AREA PLAN
Revision

Panhandle Lakes
Resource Conservation & Development Area
Idaho

Prepared by:

Panhandle Lakes RC&D Council, Inc.

April 1999

Assisted by:

U.S. Department of Agriculture
Natural Resources Conservation Service
and
Cooperating Local, State and Federal Agencies

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Panhandle Lakes
Resource Conservation and Development Area

Prepared by:

Panhandle Lakes RC&D Council, Inc.
Acting for the Following Sponsors:

Benewah Soil and Water Conservation District
Kootenai-Shoshone Soil Conservation District
Boundary Soil Conservation District
Bonner Soil Conservation District
Benewah County Commission
Bonner County Commission
Boundary County Commission
Kootenai County Commission
Shoshone County Commission
Coeur d'Alene Indian Tribe
Kootenai Tribe of Idaho
City of Tensed
City of Rathdrum
City of Post Falls
Panhandle Area Council
Sandpoint Chamber of Commerce
Priest River Chamber of Commerce

Assisted by:

U.S. Department of Agriculture,
Natural Resources Conservation Service
and
Other Cooperating Local, State and Federal Agencies

Prepared Under Authority of the
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U.S. Department of Agriculture
Natural Resources Conservation Service
Boise, Idaho

Panhandle Lakes
Resource Conservation and Development Council, Inc.

Acknowledgments

The Panhandle Lakes Resource Conservation and Development (RC&D) Council presents this Area Plan for your consideration and support.

Many sources of information were used to develop this Plan, as well as input through committee work sessions, sponsors' meetings and public meetings. Major document sources used were long-range plans from soil conservation districts, strategic action plans from county economic development units and county profiles of Idaho.

The Council acknowledges the support and assistance of the following:

Agencies

Idaho Department of Agriculture
Idaho Soil Conservation Commission
Idaho Department of Fish and Game
Idaho Department of Lands
Idaho Department of Water Resources
Idaho Department of Parks and Recreation
Idaho Division of Environmental Quality
Rural Economic Community Development Service
University of Idaho-Cooperative Extension System
USDA Farm Service Agency
USDA Forest Service
USDI Bureau of Land Management
Panhandle Health District

County Commissions

Benewah County Commissioners
Boundary County Commissioners
Shoshone County Commissioners
Bonner County Commissioners
Kootenai County Commissioners

Cities and Chambers of Commerce

Sandpoint Chamber of Commerce
Priest River Chamber of Commerce
City of Rathdrum
City of Post Falls
City of Tensed

Indian Tribes

Coeur d'Alene Indian Tribe
Kootenai Tribe of Idaho

Soil (and Water) Conservation Districts

Benewah Soil & Water Conservation District
Bonner Soil Conservation District
Kootenai-Shoshone Soil Conservation District
Boundary Soil Conservation District

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Mission Statement

To provide leadership, improve and conserve regional, economic and natural resources which will enhance the quality of life in north Idaho.

Vision Statement

Community volunteers enhancing north Idaho.

Summary

The Panhandle Lakes Resource Conservation and Development (RC&D) Area is located in north Idaho. The authorized area is bordered on the north by Canada and on the east and west by the States of Montana and Washington respectively.

The 5,5062,400 acres within the RC&D Area include 5 counties and 36 incorporated cities with a combined population of approximately 160,000 (1995). Major population centers include Bonners Ferry, Sandpoint, Coeur d'Alene, Post Falls, Wallace, Kellogg and St. Maries.

Secondary education is offered through North Idaho College (NIC), a junior college located in Coeur d'Alene. Satellite classes and undergraduate courses are offered to some outlying communities through NIC, Lewis and Clark State College and University of Idaho.

Spokane, Washington and Coeur d'Alene offer quality regional health care. Each county is also served by local hospitals. Both the Coeur d'Alene Tribe and the Kootenai Tribe of Idaho have new health care facilities.

The Idaho Panhandle is predominately rural with only 3 cities exceeding 5,000 people. The population of Coeur d'Alene, county seat of Kootenai County, is 28,457 (1994). Kootenai County is the most urbanized of the 5 counties with less than 50% of the population living in rural areas. Two of the counties have 100% of their populations classified as rural, the remaining 2 counties are between 60% and 80% rural.

Major rivers include the Kootenai, Clark Fork, Pend Oreille, Coeur d'Alene, Spokane, St. Joe and St. Maries. There are many lakes in the area. The three largest are Priest Lake, Pend Oreille and Lake Coeur d'Alene.

The region's location in relation to major mountain ranges affects the climate which is fairly moderate. Precipitation amounts vary from approximately 20 inches at the lower elevation agricultural lands to over 60 inches at the higher mountain elevations.

