standards are specific targets set at 2007 that measure progress toward achieving the long-term goals.

Moving from Strategy to Action

The final step in the implementation of the *Conservation Strategy* is the development of restoration, protection and education work plans that will define specific conservation actions and locations. The work plans will be developed for: 1) the Council (annually); and 2) each of the community conservation focus areas (over the five years). The Council, through technical help and funding, will assist communities in each of the areas to develop work plans that describe specific actions to improve water quality and fish and wildlife habitat in local areas. Actions will focus on all of the strategies, including on-the-ground projects, developing partnerships, and public outreach and education. The work plans will describe the details about each action, including lead individuals and organizations, location, timelines, funding sources, and how progress will be measured.

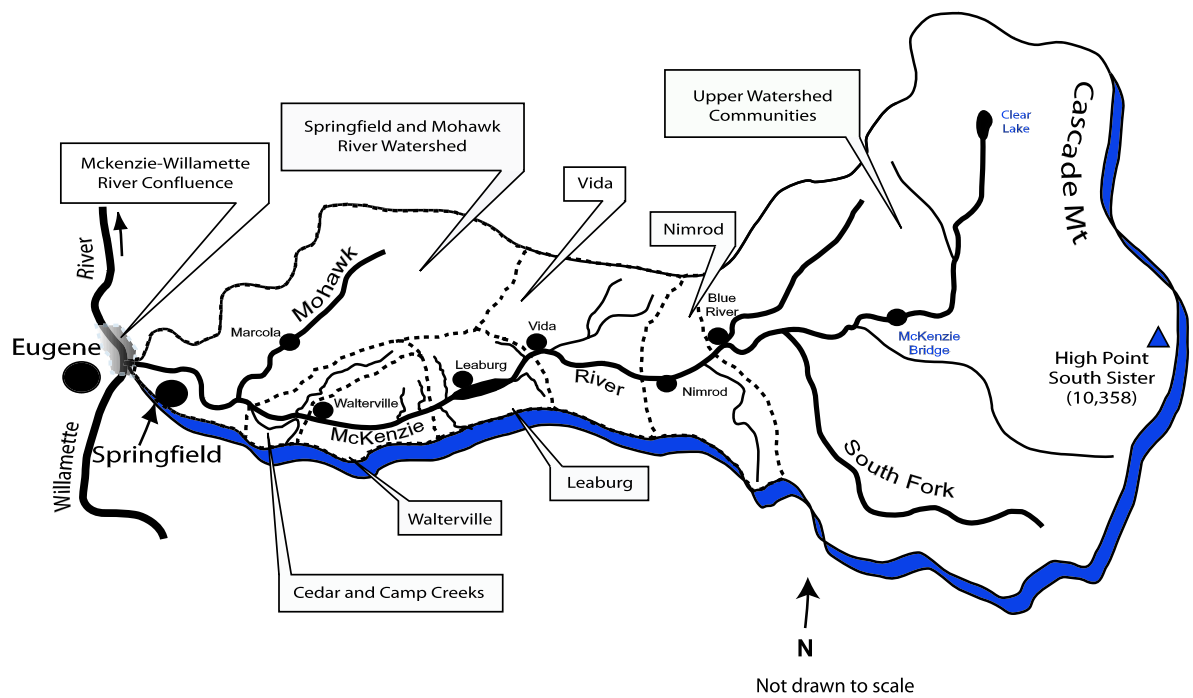
Example of a Local Action Plan: The Confluence of the McKenzie and Willamette Rivers

The confluence of the McKenzie and Willamette Rivers is one of the *Strategy's* community conservation focus areas that have been developing a local action plan. Historically, the confluence area was characterized by dynamic river channels, extensive side channel areas, and floodplain forests. Currently the area retains some of the finest examples of riparian forests and active river channel areas in the Willamette River system. However, through land use change and efforts to control the river, there has been a significant loss of key habitats. Sand and gravel mining and farming are the primary land uses in the Confluence Area, with some residential and other uses mixed in.

The local sand and gravel industry, farmers, other property owners, and other community interests are working collaboratively with the Council and government agencies to develop a local conservation action plan. The plan is designed to protect and improve fish and wildlife habitat while addressing the landowners' concern for bank erosion and flooding. The plan emphasizes fish and wildlife habitat actions that will take place over the next six years. Building on these actions, the group is defining a future vision for the area that will take fifty or more years to develop. Short-term actions identified by the confluence community group include:

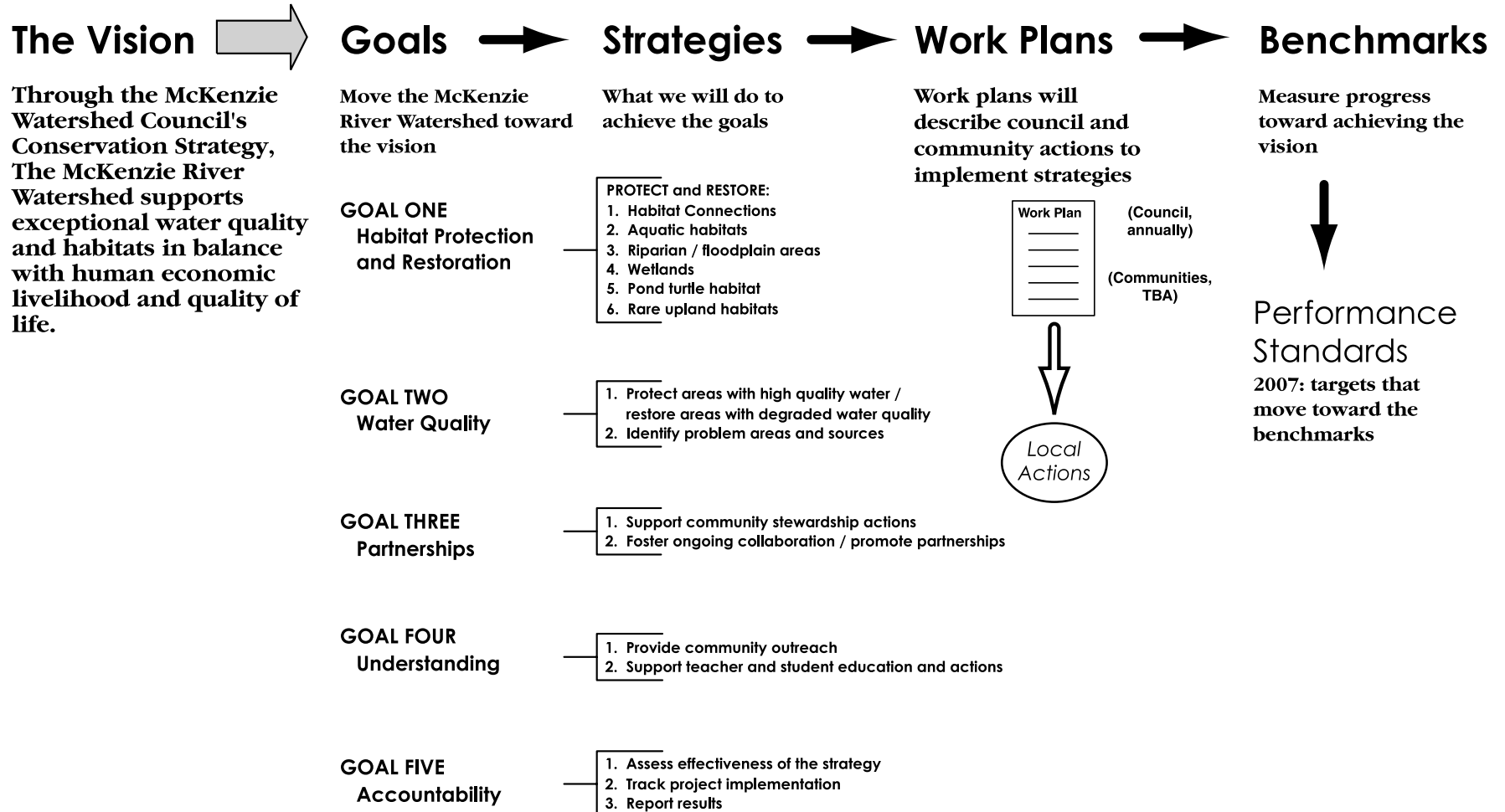
- Enhancing fish and wildlife habitat by constructing new side channel and other back water areas; and
- Improving pond turtle habitat by placing resting logs in ponds and creating nesting areas.

McKenzie River Watershed Conservation Strategy Community Conservation Focus Areas



Map 4: Key conservation planning areas

The McKenzie River Watershed Conservation Strategy



GOAL ONE

Protect and Restore Key Fish and Wildlife Habitats

What is it?

The McKenzie River Watershed still retains many of the habitats important for diverse and healthy fish and wildlife populations. Protecting these habitats, and, where degraded, restoring priority aquatic, riparian, floodplain, and upland habitat from future loss is a cornerstone of the *Conservation Strategy*.

Many important habitats, such as continuous tracts of floodplain forests that were once abundant in the lower McKenzie River Valley, are now reduced to fragments. These habitats have been lost through development or misunderstood resource value. In many areas, for example, native streamside vegetation has been changed through invasion of blackberries and other non-native weeds. Grasslands have been tilled for agricultural purposes or overgrazed. With lots of work, these habitats can be restored to a state where they provide valuable fish and wildlife habitat: Weeds can be controlled and native trees and shrubs can be planted that will provide shade over the stream and places for animals to feed and hide. Grasslands can be restored through controlled grazing practices and burning to release native vegetation.

Habitat protection actions will involve working with landowners on voluntary actions to conserve habitat values into the future. There are a variety of approaches for protecting key areas, many of which offer significant tax and other incentives to the willing landowner.