Industry has historically revolved around timber, agriculture and mining. Currently the major industries providing employment include services, retail trade and manufacturing. Also, recreation and tourism are becoming an important industry of their own.

Major land uses are agriculture, forestland, water and urban areas. Wildlife management, hunting, fishing and recreation are activities within these land use areas. Mining has historically occurred in Shoshone County.

Portions of north Idaho are experiencing rapid growth. The rapid growth is "straining" the job base as well as community facilities, services and infrastructure. The employment base is diverse but not adequate to employ the potential numbers moving to the area. Value-added products, manufacturing and other opportunities are needed to diversify and strengthen the economy.

The Panhandle Lakes RC&D Council's broad goal is to enhance the quality of life in north Idaho by improving the social, cultural and environmental conditions. This Area Plan will help the RC&D sponsors and others achieve specific objectives to reach this goal.

For the past 33 years this RC&D Council has brought together local people, units of government and agencies to solve local problems. Six main areas have been adopted for action: 1) maintain and improve water quality; 2) recreation and tourism; 3) sustainable natural resources; 4) rural/urban interface issues; 5) infrastructure improvement; and 6) economic development.

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Panhandle Lakes RC&D is incorporated as a non-profit corporation under the laws of Idaho. It receives technical support under Title I of the Food and Agricultural Act of 1962, Title XV of the Food and Agricultural Act of 1982 and other authorities.

Location and Setting

General Description

The Panhandle Lakes RC&D Area is located in north Idaho, otherwise known as the "Panhandle." The five counties located within the authorized area are Boundary, Bonner, Kootenai, Shoshone and Benewah. The area encompasses about 5,062,400 acres. Federal ownership accounts for approximately 52% of the total land ownership, private ownership above 38% for the area (Table 1). The 1995 census records the population of the 5 counties as 157,128.

Two Indian Tribes reside in the area; both are sponsors of the Panhandle Lakes RC&D Council. The Kootenai Tribe of Idaho's tribal headquarters is located north of Bonners Ferry in Boundary County. The Coeur d'Alene tribal headquarters is west of Plummer in Benewah County.

Transportation

The area is served by 2 major highway systems, Interstate 90 from east to west and U.S. Highway 95 from north to south. Freight and rail services are available in many places throughout the area.

Spokane International Airport, just across the state line in Washington, is easily accessible from most areas. This medium-sized hub offers a full array of services with connecting flights to all parts of the United States and foreign countries. Other areas have limited facilities suited only for small aircraft. An exception is the Sandpoint Airport which has recently improved its facilities and is in a position to attract feeder airlines.

Water Resources

North Idaho contains an abundance of water resources including lakes, streams, rivers and aquifers. Major rivers include the Kootenai, Clark Fork (major tributary to Lake Pend Oreille), Pend Oreille, Coeur d'Alene, St. Joe, Spokane and St. Maries. The St. Joe, highest navigable river in the United States, and the Coeur d'Alene River are the major tributaries to Lake Coeur d'Alene.

Several scenic lakes ranging in size from less than one acre to several hundred acres dot the landscape, benefiting fish and wildlife and adding recreation and tourism opportunities. The Panhandle Hydrologic Basin contains approximately two-thirds of the lake acreage in the State of Idaho. The largest are Priest Lake, Lake Pend Oreille and Lake Coeur d'Alene.

Northern Idaho ground water systems include the Coeur d'Alene River, the Silver Valley aquifer, the Rathdrum aquifer and the Kootenai River Valley system. The Rathdrum aquifer combines

with the Spokane aquifer in the State of Washington to supply domestic water to over 250,000 people. This source of water also provides irrigation for approximately 26,000 acres of agricultural land.

Land Use

Major land uses include agriculture, forestland, water/wetlands and urban (Table 2). Wildlife management, fishing, hunting and recreation are also activities with these major land use areas. Mining has occurred throughout the region but was a primary industry in Shoshone County.

Agriculture: Pasture/hayland, dry cropland and irrigated cropland are included within this major land use. Agricultural lands total 343,400 acres or 6.7% of all land area. The main crops grown are winter wheat, spring barley, peas, lentils and bluegrass. Lentils and bluegrass are somewhat unique to this region of the country. Lentils are grown for human consumption, and bluegrass is grown for turf grass seed.

Other speciality crops are being grown that do not constitute a significant portion of the total agricultural acreage but have added to the local economy. For example, hops have become an important crop in Boundary County, and wild rice is being grown commercially in certain wetland areas of Benewah County.

Forestland: The timber industry is vital to the local economy. Forestland accounts for 87% of the total area or 4,418,600 acres. This land use includes non-industrial private forestland, industrial forestland, as well as federal and state ownerships.

Species of softwood trees include ponderosa pine, douglas fir, grand fir, lodgepole pine, tamarack (western larch), western white pine and western red cedar. The higher elevation mountainous areas and ridgetops have mainly plant communities in the western hemlock and sub-alpine fir series. Certain lower areas support stands with a large proportion of hardwoods such as cottonwood, red alder, quaking aspen, birches and rocky mountain maple.

Climate

Climate in the watershed is characterized by cool, moist winters and warm, dry summers. Air temperatures generally decrease as elevation increases. Maximum air temperatures occur in the low lying valleys where average daily maximum temperatures are around 80 degrees Fahrenheit in July and August. Daily high summer temperatures can exceed 100 degrees in the valleys. January minimum temperatures average around 20 degrees in the valleys and even lower in the mountains. Temperatures below zero are not uncommon in the winter; a record low of -37 degrees has been recorded in Sandpoint.

Precipitation in the Panhandle Region increases with elevation. Average annual precipitation ranges from 20 to 40 inches in the higher elevations. Along the Idaho-Montana border in Shoshone County, average annual precipitation is 70 inches and as high as 80 inches in south central Shoshone County. Monthly precipitation amounts are greatest from November to

January and the least during July and August. This winter maximum precipitation pattern applies to the valleys as well as the higher elevations in the basin.

The growing season also decreases as elevations increase. The average consecutive frost free period (above 32 degrees) in the valley ranges from 120 days at Bonners Ferry to 100 days at Mullan. On the average, the last frost in the spring occurs in mid-May or early June and the first frost in the fall usually occurs in mid-September.

A large portion of the land base is covered with snow during the winter. Average onset of the permanent seasonal snowpack is November 1. The maximum snow water content usually occurs around mid-April. Lower elevation snow usually melts in March or early April, while the higher elevation snow melts around June 1. Seasonal maximum snow water content ranges from 15 inches in the lower elevations to over 60 inches in the higher elevations. Snow water content as high as 100 inches and snow depths over 280 inches have been recorded in southern Shoshone County. Average annual snowfall ranges from 70 inches in the valley to well over 500 inches a year in the higher elevations.

Geology

The Panhandle Lakes RC&D Area is within the Northern Rocky Mountains Geomorphic Province with border influence of the Columbia Plateau Province. Geologically, four major episodes of events formed this region.

The earliest event was during the Precambrian Age about one billion years ago. The area was a narrow ocean basin and received thick deposits of sand, mud and lime minerals. These became sandstones, mudstones and limestones of the Belt Series formations. These sedimentary rocks were metamorphosed by later events, with some forming slate, marble, schist and gneiss. Most of the Panhandle is underlain by Precambrian Age Belt Series formations, and most of the exposed bedrock on the eastern side of the area is metamorphose Belt Series sedimentary rock. These precambrian rocks contain most of Idaho's mineral resources.

Intrusion of the Kanisku Batholith granite was the second major event, occurring during the Cretaceous Period about 70 to 80 million years ago. Older sediments were thrust-faulted, which formed the Coeur d'Alene mining district at this time. Bedrock in the western part of the area is mainly intruded granite and sheared Mylonite material from the faulting.

Columbia Plateaus flood basalts were deposited in the southwestern part of the area during Miocene time, about 16 million years ago. Much of the basalt bedrock is covered by glacial outwash materials. Lakes were formed in valleys dammed by basalt flows, depositing lakebed sediments and Tertiary Age fossils in bedded rocks associated with the basalt.

The fourth major events occurred between 100,000 and 15,000 years ago during the Pleistocene "Ice Age." Continental ice (large ice sheets) covered most of the valley areas, with only the higher mountain peaks exposed. These ice sheets were similar to the continental glacier of Greenland today. The region received enough snow that even the high mountain peaks were

glaciated with alpine glaciers, similar to mountain glaciers of the Alps. Much of the surface topography and materials existing today result from the glacial episodes. The craggy, jagged peaks were eroded by the alpine glaciers, and mountain valleys were filled with moraine outwash deposits. The continental ice sheet extended as far south as Coeur d'Alene, leaving thick deposits of glacial till and pale lake silts as well as "erratic" boulders transported to the area and deposited as the ice melted. The continental glaciers also scoured some areas, leaving slick, polished bedrock exposed at the surface.

During the Pleistocene, many large lakes were formed as ice dammed then existing rivers. One of the largest in the northwest area was "Glacial Lake Missoula," in western Montana. The ice dam which formed the lake failed numerous times, washing lake water and debris westward through Idaho into the channeled scablands area of eastern Washington. These cyclic floods occurred at least 41 times, eroding Cabinet Gorge in the process.