Why is it important?

Protecting key fish and wildlife habitats before they are degraded or lost makes good sense for the watershed and communities. It is expensive to restore habitat that has been altered, and, once lost, many habitats cannot be returned to conditions that benefit fish and wildlife habitat and water quality. It is difficult and very expensive, for example, to return a streamside parking lot to riparian trees and shrubs.

Restoring aquatic, riparian, floodplain, and upland areas, in concert with habitat protection efforts, is essential to ensure the future health of the McKenzie River Watershed. Working to restore key habitats will expand and reconnect the McKenzie River Watershed's remnants of good habitat. Restoring habitats is essential for resilient fish and wildlife populations, and also for high quality water. Habitat protection works in partnership with restorations efforts; key high quality protected areas can be linked together by restoring the habitat connections between the fragments. In some cases, for example, road crossings and other obstructions prevent fish from moving into upstream areas used for spawning and other activities. Removing these barriers opens new or underused habitat, contributing to healthy populations of fish and other aquatic organisms.

The McKenzie Watershed assessment described the loss of significant aquatic and upland habitats in the lower watershed. According to the assessment, habitat restoration and protection efforts should focus on:

- Habitat connections
- River and stream habitats
- Floodplain areas and riparian vegetation
- Wetlands
- Pond turtle habitat
- Rare upland habitats

Where are we?

Habitat protection. Fortunately, important pieces of aquatic, wetland, and upland habitats remain in the lower watershed. The assessment identified the location of these key habitats. Many significant areas lie on the edges of Eugene and Springfield, and in the broad McKenzie and Mohawk River floodplains.

Habitat restoration. The assessment identifies where important pieces of aquatic, riparian, wetland, and upland habitats have been lost in the lower McKenzie River Valley. Key areas of habitat loss include the confluence of the McKenzie and Willamette Rivers, the river channel areas and floodplain forests along the edges of the City of Springfield, the lower Mohawk River Valley, and uplands in the lower portion of the McKenzie River Valley.

Where are we going?

The Council, in partnership with other interests, will identify opportunities to protect and restore the key habitats highlighted in the assessment. This work will emphasize developing a connected network of high quality fish and wildlife habitats in the lower McKenzie River Valley and tributary streams. These habitats will provide broad benefits to multiple species and different life stages (rearing, migration, etc.), and contribute to protecting and restoring water quality and other ecological functions. Habitat protection and restoration efforts will concentrate on areas where both good habitat remains, and the type of habitat is in short supply compared to historical levels.

The Council will collaborate with residents and other interests to identify willing landowners, secure funding or other incentives, and create approaches that will restore and conserve these habitats while respecting private property rights. The Council will continue to work in close partnership with the McKenzie River Trust (a member of the Council) to implement habitat protection actions using a variety of approaches such as conservation easements.

Map 5 illustrates the key habitat protection and restoration areas. While much of this effort will focus on the lower McKenzie River Valley and tributary watersheds such as the Mohawk River, the effort will be flexible and will respond to opportunities on private land in the upper watershed.

Protection is only the first step in conserving these habitat types for the future. Many habitats will require ongoing work to maintain habitat values. Oak woodlands, for example, will require vegetation control to maintain open stands of oaks. Accordingly, all protection actions will include a plan for ongoing maintenance of the area.

Strategies:

1. Protect and restore habitat connections

Protecting and restoring habitat connections will focus on two areas: 1) barriers to fish and other aquatic organisms, and 2) maintaining and reestablishing quality habitat between protected terrestrial areas. Initially, aquatic barrier restoration work will focus on tributary streams to the Mohawk and lower McKenzie River. The Council will work in partnership with landowners and Lane County government to identify, prioritize, and address barriers to aquatic life such as impassible culverts. Over the long term, it will be important to investigate fish passage restoration at dams that block movement of spring chinook salmon, bull trout, and other native fish. Reestablishing connected terrestrial habitat will focus on linkages between oak woodlands, grasslands, and ponderosa pine forests.

Priority Areas Short-term: tributary streams in the lower McKenzie River Valley and uplands throughout the Mohawk River Watershed. Long-term: fish passage at dams.

2. Protect and restore aquatic habitats

Aquatic habitat protection and restoration will focus on areas with complex and diverse habitats, especially river channel and tributary stream sections where the channel is (or historically was) actively moving and connected to the floodplain, creating pools, side channels, and other important fish and wildlife habitat. Special emphasis for habitat protection will be placed on channel segments with intact floodplain trees and other vegetation. Stream and river channel restoration approaches, tailored to the area, can include creation of side channels and other off-channel habitats, and placement of wood to create cover and pools. Map 5 highlights key areas for protection and restoration of river and stream habitats.

Priority Areas River channel segments in the McKenzie-Willamette River Confluence Area (Reaches 1-3), river channel segments along the edge of the city of Springfield (Reaches 7, 11, and 12), river and tributary stream channel segments in the Cedar and Camp Creek Area (Reaches 14 and 15), and river and tributary stream channel segments in the Walterville area (Reaches 17 and 19).