The numerous lakes of the present Idaho panhandle area are leftovers from the "Ice Ages". The two largest are Coeur d'Alene Lake and Lake Pend Oreille. Even though they both resulted from glaciation, these two lakes were formed in very different ways. The continental ice sheet actually scoured out a deep, large trench in older soft lakebed sediments in the Purcell Valley. The ice lasted longer in this deep trench than in surrounding areas as the glaciers receded. This kept the trench from being filled with glacial debris. When the ice finally did melt, Lake Pend Oreille, over 1000 feet deep, was left behind. In contrast, the valley in which Coeur d'Alene Lake formed was never glaciated. The lake was formed when the southernmost edge of the Purcell ice lobe reached the St. Joe River. The ice sheet deposited a terminal moraine across the existing valley, forming a dam which backed up Coeur d'Alene Lake.

Mineral deposits are plentiful in the region and played an important part in its development. The Coeur d'Alene mining district began in 1881 as a placer gold discovery in stream gravels. The placer gold was not very productive, but silver and lead were soon discovered in rock ore and veins. Most of the deposits were discovered between 1884 and 1886. The ore is associated with the Lewis and Clark fault system, which is 70 to 90 million years old. The faulting is strike-slip (lateral movement) and occurs in Precambrian age metamorphosed sedimentary rocks. The fault zone can be traced in a southeast trend from Spokane, Washington, to Missoula, Montana.

The Lucky Friday Mine in Mullan is the deepest single mine shaft in the world outside of South Africa. The mine descends over 6200 feet in one continuous drop.

Mines in the Coeur d'Alene district account for more than 80 percent of all ore mined in the State of Idaho. Silver is produced in the largest quantity, but respectable amounts of gold, lead, copper and zinc are associated with and extracted from the silver ore. Silver produced in this area accounts for approximately 40 percent of all silver produced in the United States.

Soils

The Panhandle Lakes RC&D is located in the Northern Rocky Mountains Province. The soils in this area have a wide variation of characteristics. This variation is a reflection of the wide differences in temperature, precipitation, elevation, parent material and geological activity. These factors all work simultaneously to create the soils described in the five major groupings included in the soils map.

Level and nearly level, very poorly to moderately well drained soils formed in alluvium on flood plains, drainageways and low stream terraces.

These soils occur on the most recent geomorphic position on the landscape in numerous locations within the RC&D Area. Because of their position these soils are subject to flooding and have restricted drainage. The young age of these soils generally result in them having the least expression of profile characteristics. Though relatively small in surface area, the soils of this map unit are quite significant because of their importance as natural riparian areas. Several areas have been drained and are used for hay and pasture. Other areas, such as the Kootenai River Valley, have been diked and drained and used to produce a wide variety of agricultural crops. Representative soils include the Farmhampton, Schnoorson, Slickens, Pywell, Miesen, Ramsdale, Latahco and Pokey series.

Level to steep, moderately well to somewhat excessively drained soils formed in alluvium, glacial outwash and lacustrine sediments on fans, plains, terraces and terrace escarpments.

The soils of this map unit occur in glacial valleys in the northern part of the area. Most of the soils are course textured and have a high content of gravel and/or cobble. Other soils developed in lake deposits and have silty or sandy textures. Many of the soils in this unit have been cleared and used for crop production. Low water holding capacity and soil fertility limits the types of plants that can be grown on these soils. When irrigated and fertilized these soils can produce a wide variety of crops. The most common crops are grass seed and cereal grains. Urbanization is common in this area. Groundwater pollution is a problem for continued urban development on soils that are very poor filters. Representative soils include the Kootenai, Bonner, Avonville, Garrison, Selle and Mission series.

Undulating to steep, moderately well and well drained soils formed on loess covered hills.

This unit is found in the southwestern part of the area on large loess cover basalt plateaus. These soils developed in several layers of wind deposited silty material. Water moves very slowly through the subsoils of most soils. Many of the soils are moderately well drained with a perched water table occurring during the spring months. Soil erosion has been a serious problem for many years on the steeper parts of these areas. Much of it results from snow melt and rain on frozen soil without adequate cover or cloddy surface conditions. This is the major

cropland area of the Panhandle Lakes RC&D. Nearly all the soils are cultivated and planted to non-irrigated crops. Winter and spring wheat, lentils, barley, grass seed, hay and pasture are the primary crops grown. Representative soils include the Helmer, Sly, Taney, Naff, Santa, Palousee and Thatuna series.

Sloping to very steep, well drained soils formed in basalt in canyonsides.

The soils of this map unit occur on canyonsides along the Columbia basalt plateau. Rivers and streams have weathered and dissected the plateau. The soils formed in basalt residuum and colluvium with a mixture of loess and volcanic ash in the surface and are medium to fine textured. Bedrock controls most soil profiles; the depth to unweathered material is less than 40 inches in many soils. Basalt stones are found throughout the soil profile and on the soil surface. Nearly vertical basalt bluffs are common. Steepness, shallowness and stoniness must be considered when these soils are used. This area is used for grazing, forest products, watershed, recreation and wildlife. Douglas fir and grand fir are the important trees on soils on northern exposures, ponderosa pine, Idaho's fescue, annual grasses and herbaceous plants grow on southern exposures. Representative soils include the Blinn, Lacy, Dorb, Agatha and Bobbitt series.