3. Protect and restore floodplain and riparian vegetation

Riparian area habitat protection will focus on river and tributary stream areas with intact, native streamside and floodplain vegetation. The emphasis will be on protecting the larger expanses of floodplain vegetation, especially older tree stands such as cottonwoods and conifers along the McKenzie and Mohawk Rivers. The floodplain, defined by elevation and historical river flooding, will also be a focus for protection from future degradation.

Floodplain and riparian area habitat restoration will focus on low elevation river and tributary stream adjacent areas that historically flooded at regular intervals and had extensive native riparian vegetation, especially large trees and other native plants.

Priority Areas Floodplain forests and surrounding floodplain areas in the McKenzie-Willamette River Confluence Area (Reaches 1-5), floodplain forests and riparian vegetation along the Mohawk River and its lower valley tributary streams and along the river near the edge of the city of Springfield (Reaches 5-9 and 10-12), floodplain forests and tributary stream riparian vegetation in the Cedar and Camp Creek area (Reaches 13-16) and the Walterville area (Reaches 17 and 19), and

protecting older conifer trees (and snags) and reestablishing conifers in the Nimrod area (Reaches 30-37).

4. Protect and restore wetlands

Wetland habitat protection and restoration will focus on reconnecting remaining areas with functioning wetlands, with an emphasis on McKenzie and Mohawk River floodplain areas.

Priority Areas Wetlands in the McKenzie-Willamette River Confluence Area (Reaches 1-3), wetlands in the lower Mohawk River Valley near the edge of the city of Springfield (Reaches 10-12), wetlands in the Cedar and Camp Creek Area (Reaches 11-15), and wetlands in the Walterville area (Reach 17).

5. Protect and restore pond turtle habitat

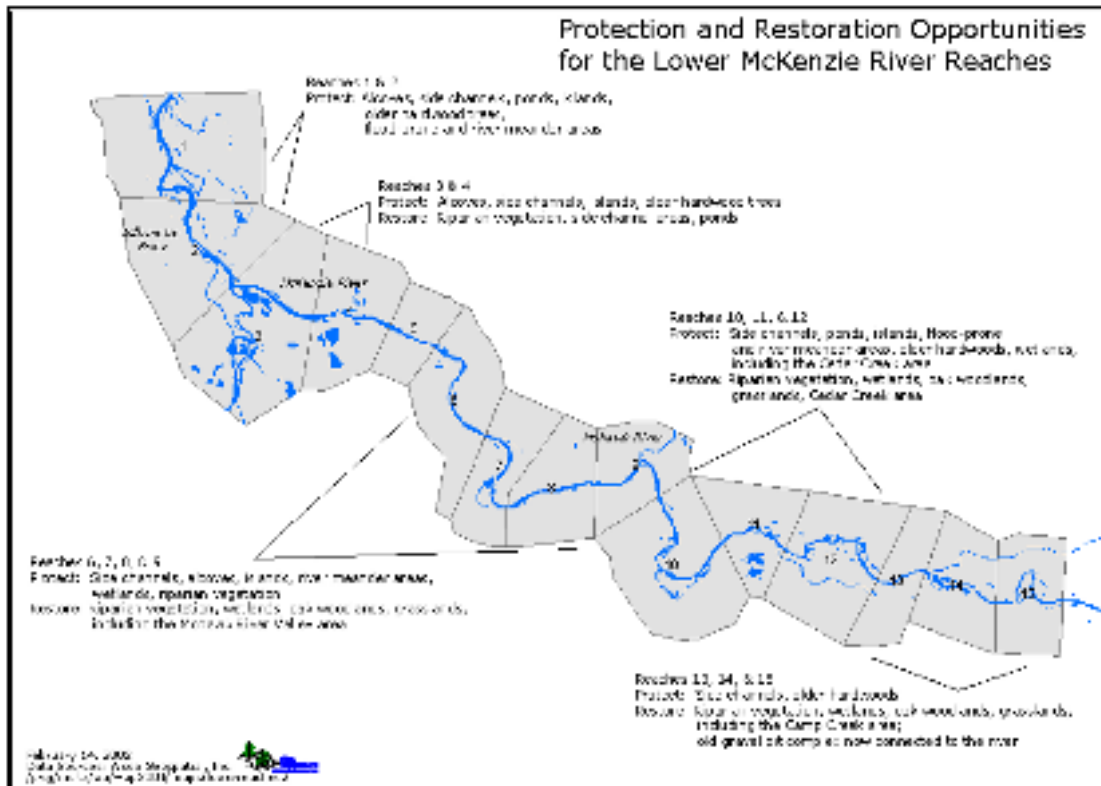
Western pond turtle habitat protection and restoration will focus on the areas where there are population strongholds and remnants of remaining habitat, with an emphasis on McKenzie River floodplain areas.