Sloping to extremely steep, moderately deep to very deep well drained soils formed in glacial material or residual bedrock composed of granite, gneiss, schist and metasedimentary rock on foothills and mountains.

This is by far the largest soil group and is located on the forested, steep mountains which occur throughout the Panhandle Lakes RC&D Area. The soils formed in weathered material mostly from granitic and sedimentary rock with a mantle of volcanic ash and loess. The steep slopes create distinct aspect differences which strongly affect soil development and vegetation types. Most are more than 60 inches deep, but some soils on ridgetops and shoulders are as shallow as 10 inches. Nearly vertical bluffs and rock outcrop areas are common. Stones are found throughout the soil. Steepness, shallowness, stoniness and cold temperature all limit the use of these soils. The main use of these soils is for the production of forestland products. Douglas fir, grand fir, western white pine, western red cedar and ponderosa pine are the primary tree species grown. The soils also provide excellent watershed, wildlife habitat and recreational uses. Representative soils include the Bouldercreek, Honeyjones, Ahrs, Latour, Vay, Marblecreek, Pinecreek, Lotuspoint, Vassar, Moscow and Ardtoo series.

The general soils map is designed to provide soils information for broad planning. It does not take the place of detailed soil surveys or on-site investigations needed to predict the response and behavior of soils on individual fields or small tracts of land.

Modern detailed soil surveys are available for most of the privately owned land in the Panhandle Lakes RC&D Area.

1. **Level and nearly level, very poorly to moderately well drained soils formed in alluvium on flood plains, drainageways and low stream terraces.**

2. **Level to steep, moderately well to somewhat excessively drained soils formed in alluvium, glacial outwash and lacustrine sediments on fans, plains, terraces and terrace escarpments.**

3. **Undulating to steep, moderately well and well drained soils formed on loess covered hills.**

4. **Sloping to very steep, well drained soils formed in basalt on canyonsides.**

5. **Sloping to extremely steep, moderately deep to very deep, well drained soils formed in glacial material or residual bedrock composed of granite, gneiss, schist and metasedimentary rock on foothills and mountains.**

6. **Water.**

Social and Economic Conditions

North Idaho is known for its scenic beauty, clean air, clean water and recreational opportunities. This combined with a relatively low cost of living and availability of health care results in an area that is desirable because of its high "quality of life."

Population and Employment Trends

The population in north Idaho has continued to grow since the 1970s. (Table 3). During the 1970s, the population grew by 44.2%. From 1980 to 1990, the population grew from 118,740 to 126,617, which is a 6.6% growth rate. This trend is expected to continue. It is worthy to note that the 6.6% growth rate from 1980 to 1990 occurred despite the fact that Shoshone County's population decreased by 3,000 people during the Silver Valley mine closures of the 1980s. Kootenai County has experienced the largest population growth. It is anticipated that future growth will be concentrated in Kootenai and Bonner Counties.

While the total population is increasing, the rural population for the most part is decreasing. This is reflected in the fact that the total number of farms has decreased from 1,748 to 1,539 in the past 10 years. In that same period of time, the percentage of the population considered rural has decreased in all counties except for Shoshone County.

The past decade has shown a growth of 24.7% in the labor force. Boundary and Kootenai Counties had the highest percentage of growth. Shoshone County was alone in showing a decrease in its labor force of 32.5%.

The primary industrial growth has taken place in Bonner, Boundary and Kootenai Counties. Again, due to the decline of the mining industry, Shoshone County has shown an overall decrease in industrial employment. Benewah County has shown little change during this 10-year period. The main growth in employment has been in the Service, Retail and Wholesale Trade industries. The largest sectors of employment are Service Industries, Retail Trade and Manufacturing (Table 4).

Unemployment rates have varied from a high of 15.9% during the mining closures of the early 1980s to a low of 6.8% during the late 1980s. The seasonally adjusted unemployment rate as of October 1994 was 8.0%.

Per Capita Income

The per capita income for all five counties was below the average for the rest of the United States according to the U.S. Department of Census. Kootenai County had the highest per capita income in the region in 1993 at $17,838 while Boundary County was the lowest with $13,566. Of north Idaho's population, 13.5% live at or below the poverty level.

Problems and Opportunities

Introduction

North Idaho has a high quality of life. The area has a mild climate and is blessed with abundant natural resources, productive agricultural land and forest. A relatively low cost of living and availability of health care contributes to the desirability of this area as a place to live, as evidenced by the growing population.

The region, however, is not without its problems and challenges. For example, jobs have become lower paying, resulting in a lower per capita income when compared to the rest of the United States. Unemployment rates have fluctuated over the past several years. The region is making a transition from a heavy reliance on resource-based economy of timber and mining to a more diversified economy.

Two of the biggest challenges facing north Idaho are strengthening the economic base and managing growth. Growth is straining infrastructure and impacting some of the very things that have added to the quality of life and originally attracted people to the area.

The problems and opportunities addressed in this section represent those specific challenges which the Panhandle Lakes RC&D Council can respond to, working in partnership with other area agencies, organizations and individuals.

Water Resources

North Idaho's abundant water resources are important to recreation, tourism, fish and wildlife, agricultural production and domestic water supply. The water resource issue is usually not one of quantity, but of quality. The water quality of the area's lakes, streams and aquifers can be affected by activities such as silviculture, mining, agricultural production, livestock, urban development, stormwater runoff and wastewater disposal.

The quality of water in rivers and streams is primarily affected by sediment, nutrients and bacteria with heavy metals observed in the Coeur d'Alene River basin. The majority of pollutants are from non-point sources. Degradation of riparian areas and bank erosion along several streams and rivers have added sediment directly to the water. Extreme examples of this can be found on the Kootenai, Coeur d'Alene and St. Joe Rivers, as well as several small creeks.

With respect to lake water quality, nutrient enrichment is of greatest concern, although sediment, bacteria and metals also contribute to degradation of water quality. Specific erosion areas along lakeshores have added significant amounts of sediment to lakes. An example of this is along the north shore of Lake Pend Oreille. Most of the basin's lakes fully support beneficial uses; however, baseline studies indicate that water quality is being degraded in some lakes.

The RC&D Council is actively supporting its sponsors' efforts to improve water quality.

Roads are a major contributor of sediment to lakes and streams. Public roadways and forest roads contribute sediment to waterbodies due to erosion and, depending on the proximity to water, sediment and other pollutants that can come from windblown dust. Highly visible examples of erosion associated with roads are the south hill near Bonners Ferry and Paradise Valley in Boundary County. Both of these areas are involved in trial efforts to control erosion.

There is less data available to show trends in quality of groundwater. The Rathdrum Prairie aquifer ranks third in the state. The Coeur d'Alene River - Silver Valley aquifer ranks seventh in sensitivity to contamination. To date, most groundwater programs have concentrated on point sources of contaminants and are generally in the early stages of development.

Anti-degradation policies and numerous projects and activities have been implemented by various agencies, units of government and landowners. These efforts are working to support beneficial uses and maintain or improve water quality. It will take continued effort and cooperation to be effective.

Concentrated livestock operations are fewer now than they were years ago. Water quality can still be impacted when animal waste is not properly handled.

Air Quality

Air in the Panhandle region meets the ambient air quality standards for the most part. Particulate matter (PM-10) has been detected; however, at some monitoring locations have exceeded the safe threshold established by the Environmental Protection Agency for short periods of time. The Sandpoint and Pinehurst areas have been given non-attainment status.

Possible sources of pollution are open burning including timber slash, bluegrass, agricultural crop stubble, wood stoves and fugitive dust. Some industries may also contribute to the emissions.

Agricultural Resources

Agricultural lands include dry cropland, irrigated cropland, pasture and hayland. The majority of the agricultural lands are not irrigated.

One of the biggest challenges facing the dry cropland areas is soil erosion. There is a potential on the moderate to steep crop fields for erosion to exceed sustainable rates by 3-10 times. Several things are working together to make the voluntary approach to conservation on agricultural lands effective. Included are: improvements in technology, programs and projects of agencies and units of government, and the realization on the part of farmers that they must reduce erosion in order to sustain agricultural production.

There is interest in developing alternative crops to add to the relatively limited number of crops in a typical rotation. There are also some opportunities to market agricultural by-products.

The RC&D Council is supporting the efforts of the Inland Northwest Community Food Systems Association to assist small farms.

Most of the irrigated land is found on the Rathdrum Prairie, located between and to the north of the Cities of Post Falls and Coeur d'Alene. The soils in this area are from glacial outwash and the topography is flat so soil erosion is not a major concern. However, the problems and opportunities are no less challenging than in the erosive dry cropland areas. For example, the porous soils setting directly over the Rathdrum aquifer increases the potential for groundwater contamination.

The close proximity of the Rathdrum Prairie to urban areas has led to conflict. The major crop on the prairie is bluegrass. The necessity to burn bluegrass stubble in order to encourage growth of the next seed crop has lead to conflicts and complaints as to the real and perceived effects the smoke has on air quality, public health and tourism.