Priority Areas Pond turtle habitats in the McKenzie-Willamette River Confluence Area (Reaches 1-3), and pond turtle habitats in the lower Mohawk River Valley and along the edge of the city of Springfield (Reaches 10-12).

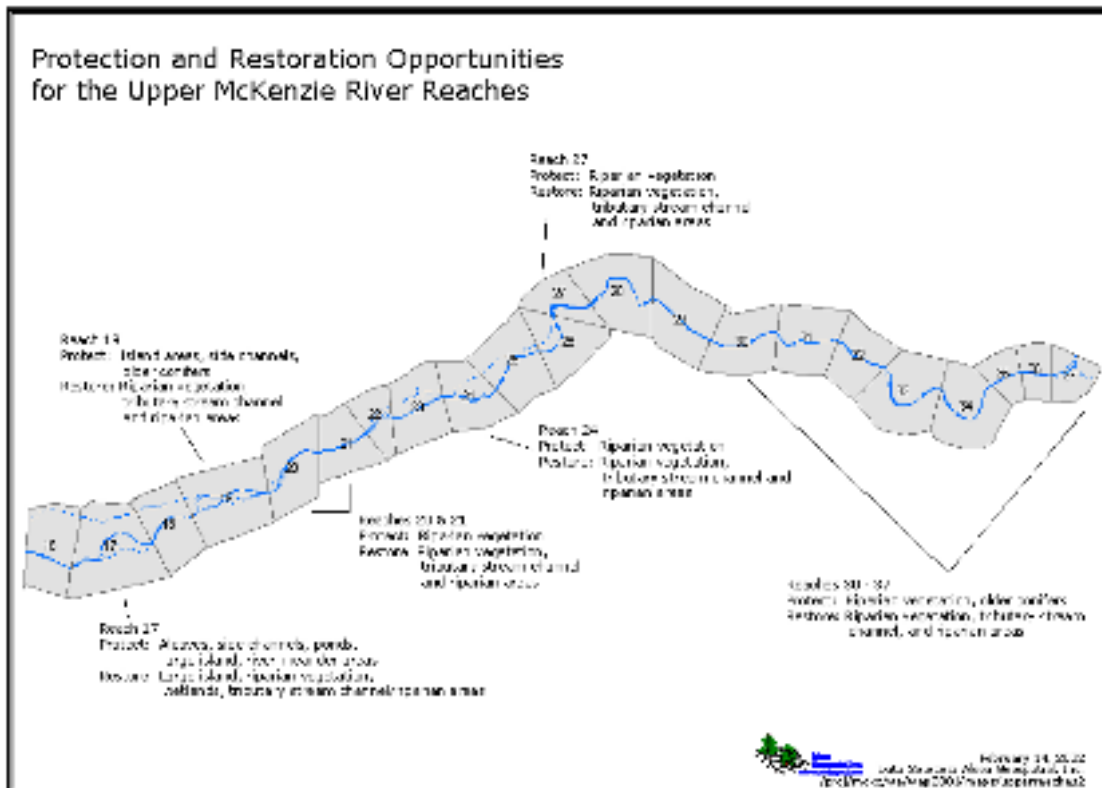
6. Protect and restore rare upland habitats

Rare upland habitat protection and restoration will focus on conserving and maintaining the remaining oak woodlands, grasslands, and ponderosa pine areas.

Priority Areas Rare upland habitats near the edge of the city of Springfield (Reaches 6-9), the Mohawk River Valley, and the Cedar and Camp Creek Area.



Map 5a: The lower watershed and assessment reaches, highlighting key habitat protection and restoration areas



Map 5b: The upper watershed and assessment reaches, highlighting key habitat protection and restoration areas

What is it?

The McKenzie River Watershed provides high quality water that supports abundant fish and other aquatic life. Clean water is important for recreation and drinking water. Water quality (the chemical, physical, and biological properties of water) and water quantity (the amount of water in the stream or river) are important signs of the health of the watershed.

Why is it important?

According to the assessment and ongoing monitoring by the Council and the Oregon Department of Environmental Quality, the McKenzie River Watershed has, with a few exceptions, outstanding water quality and adequate in-stream flows. Maintaining water quality and quantity will help to ensure the health of the river system's aquatic life and continued drinking water supplies. Non-point source pollution from multiple areas is a real threat to the McKenzie River's high water quality. Continued growth and development, especially in the lower watershed, can contribute nutrients, bacteria, turbidity, and toxins that compromise water quality. Along with protecting areas of the watershed with high water quality, it is important to restore streams which have water quality and quantity problems. Because we do not know where all of the water quality problems are in the watershed, it is necessary to continue monitoring the water quality status of the river and tributary streams. To gauge our progress, it is also important to continue to track water quality trends at key locations.

Where are we?

The assessment and ongoing monitoring by the Oregon Department of Environmental Quality and the Council's monitoring program have identified areas of the watershed that have water quality and quantity concerns. Most of the water quality concerns are in portions of the watershed where growth and development are occurring, primarily in the lower McKenzie River Valley, along tributary streams, and in the Mohawk River Watershed. Map 6 shows the water quality ambient monitoring network, and highlights key areas of concern.

Where are we going?

The Council, in partnership with other interests, will work to protect, restore, and monitor water quality throughout the watershed. Much of the Council's focus will be on preventing conditions that contribute to water quality problems; it will do so through outreach and education targeted to watershed residents and landowners. Water quality restoration actions will work in concert with habitat restoration actions to improve riparian vegetation, uplands, wetlands, and other watershed characteristics that contribute to water quality. Monitoring water quality, primarily in tributary streams, will be necessary to identify emerging threats to water quality, and to track trends. The Council will collaborate with key interests and other organizations to carry out this strategy, including working closely with the Eugene Water & Electric Board (EWEB) and the Springfield Utility Board (SUB) to implement their Source Water Protection Programs. These programs focus

on monitoring and controlling non-point pollution sources such as toxins and other key water quality constituents.

Strategies:

1. Protect areas with high water quality and quantity & restore areas with degraded water quality and quantity

Water quality protection and restoration will emphasize preventing conditions that contribute to water quality and quantity problems, and restoring degraded areas, by:

- 1) Providing education and outreach on measures to maintain and improve water quality,
- 2) Advocating for habitat protection and restoration efforts that contribute to the maintenance of water quality and quantity, on both government and private land
- 3) Pursuing habitat restoration projects (for example, riparian vegetation planting) that contribute to the improvement of water quality
- 4) Advocating for government policies (for example, road building and housing standards) that help to maintain water quality

Priority Areas Entire watershed, with an emphasis on the lower McKenzie River Valley and tributary streams, especially the Springfield and Mohawk River Watershed Area; Cedar and Camp Creek Area; and the Walterville Area.

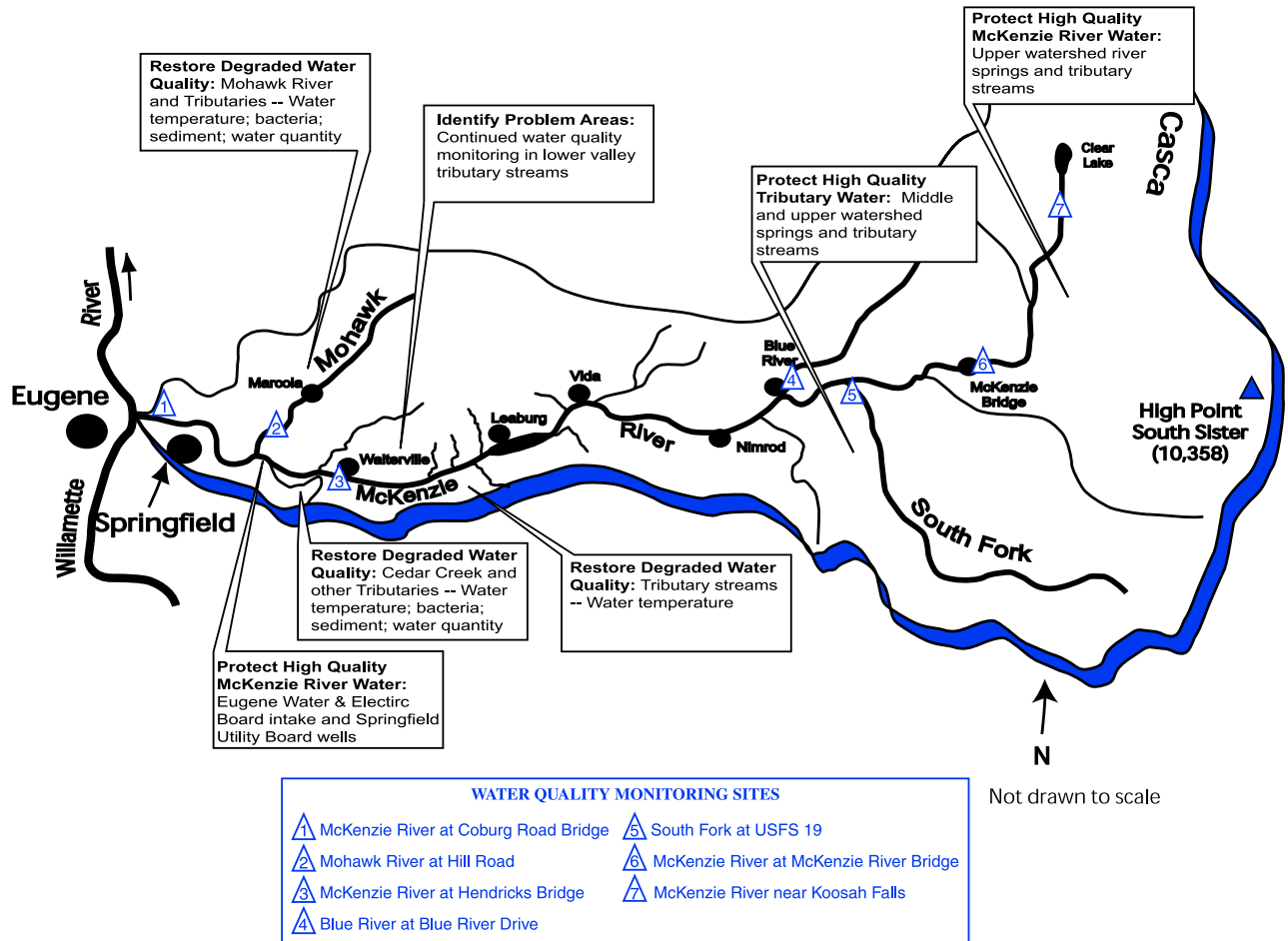
2. Identify problem areas and sources of water quality and quantity problems