Noxious weeds are a potential problem on all land uses. Weeds are especially prevalent in pasture or hayland fields under low levels of management or fields that have been abandoned. Often these fields are within city limits or in close proximity to urban areas. Agricultural fields along rivers are also constantly inundated with weed seeds that wash downstream with each high water event.

The Panhandle Lakes RC&D worked in cooperation with several other partners to form the Panhandle Weed Management Area (PWMA). The PWMA will help coordinate weed control efforts in the 5 county area.

Forest Resources

Over 87% of the land area in the region is forestland. The timber industry has historically been, and continues to be, important to the economy. Christmas tree plantations, small and mid-sized wood product manufacturers and individual craftsmen have helped diversify the timber based economy. Nurseries are meeting the horticulture needs of homeowners and landowners.

Recent increases in timber harvest rates reflect current timber supply reductions outside the area and the subsequent increase in prices. However, increased harvest rates cannot be maintained indefinitely.

Timber supply reductions and the trend to break up large private woodland acres into smaller units for resale and development are leading to intensive logging. This is a concern that logging is not based on sound woodland management principles and practices. Many landowners are absentee and/or not knowledgeable about the woodland resource. This can result in poor woodland management and lead to impacts on riparian areas, erosion, sedimentation of streams and on sustainability of the woodland resource.

Landowner need increased woodland management education and access to technical assistance. The RC&D works in cooperation with Idaho Department of Lands, Cooperative Extension System and private consultants to provide educational conferences and informational materials. Forming landowner cooperatives is another idea that may be feasible.

The demand for tree seedlings for reforestation and afforestation often exceeds the supply from conventional sources. Also, seedlings are sometimes planted from source trees that are not genetically superior or are from outside the seed zones for which the seedlings are being grown.

This results in increased mortality or less than optimum growth characteristics. RC&D is playing a role in increasing the quantity and quality of available tree seedlings by establishing a seed bank program.

Trees provide many benefits to urban areas. Several cities in the five northern counties have implemented active urban forestry programs. The Panhandle Lakes RC&D is working with the Idaho Department of Lands to introduce cities to the Community and Urban Forestry Program. The RC&D Forestry Committee also cooperates with Cooperative Extension System, city foresters, city councils, service clubs and others to implement urban and community forest projects.

The wood-fiber market is generally dependent on the construction industry. Stumpage demands and values fluctuate accordingly. This particularly affects the operation of smaller mills which open and close as the demand for wood products change. Wood product manufacturers need to diversify their operations when feasible and better utilize their end products including waste materials through value-added strategies. RC&D has supported the development of a wood manufacturing network that has helped the wood products industry and small wood product businesses and individual craftsmen.

Fish and Wildlife

Fish and wildlife are found throughout the five counties comprising the RC&D area. The many lakes, rivers, streams, agricultural lands and mountainous back country provide many opportunities for fishing, hunting and wildlife viewing.

Fishing and hunting is “big business” in north Idaho. Purchases of licenses, equipment, hiring of guides and participation in fishing derbies held on larger lakes directly add to the local and state economies. North Idaho is a popular destination for out-of-state anglers and big game hunters. Money spent on fuel, supplies, food and lodging further adds to the economy.

On September 6, 1994, the White Sturgeon was listed as endangered based on the fact that sturgeon had not successfully reproduced in the Kootenai River since 1974 when the Libby Dam was built upstream. An estimated 800 sturgeon remain in the Kootenai River, and 450 are being raised in hatcheries. The Kootenai Tribe of Idaho wants to use hatchery fish to rebuild the wild population. The Idaho Department of Fish and Game feels the population should be allowed to recover naturally and has called for high flows in the Kootenai River during the spawning period.

The listing or potential listing of certain plant and animals as rare, threatened, endangered or as candidate species under the Endangered Species Act has affected local economies. Affected species such as the Western Cutthroat Trout, White Sturgeon, Bull Trout and others have placed constraints on land use options. Boundary County alone has seven listed endangered species which place severe limitations on the use of natural resources within the area. The listing of the White Sturgeon is of great concern in the entire Kootenai River watershed which includes parts of Idaho, Montana and British Columbia.

Development and economic growth are sometimes perceived incompatible with fish and wildlife values. On the other hand, loss of these species would also have a significant effect on the environment and the economy. Local units of government, agencies, land users and others must work cooperatively, in a pro-active, balanced manner, to deal with this issue.

Mining

Mining has played an important part in the history of north Idaho with individual mines scattered throughout the area. Shoshone County's economy has been based on mining of silver, gold and zinc. Mining began in Shoshone County's "Silver Valley" in the 1880s. In 1982, the Bunker Hill smelting operations ended, which in effect signaled the collapse of the mining industry. This understandably had a devastating effect locally.

The depressed market for minerals found in the area and high cost for exploration and extraction have prevented the mining industry from making a comeback.

A 21-square mile area of the "Silver Valley" is now one of the largest Superfund Sites in the United States. Concerns being addressed by the cleanup include heavy metals, toxic materials and elevated lead blood levels in children and pregnant women.

Recreation and Tourism

Innumerable opportunities exist for recreation and tourism in the region, ranging from hiking and camping to golfing and skiing (both snow and water). There is still a need for more recreational developments as the population grows and public access becomes more limited.

The recreation-tourism industry, while being an economic opportunity, also places demands on an already strained community infrastructure. Communities need to actively plan and guide recreation-tourism development to meet their economic goals and protect their social , cultural and environmental values.

The Council is involved in several projects that will promote recreation, tourism and preserve history.

Socio-Economic

Although many key indicators show an improving economy, the economic situation is still distressed in many ways. While the per capita income has increased in most counties, it is still below the U.S. per capita income. The poverty levels in two of the counties have increased from 1980-1990. The poverty levels in four of the five counties exceed Idaho's average.

As the region diversifies its economy, there has been a trend toward lower paying jobs. Over the past 10 years, two high paying industries — mining and timber — have declined. The job growth has been in tourism, services, manufacturing and wholesale/retail.

The economic base of the area needs to be strengthened through diversification of industries. Higher paying jobs are needed to help offset those lost in the mining and timber industries.

Natural resource-based businesses also need to diversify and be responsive to value-added strategies.

The rapid growth in some parts of the RC&D area is straining the infrastructure, including roads, sewer systems, schools and fire protection. For example, much of the urban growth in Kootenai County is onto the Rathdrum Prairie. There is pressure to convert from cropland to small ranchettes or sub-developments which adds to the more expensive infrastructure needs.

Development into the rural and urban fringe is increasing the danger of loss of life and property from wildlife. Rural fire districts are usually made up of volunteer fire fighters. Their ability to fight fires is being compromised because of the numerous structures being built in the forested areas.

Homesites in the rural fringe are also adding to the erosion and sediment problem. This is especially evident when steep slopes are disturbed during construction and for road access.

Some federal laws and regulations that are intended to protect the environment and public health are placing a serious financial burden on local units of government. These unfunded federal mandates are resulting in county landfills being closed and relocated and rural water systems being upgraded. It is becoming more important to extend the life of landfills. Solutions such as recycling, composting and diverting wood waste from the waste stream are in need of study and expansion.

Council Goals and Objectives

Achieving these goals and objectives will require cooperation with various other organizations, agencies and private individuals. The Panhandle Lakes RC&D Council's roles are to initiate action and work in partnership with others through the implementation phase.

These goals and objectives are dynamic. They will be monitored and adjusted as economic, social and natural resource needs change.

Goal A: Maintain and improve quality of the Area's water resources, including lakes, streams and aquifers.

Objective 1: Support and assist Soil (and Water) Conservation Districts in their priority water quality and implementation efforts.

Objective 2: Become involved in TMDL process.

Goal B: Promote planned development of recreation and tourism that will add economic diversity while being sensitive to local customs, social and cultural resources.

Objective 1: Help establish or enhance area recreation/tourism.

Objective 2: Help county, city and tribal governments integrate history with recreation and tourism goals.

Goal C: Encourage proper management and protection of the natural resource base, including community resources such as urban forests.

Objective 1: Expand seed bank/seedling program.

Objective 2: Work with communities to implement urban forestry programs.

Objective 3: Encourage natural resource stewardship as part of school educational program.

Objective 4: Participate in state and regional efforts involving conservation and management of natural resources.

Goal D: Facilitate solutions to urban and rural growth issues and their impact on natural resources and the economy.

Objective 1: Provide training to enhance leadership capacity of community leaders.

Objective 2: Help local governments identify and address urban & rural growth issues.

Goal E: Improve infrastructure and basic services in rural areas.

Objective 1: Assist local governments in assessing infrastructure needs.

Objective 2: Participate in process to develop Scenic Byway Corridor Management plans.

Goal F: Develop diverse and environmentally sustainable local economy.

Objective 1: Assist communities, tribal government and enterprises in the development and marketing of alternative value-added businesses.

Objective 2: Initiate RC&D involvement in GEM Community and Forest Service Action Team efforts.

Objective 3: Assist "small farm" producers with value-added strategies, marketing and development of cooperatives.

The Panhandle Lakes RC&D Council hereby adopts this RC&D Area Plan and agrees to effectively use the assistance provided by the Department of Agriculture to realize the objectives and goals outlined herein.

PANHANDLE LAKES RC&D COUNCIL, INCORPORATED

By: _____ Date: _____

This action authorized at an official meeting of the Panhandle Lakes RC&D Council, Inc. on November 12, 1998.

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

Approved by: _____ Date: _____