Targeted monitoring and other studies will identify areas that have water quality problems, and help to identify the sources of the problems. The Council, working in collaboration with landowners, EWEB, and other interests, will continue to monitor key tributary streams in the lower watershed, assessing a number of water quality parameters including temperature, bacteria, nutrients, and heavy metals.

Priority Areas: the Springfield and Mohawk River Watershed Area, the Cedar and Camp Creek Area, and the Walterville Area.

McKenzie River Watershed Conservation Strategy

Water Quality Issues & Ambient Monitoring Sites



Map 6: The watershed, highlighting water quality and quantity issues

GOAL THREE Facilitate Partnerships to Advance Local Stewardship Actions

What is it?

The Council recognizes that voluntary local partnerships between watershed residents and others are critical for making improvements to the watershed on private lands and in local communities. A key part of the *Conservation Strategy* is working in collaboration with willing landowners and other interests. The Council will help develop local community efforts by providing technical assistance, funding, and other help with voluntary watershed restoration and protection actions.

Why is it important?

Protecting and restoring the McKenzie River Watershed is a large and complex undertaking. Organizations and government agencies cannot accomplish this task alone. It will take everyone – watershed residents, landowners, and organizations – working together to achieve the goals outlined in the *Conservation Strategy*. The McKenzie Watershed Council will continue to provide watershed education, while building on existing partnerships and developing new relationships will develop a basis for increased conservation projects. Working with private landowners on voluntary stewardship activities will be essential. Most of the land along the McKenzie Valley floor, which includes the ecologically important riverfront and floodplain properties, is privately owned. For the *Conservation Strategy* to succeed, the Council must build partnerships with watershed residents, interested private landowners, and volunteers to implement watershed improvement actions in these areas. The participation of watershed residents in decisions and actions will increase their willingness to make improvements to watershed health.

Where are we?

The Council has established some partnerships among residents, and sponsored numerous projects in collaboration with Council partners. These projects, primarily on riparian and agricultural lands, have begun increasing community support for improving the watershed.

Where are we going?

The Council will build local support for voluntary watershed stewardship actions by working closely with individuals and organizations throughout the McKenzie Valley to identify and implement actions. This work will emphasize working with residents and other interests in identifying willing landowners, securing funding or other incentives, and creating voluntary approaches that will protect or restore habitat and water quality.

Strategies:

1. Support community stewardship actions through information, technical support, and funding

The Council will work with key individuals and organizations in the watershed to develop broad understanding of and support for conservation actions. This work will emphasize generating support and participation through the development of local action plans for each of the community

conservation focus areas. Interested individuals will be encouraged to host informal meetings, inviting friends and neighbors. At these meetings, Council staff will discuss watershed conservation needs in each community. Each local community group will decide what conservation issues and approaches are important to them and develop locally based action plans. With the local community action plans in place, the Council will provide the “tools” necessary to carry out the actions: technical assistance, administrative help, funding, recruiting, and, where necessary, additional volunteers to assist with projects.

2. Foster ongoing collaboration with Watershed Council Partners and promote partnerships with other organizations

The Council will work closely with Council Partners and other organizations to support:

- 1) Coordinated watershed-wide habitat protection and restoration
- 2) An integrated monitoring and research effort that targets key issues
- 3) Fostering community understanding and stewardship actions

GOAL FOUR

Promote Community Understanding and Stewardship through Outreach and Education

What is it?

Education and outreach are essential for providing McKenzie River Watershed residents with the knowledge they need to make wise choices to restore and protect the health of their watershed. Both children and adults can benefit from information on the status of the watershed's resources, as well as information on the appropriate actions to protect and restore fish and wildlife habitats and water quality.

Why is it important?

Participating in effective voluntary stewardship requires knowledge. McKenzie River Watershed residents and other stakeholders should have information about key issues related to the health of the watershed and understand how their actions and efforts contribute to the quality of the watershed's environment.

Where are we?

The Council has a watershed education and outreach program. Efforts include:

- 1) Working with local teachers and students on water quality monitoring and habitat restoration projects
- 2) Providing watershed stewardship curricula and other supporting materials to teachers
- 3) Producing a quarterly newsletter describing Council actions, and providing information on the status of the watershed's resources and avenues for participation in stewardship actions
- 4) Attending community events that provide information on Council actions and other information
- 5) Reporting on the results of water quality monitoring efforts and other resource assessments
- 6) Maintaining a Web site that describes Council activities and provides access to reports

The McKenzie River watershed provides the setting for a number of research projects and other studies, including the H.J. Andrews Experimental Forest, a world-class research area. This research provides invaluable information for better managing the watershed's resources, and the area has a long history of cooperative efforts between researchers at the Experimental Forest and land managers. The Council supports the production of publications, workshops, and other means that use research information for better resource management. The Central Cascades Adaptive Management Area, established under the Northwest Forest Plan, focuses on bringing together researchers, communities, and resource managers to answer key resource management questions.

Where are we going?

The Council will continue to work closely with schools, residents, the research community, and other interests to provide information on watershed issues, and to engage the community in

watershed stewardship actions. Increased emphasis will be placed on outreach and education actions in the seven communities in the focus areas.

Strategies:

1. Provide community outreach on watershed issues and stewardship actions

The Council will expand the current outreach effort to include:

- 1) Providing graphics and other watershed stewardship materials (handouts, maps, fact sheets, and illustrations) for community meetings
- 2) Increasing staffing to provide displays at community events
- 3) Adding more material to the Web site
- 4) Producing monthly articles in the local newspapers
- 5) Hosting workshops in the watershed on conservation issues

2. Promote student and teacher education and action on watershed issues and stewardship

The Council will continue to promote student education by providing support to teachers, and assisting schools to monitor water quality and engage in stewardship projects to restore fish and wildlife habitat. Water quality monitoring and habitat restoration efforts will focus on the Conservation Strategy's priority areas.

3. Promote research and technology transfer

The Council will work closely with the H.J. Andrews Experimental Forest, the Central Cascades Adaptive Management Area, and other research institutions to promote relevant research and to disseminate information through conferences and publications. It will also encourage research by local academic institutions (the University of Oregon and Oregon State University) and agencies that improves our understanding of watershed processes and human influence on the watershed.

What is it?

The Council is committed to evaluating whether investments in the McKenzie River Watershed are improving the watershed. By tracking actions, measuring progress, and reporting the results, the Council can begin to portray how the *Conservation Strategy* is contributing to the health of the watershed and building community stewardship.

Why is it important?

The *Strategy* reflects the best current understanding of what is needed to protect and restore the resources of the McKenzie River Watershed. Implementation of the *Strategy* is complex and involves uncertainty. For that reason, it is important to measure progress at regular intervals and evaluate whether the strategies are moving the watershed toward the Council's vision.

Where are we?

The Council has an extensive water quality monitoring network and has completed a number of water quality studies and reports. While there has been significant progress in assessing and evaluating water quality in the watershed, the Council has not established a comprehensive system for tracking conservation actions, measuring improvements in fish and wildlife habitats, and evaluating community involvement in stewardship actions.

Where are we going?

The Council will establish a system of benchmarks and performance standards for evaluating how effective the implementation of the *Conservation Strategy* is for promoting each of the goals (Appendix 1). The benchmarks, set through 2020, provide a long-term guide for achieving the *Strategy's* vision for the watershed. The benchmarks describe the specific characteristics that should be attained by 2020 – for example, the number of acres of riparian habitat restored. To track progress toward the benchmarks, the Council will establish performance standards. As part of this effort, the Council will produce timely reports on the implementation and effectiveness of all actions. These reports will be provided to watershed residents, key stakeholders, and funding organizations.

Strategies

1. Assess effectiveness of the strategy

The Council will establish a comprehensive program for evaluating the effectiveness of the strategy. The program will include:

- 1) Continuing the comprehensive water quality monitoring program to track water quality trends, identify problem areas, and evaluate progress
- 2) Tracking and evaluating habitat protection and restoration efforts
- 3) Accounting for and evaluating the implementation of the strategies focused on building partnerships and promoting understanding and stewardship for watershed issues.

At regular intervals, the Council will evaluate progress towards attainment of the performance measures.

2. Track project implementation

The Council will develop a Geographic Information System and other databases for efficiently tracking the details of project implementation. The tracking system will focus on the information necessary to evaluate the performance standards and gauge progress toward meeting the benchmarks. Adopting systems currently in use will be considered.

3. Report results

The Council will produce timely reports on the implementation and effectiveness of all actions. These reports will be provided to watershed residents, key stakeholders, and funding organizations. The Council will produce an annual report on the status of the watershed and implementation of the strategy.

Appendix 1: The Benchmarks (Separate Document)

Appendix 2: River Reach Summaries (Separate Document)